CON FIA

2023

10TH INTERNACIONAL CONFERENCE ON ILLUSTRATION & ANIMATION

JULY 6•7 CALDAS DA RAINHA PORTUGAL

10

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PREFACE

CONFIA tenth edition. Celebration of research in art.

In November 2012, we held the first edition of the International Conference in Illustration and Animation, organised by the Polytechnic Institute of Cávado and Ave, in a hotel on a beach in northern Portugal, in Ofir, Esposende. A magnificent place for a conference that brought together two emerging areas with the intention, at the time, of creating a critical mass for a recent master's degree in IPCA and in Portugal, the MIA (Illustration and Animation Master). The conference grew and became a worldwide reference; research in artistic areas gained space and legitimacy, allowing the communion between academy and market, between analogue and digital, anticipating the latest technology and praising the tradition of the technique. A mix built at the service of the tradition of drawing and the innovation of the digital, perfect symbioses and discussion of paths for the future.

In ten editions, we had the best of the best, and there were more than thirty fantastic keynotes and approximately six hundred papers presented in ten CONFIA books. Indexed publication, recognised and cited by peers, is only possible with the tremendous work of the Scientific Committee, where specialists pass through who contribute in every edition to the enhancement of art research.

In this text, written this year alone, to pay homage to my colleagues, I would like to praise the CONFIA organisation team, the original team and the team that has been joining it. From the first moment, a special mention to the professor and illustrator Alan Male; was our first keynote and he quickly became Program Chair, always collaborative. The base team was the team that built the Masters, Pedro Mota Teixeira, professor and animator; Marta Madureira, professor and illustrator; and myself, also a professor and artist. At that time, there was a lot to be done in terms of research in design, arts, and especially illustration and animation. CONFIA was a breath of fresh air in the middle, and colleagues quickly joined us with the will to organise the event. I must name Jorge Marques, Cláudio Gabriel Ferreira, Manuel Albino, Susana Jorge and Paulo Fernandes and more recently, Cátia Vidinhas, as well as Mário Filipe Araújo, Isabel Xavier and Helena Carvalho, all with distinct roles, all highly relevant in the context. I must also name Manuela Cunha, who, being an engineer, has pushed and supported the research in IPCA, generously being part of the team and promoting the indexation of the publication.

This homage is due and deserved. The most crucial thing in organisations is the team; outstanding achievements are only possible with passionate and motivated colleagues and, above all, with the will to know more and to share knowledge.

CONFIA has been held in different cities in the north of Portugal, last year it was held in Aveiro, and this year it will be held in Caldas da Rainha. The town where the School of Art and Design of the Polytechnic of Leiria (ESAD-CR) is located. Polytechnic partner of IPCA in the Regional Uni-

versity Network alliance (RUN-EU), a European University with different European partners in which one of the research areas privileges, precisely, the creative areas of Art and Design.

To ESAD-CR, a special thanks for how it hosted the organisation and to the municipality and the cultural centre of Caldas da Rainha for all the support; without these partnerships, this event wouldn't be successful. Just a final note about this year's selection, we are very proud to have received over a hundred submissions; from these, those selected by the Scientific Committee will have the opportunity to discuss the latest trends in the areas of illustration and animation, as well as revisit issues of recent history, analysis of works and presentation of research results in art. Sharing and learning are the mottoes. With highlights from the talks of four dream keynotes, from academia to industry to the art scene. All different, all fabulous: Rachel Gannon, illustrator, educator and currently Associate Professor and Head of Department for Illustration Animation at Kingston University, specialising in illustration research methodologies and their potential for inter- and transdisciplinary application, which culminated in the text Illustration Research Methods (2021, Bloomsbury Academic), co-authored with Dr Mireille Fauchon; Stuart Medley, associate professor of design at Edith Cowan University, Australia, illustrator and co-founder of Australia's most significant comic arts festival, Stuart is the author of The Picture in Design; Emma Calder co-founded Pearly Oyster Productions making many successful and award-winning animated films, including BEWARE OF TRAINS and THE QUEENS MONASTERY. She is currently developing an animated feature trilogy, and the Portuguese illustrator André Carrilho with a career spanning over 30 years, Carrilho has received over 100 national and international awards and has seen his work exhibited in Portugal, Spain, Brazil, France, China and the USA. In 2002 he was awarded the Gold Award for Illustration Portfolio by the Society for News Design (USA), one of the most important illustration awards worldwide, his work has appeared in an extensive list of international publications, including The New Yorker, The New York Times, Vanity Fair, The New Statesman, Los Angeles Times, New Republic, The Independent on Sunday and Neue Zurcher Zeitung.

We have everything to celebrate CONFIA's ten years in style!

Paula Tavares
a tribute to all Colleagues in the organisation
and all participants in CONFIA

Índice / Contents

André Carrilho

André Carrilho was born in Amadora, 1974. He is a Portuguese graphic artist with a career spanning over 30 years. He has received over 100 national and international awards and has seen his work exhibited in Portugal, Spain, Brazil, France, China and the USA.

In 2002 he was awarded the Gold Award for Illustration Portfolio by the Society for News Design (USA), one of the most important illustration awards worldwide. In 2015 he was the first Portuguese cartoonist to win the World Press Cartoon Grand Prize with the cartoon "Ebola", which has since gone viral. In the same year he was invited to design a mural of caricatures for Vanity Fair magazine's Oscars party. His work has appeared in an extensive list of international publications, including The New Yorker, The New York Times, Vanity Fair, The New Statesman, Los Angeles Times, New Republic, The Independent on Sunday and Neue Zurcher Zeitung. Since 2009 he is the resident cartoonist of the Diário de Notícias newspaper. In 2021 he was awarded the Gold Award by the Society of Illustrators (USA), the Grand Prix at Hiii Illustration (China) and the National Prize for Illustration (Portugal), with the illustrated book A Menina com os Olhos Ocupados.

André Carrilho lives and works in Lisbon.

Emma Calder

Emma was born in London. She studied Graphic design at The Royal College of Art. She has worked as an Animation Director, Artist, Graphic Designer and Lecturer and has written, designed, and illustrated books, for both adults and children. She co-founded *Pearly Oyster Productions* making many successful and award-winning animated films, including *Beware of Trains* and *The Queens Monastery*. She is currently developing an animated feature trilogy.

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Award winning animation director Emma Calder will reveal the inspiration, process and execution of her new film Beware of Trains, twenty-four years in the making. She will explain how she kept the project alive whilst working on other jobs, films, and teaching before acquiring the funding to make the film.

Emma is renowned for working in different styles. This film is a culmination of her mastery of collage, in both new and old technologies. She will show early designs, storyboards, and examples of how she technically achieved the project in a tiny studio in lockdown.

"One-night I dreamt that I had murdered someone, and I couldn't get it out of my head. The next day I wrote a stream of conscious story triggered by this nightmare."

Rachel Gannon

Rachel Gannon is an illustrator, educator and currently Associate Professor and Head of Department for Illustration Animation at Kingston University (UK). She is interested in illustration research methodologies and their potential for inter- and trans- disciplinary application, which culminated in the text Illustration Research Methods (2021, Bloomsbury Academic), co-authored with Dr Mireille Fauchon. She studied Communication Art and Design at the Royal Collage of Art. Her practice as an educator and researcher is informed by a successful 18-year professional illustration career and her articles and practice-based works have been published in leading research and professional publications. Gannon is an associate editor for the Journal of Illustration and co-director of illustration educators, a new subject association and international organisation established by educators to support, advance and disseminate the subject, practices and discipline of illustration.

Illustration Research Methods

This keynote will reflect upon the ideas developed in the publication 'Illustration Research Methods' (Bloomsbury, 2021) co-authored by Rachel Gannon and Dr Mireille Fauchon. We met as students in 2006 both specialising in illustration on the, then named, Communication Art and Design MA programme at the Royal College of Art. From that point on we formed a co-supportive friendship and went on to become colleagues and collaborators, all the while navigating and negotiating our individual roles as illustrators, practitioners, educators and researchers. Throughout our professional lives we have fortunately found ourselves working within an expansive community of practice encompassing creatives, thinkers, makers, educators and theorists, all highly skilled and knowledgeable across a diverse range of specialisms. The critical position at which we find ourselves has in no small part been influenced by the generosity of this informative network.

To describe the illustration industry as changing is now somewhat platitudinous. What can be asserted with confidence is that the field is as wide as it is amorphous. No predicted visual, or indeed creative response, can be expected of the contemporary practitioner. We believe contemporary illustration practice to be at a critical point. The expansion of illustration practice goes hand in hand with its rise in popularity amongst prospective students. The education environment is often where the most exploratory forms of practice are found. What we urgently need to consider is how this ambition is fostered in such a way that can translate and have application within an increasingly precarious professional environment.

Students can graduate to find a fissure between the reality of a professional practice and the experimental ways of working encouraged in education, and struggle to transfer the skills and knowledge they've gained to

work in adjacent fields. This has prompted an irreversible shift towards a formation of a subject no longer confined by parameters set by industry or business. New agendas are fuelled by imagination, inventiveness and yearning aspiration. Students are consistently the most valuable resource any educator can draw from and it is here that we look to ascertain what the future might hold for illustration. The students we have worked with have constantly challenged our understanding of the forms illustration can take, and the ways it can operate, and humbly remind us of our position as facilitators and not connoisseurs.

The impetus to write this book was born from a recognition that no texts could be found on any generic academic reading lists that captured our burgeoning philosophy of illustration as a discipline. Despite a concerted effort amongst the international academic community, notably the Illustration Research network, to establish new benchmarks for the study of illustration we recognised a serious shortfall in the subject of specific critical discourse. With practice-based research being the mainstay of much of our approach to teaching, we wanted to produce a text which paid particular attentions to the mechanisms of illustration. Too often emphasis of the illustrator work is placed on the finished artefact, stylistic decisions and/or the message conveyed. However, much of our time working with students focuses on developing methods, the processes of thinking and doing, that enable an intelligent and articulate body of work. To advance the subject, what is required is a close analysis of the methods through which it is determined, the means of production and the rigorous processes and considerations that inform the most seemingly miniscule of decisions. This book attempts to describe the methods we recognise as distinctive within contemporary practice and acknowledge them, not only as integral to the realisation of an illustration artefact, but intrinsic to the holistic creative outcomes. Rather than dwell on finished products, we address the how's and why's and analyse the ways in which the most ambitious of illustration practice can operate and perform.

Excerpt from Illustration Research Methods (Bloomsbury, 2021)

Stuart Medley

Stuart Medley makes comics to improve employment and housing services, and is a co-founder of Australia's largest comic arts festival. He has worked as an illustrator for 25 years with clients including Anglicare, Austal Ships and the Centre for Social Impact. He is the art director for Hidden Shoal, a critically acclaimed record label with a roster of international artists, with clients including the BBC and Canadian Broadcasting. He is a post-doctoral researcher at UNIDCOM, Lisbon, and associate professor of design at Edith Cowan University, Australia. He is the author of *The Picture in Design*.

Controlling the gaps: comics and meaning-making

> "Life presents as a continuous multimodal barrage on all our senses. From that, we abstract events, discrete units characterized by completion of goals and peaks of action. Effective communication of sequences of events in explanations and narratives is similarly segmented, and linked globally by overall themes and locally by anaphora." (Tversky et al, 2013, p.47).

Comics, well-made, can be a perfect embodiment of these explanations and narratives in what Tversky calls "spraction" (a portmanteau of space, action and abstraction). Precise explanation can be achieved with a comic depending on its segmentation; how many pictures (corresponding to what Tversky calls 'snippets') are included in the 'segment' between the key moments (or 'breakpoints'). Conversely, fewer panels with bigger gaps between the breakpoints can be chosen to create evocative narratives that invite greater viewer participation.

Historically a medium for delivering fiction, comics are now applied for serious communication tasks and are putting the lie to the assumption that images are necessarily more vague than words. Pictures can disambiguate words just as vice versa.

This relative ambiguity of pictures compared with writing appears to exist only because words rarely arrive by themselves. Words are almost always contextualised among other words. Comic strips and comic-books however, can do for pictures what paragraphs and chapters do for words. Comics provide the context for the individual pictures from which they are constructed, in a spatial mapping process that Groensteen calls braiding (2021).

Furthermore, words often form part of a comic, and these can echo and reinforce the images for absolute clarity of meaning. This makes comics an ideal medium for non-fiction applications such as prototyping the design of services. Comics are now used for planning, as an *input* to business proposals, design or research processes rather than just an *output* or product; the artefactual evidence of other processes.

Comics are everywhere, and applied in increasingly surprising spaces. There are fields of scholarship now dependent on the form, such as com-

ics for health and comics for law, broadly named *graphic medicine* and *graphic justice* in their respective academic spheres. Comics are now even used as legal contracts.

Clients, in the drive to out-innovate their problems or their competition, have given themselves permission to use more pictures more often, and comics artists are called upon to help pollinate this growing ecology.

This success comes from a late acknowledgment about the form of comics and what it affords. Historically, comics' form was conflated with its own particular genres. This last decade or so has witnessed an awakening to the ways the form can help visual communication. As comics luminary Will Eisner proclaimed, "visual literacy has entered the panoply of skills required for communication. Comics are at the centre of this phenomenon." Comics have been set free of their (stereo)typical genres and of their typical physical bonds. Their potential has expanded dramatically as a result. Meanwhile some avant-garde comics examine hitherto unseen affordances of comics' conventional book form, shaking up the assumed linearity of narrative story telling.

Barbara Tversky's research on event segmentation was extended into instructional design with the hypothesis that users could write and draw more effective instructions than, for example, furniture manufacturers. Extracting from these studies yields three core cognitive design principles: "show step by step, show perspective, show action" (Tversky, et al, 2013, p.57). Comics' democratic and readily available means of production are now also yielding stories from previously marginalised voices, effectively penning the instructions on how to understand their lives. The publication and celebration of these previously unheard stories leads to the building of communities of practice.

As a comics practitioner and scholar, I will show examples from comics in information design, and research articles published as comics, to illustrate the precision of which comics are capable. The Hidden Shoal Recordings catalogue of album art, will illustrate the invitation for viewer input; to allow the reader to imagine the many moments between the frames to create a more personalised and, no doubt, more powerful narrative than I could supply alone. Finally, I describe my experience as chair of a comic arts festival to show the potential of comics to build communities of practice.
This wide range of potentiality of comics is effectively attributable to the control of the segmentation between breakpoints used to depict events.

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Animated Faces that Lie and Deceive

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[Animação · Animation]

Abstract

Lying and deceitful characters are a common means of building narrative tension and conflict, and can appear in a variety of roles. They are certainly no stranger to animated films, and these characters may lie through their dialogues or their singing, their body language or their facial expressions. The face plays a major role in the communication of lying and deceit, thus it will be the central focus in this discussion of lying animated characters. The development of acting and facial expressions over the decades is compared by discussing the most iconic lying character, Disney's Pinocchio from 1940, and lying animated characters in the 2D animated films Aladdin and Mulan, as well as the 3D animated films Rango and Zootopia. Differences are shown in how facial expressions are used in the animated performance to express lying and deceit. In addition, changes in the narrative complexity and psychology of the characters in the respective films have influence on the animated performance and expressions. In the field of psychology and behavior studies, Paul Ekman's focus on facial expressions has brought forth the Facial Action Coding System (FACS). This research into the structure of the muscles in the face and the resulting facial expressions has influenced contemporary high-end animated CG faces. Whether for cartoon or realistic characters, the absorption of Ekman's research into animation practice has enabled the creation of heightened realism within the acting performance. Another important factor in the creation of the animated facial performance is the chosen animation technique, such as 2D hand drawn or 3D computer animation.

1. Introduction

Lying and deceitful characters often appear in animated films to create tension and conflict. Through their dialogue, singing, body language, and facial expressions, these characters are able to deceive and mislead their fellow cast members, adding suspense and intrigue to the plot. These characters may lie for a variety of reasons, from protecting those they care about to gaining power or wealth. These characters often have a hidden agenda and must be careful to keep their deception a secret. This adds

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an additional layer of complexity to the narrative, as the audience must try to unravel the truth behind the lies. At the same time, if there is no ambivalence purposefully intended in the characters performance, the animators need to ensure that the audience clearly understands if the animated character is lying or is being honest. To narrow down the scope of lying animated characters, this investigation leaves out characters that lie in song, as singing requires a different kind of animated performance. A singing performance tends to be focused on the delivery of the singing, and the character usually believes in what they sing, thus it is rarely intended to deceive. This investigation focuses on characters acting in scenes predominantly with dialogue. Further, the emphasis lies in the observation of the animated face, since much communication takes place through facial expressions.

The selection of animated films for closer analysis of lying characters is based on the following criteria: Firstly, feature films from major studios that have highly developed characters and stories, a very high craft level within the animated performance and one or more lies or lying characters within the plot. Secondly, films from different times (starting with Pinocchio) to observe a potential progression, and thirdly, different animation techniques (2D and 3D). The forth criterion is films that use ambiguous and complex character personalities, and in which lies are of some significance to the story; thus results a stronger focus on more contemporary films.In a scene and acting analysis, the animated performances of the characters, the techniques and methods used for communicating lying through face and body language, as well as their evolution seen across the various films, will be discussed.

2. About Lying

A study by psychologists Bond and DePaulo showed that the average adult could only distinguish truth from falsehood 54 per cent of the time [1]. Former FBI agent and body language expert Joe Navarro adds from his experience "every time I hear somebody out there say, oh I can tell that they're lying from their body language, I just say that's absolute rubbish. There is no science to support it." [2].

Science has yet to find a reliable way to accurately detect whether someone is lying or not. Many techniques, such as polygraphs, have been used to assess whether a person is being truthful, but these methods have proven to be unreliable and ineffective in detecting deception [3]. In addition, humans are not naturally good at detecting lies and deception, and even experts in the field are only slightly better than chance. As such, science has not yet found absolute guidelines and rules to uncover lies.

It is clear that actors are no liars, but professional performers who strive to portray characters truthfully and with integrity. In acting, as Paul Ekman observed, the „audience agrees to be misled, for a time" [4] that is why they watch the film.

For animators and storytellers, the question arises how to show lying in animated characters and in their acting. When creating animated characters that communicate lying and deception, it is important to consider

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the context and how their actions will be interpreted. Animated characters should be able to convey the intended message well through their design and acting [5]. For example, when a character is lying, subtle body language and facial expressions can be used to emphasize feelings of deceit. Additionally, the dialogue can be crafted to reflect the character's intentions and level of conviction. It is also important to envisage how the audience may interpret the characters actions and words. By considering all these factors, animators can create characters that communicate lying convincingly and clearly.

3. Lying Characters in Animated Feature Films

The discussion of the animated films Pinocchio, Aladdin, Mulan, Rango, and Zootopia, that all feature lying characters, which play a significant role in the storytelling, follows in chronological order. This chronological order also coincides with a growth in the depth of the character personalities, the manner the lies are embedded in the stories and the subtlety in which they are communicated to the audience. Further, a small excursion into the concept of the Facial Action Coding System (FACS) will follow as the discussion turns to 3D animated films. FACS influenced how animators approached 3D facial rigging and animation, and informed a more realistic understanding and approach to animated facial movements and expressions. The last and most expansive analysis of lying animated performances focuses on Zootopia, as this film includes various motivations for lying, and different ways in which the lying performance is expressed and integrated into the storytelling.

Pinocchio

The movie Pinocchio (1940) deals with the theme of telling the truth, and the use of deceitful characters is a key element of the film. Pinocchio's lies are revealed in his body language, facial expressions, and dialogues, though his lying behavior is most clearly represented through his iconic growing nose. Pinocchio's growing nose was not part of Carlo Collodi's original novel, but has risen to be the central visual metaphor in Disney's interpretation of the story. In Pinocchio's case, the lies are always very easy to identify and visually exaggerated. The acting is not subtle and the visual cue for Pinocchio's lying is very explicit. Other characters such as the Fox and the Cat also deceive Pinocchio in order to take advantage of him for their own gain. The animation of their body language and facial expressions is also exaggerated, yet, more natural. None of the other characters features a similar visual cue as Pinocchio when they are lying.

In later animated films, a much more refined and realistic acting style develops. They begin to move away from the more cartoonish style of acting, and embrace a more sophisticated and realistic approach. This allows the characters to feel more human, with emotions and motivations that feel true to life. Comparing the Disney style from the 1940s to the 1979s, animator Andreas Deja writes, "The acting had changed, too. These animals often demonstrate nuanced, human behavior and the acting is much more subtle than in earlier Disney films". [6].

Aladdin

The 2D film Aladdin (1992) features several characters that use lying and deceit as a means of creating tension and conflict, among them the main protagonist Aladdin and the antagonist Jafar. Throughout the movie, Jafar lies and deceives Aladdin, his friends and the king to further his own agenda.

In the scene where Jafar responds to the king and tells him, "My life is but to serve you" (14:42), the body and facial acting is much exaggerated to show Jafars dishonesty. From a previously cunning expression, Jafar is performing a big bow, while his eyes are closed devoutly for an overly extended amount of time and his eyebrows are raised. The accent on the word "serve", expressed by raising his eyebrows and looking up, is a further hint to his dishonesty and pretended loyalty. The overall exaggeration of his body poses and facial expressions shows the deceptive attitude of Jafar in this scene.

Aladdin himself lies to Jasmine about being a prince instead of a street boy. In the scene where Ali climbs on Jasmine's balcony and introduces himself to her as a prince, the scene has two emotional beats. First, Ali states in a normal voice and with natural body and facial poses „it's me, Prince Ali" (55:31), which shows the audience that this is a truthful expression, and that Ali shows his true personality. Then, after a short freeze and a look up, Ali clears his throat and repeats in a deeper voice „it's me, Prince Ali Ababwa..." In this second part, Ali takes on exaggerated body poses that look rather artificial, as well as asymmetric facial expressions, to underline his fake personality and lie. Another undertone can be observed in these two beats. During the first beat, Ali believes in himself. Whereas in the second beat, we can deduct, that Ali himself does not believe in his fake prince personality.

Mulan

In the 2D animated film Mulan (1998), the titular character wants to save the life of her father by disguising herself as a man and joining the Chinese army in her father's place. She lies to the soldiers in her unit, pretending to be a tough man and being able to fight. Her body language and facial expressions reveal her lies, as she often appears nervous and uncomfortable when she is trying to deceive the other characters In a scene, Mulan shows off a supposed self-assured attitude and exaggerated "manly" behavior. Her commanding officer subsequently asks her, what her name is (33:30). As Mulan has not yet come up with a male cover name for herself, and is caught off guard by the question, she is pressured to make one up on the spot. She expresses her deception by contrasting behavior to her previous actions. Now she appears to shrink down physically. However, most explicit is her face and the eyes: she is averting her gaze; her eyes are looking down with several hasty eye darts searching for an answer. Once Mulan has recovered emotionally and focuses on lying about her name, she changes behavior again and starts to hold the gaze of the officer; now looking at him yet again self-assured, eyes locked on him and fewer changes in facial poses occur. In this scene, much of the behavior that indicates lying and deception is in the area of the eyes. There

are certain facial tells used in the scene that can be employed well with animated characters, such as raised eyebrows, averted eyes and rapid eye darts. *Lying is in the eyes*. As Jones and Oliff note, „the subtle motion of the eyes themselves can personify uneasiness, lying, or confusion" [7].

Rango

In the film Rango (2011), the chameleon protagonist lies and deceives his way through a variety of situations. The 3D animated film features an impressive amount of highly detailed and semi-realistic visuals, with great attention to realistic lighting and colors. The characters have a wide range of emotions, shown through their body movements and facial expressions. The fact that 3D is generally animated at 24 frames per second versus the predominantly 12 frames per second animation in 2D films, gives the 3D animation a more realistic feel. 3D animation is also a powerful tool for creating more detailed and realistic faces than what is usually possible with 2D animation. This is not only due to the frame rate of the animation, but also due to the workflow process and the precision of a 3D model, character rig and rendering. This enables animation teams to create more detailed facial features and subtle animations. Thus, the facial performance of a 3D character can be animated both in exaggerated and cartoony styles, as well as subtle and detail-rich with realistic emotions and expressions. Continuing changes in the narrative complexity and psychology of the stories and characters, that Andreas Deja has pointed out earlier, can also be seen in Rango. Similarly, the animated performance and emotional depth of the characters have equally matured.

In one scene, Rango tells a story about his past that is entirely fabricated. He is asked about Rattlesnake Jake, and being obviously scared and distracted by the mention of a snake, Rango lies about Jake being his brother (59:30). Before the lie, when Rango tries to come up with an answer, he is looking down and sideways and has frequent rapid eye movements. Once he utters the lie, Rangos behavior changes again: he now looks straight at his audience holding the gaze and he has stopped fidgeting. Further, he reconfirms what he has said with exaggerated posing to mask his lie. Quite interestingly, after being asked how a lizard can have a snake as a brother, he answers: "Mama had an active social life". This time, his reply is accompanied by eye darts and facial expressions that appear very natural and convey thought and truthfulness.

Facial Action Coding System (FACS)

In the field of psychology and behavior studies, Paul Ekman's research on facial expressions has brought forth the Facial Action Coding System (FACS). FACS describes the actions of individual muscles, called action units or AU. FACS does not code emotions. However, AUs or a combination of AUs let the observer describe, classify and compare the movement within facial expressions and associated emotions. This study into the structure of the muscles in the face and the resulting facial expressions has informed and furthered the complexity of contemporary high-end animated CG faces [8]. Whether for cartoon or realistic characters and

creatures, for animated features or high-end photorealistic VFX effects, the findings of Ekman's research and its absorption into character rigs and animation practice, has enabled the creation of heightened realism within the acting performance in faces.

Ekman's FACS support the understanding of the face, its structure and muscles, and its interpretation for animation. The artistic level of facial animations that can be created with CG animation has risen considerably, and subtlety and nuance in facial performances is sought after more frequently. To accurately capture and animate emotions, animators still need to continue to study real life facial expressions and body movements for a thorough understanding and interpretation. To animate lying characters, animators must pay close attention to behavior and tells commonly associated with lying. Examples of these expressions include avoiding eye contact, fidgeting and shifting body posture, and using facial expressions to mask or conceal feelings of guilt or shame. Additionally, facial expressions that accompany lies can often be very short-lived, so animators must pay close attention to the timing of these expressions in order to incorporate them into the facial performance.

Zootopia

In the movie Zootopia (2016) the main characters Judy Hopps and Nick Wilde are confronted with many deceitful characters; Nick himself being a frequent liar when he runs one of his frauds. The tension between truth and lies is a major source of conflict in the story and adds to the movie's overall suspense. Thus, many scenes show lying characters with various degrees of obvious or hidden deception in the acting performance. In addition, Judy often struggles to tell if someone is telling the truth or not. Most fascinating are the scenes in which the protagonists are lying to reach their objectives. In the scene in the elephant run ice cream shop, we see fox Nick Wilde accompanied by little Finn in an elephant costume. The owner refuses to sell ice cream to Nick, but Nick underlines his desire to buy in this shop with the line "my boy loves all things elephant" (19:15). Nick's acting is overall highly exaggerated, and his equally exaggerated facial expressions, in particular the raised eyebrows, are held still for a long period. This communicates to the audience (and the elephants in the shop), that Nick is deceptive and not entirely truthful: there is an ambivalence in his facial communication. However, Judy falls for his show and believes Nick. Thus, we can see in this scene that different conclusions can be drawn from witnessing Nick's acting performance: he can be both understood as a con artist or as a loving caring father desiring ice cream for his son. As Ekman and Friesen explain: "In a sense the face is equipped to lie the most and leak the most, and thus can be a very confusing source of information during deception" [9]. The ambiguity of convincing acting by Nick, mixed with some revealing tells such as overly exaggerated poses in face and body, is a wonderful introduction to Nicks skill in deception.

As the scene continues, Nick pushes his con of Judy even further by claiming he has forgotten his wallet (20:27) and putting on a fake search of his pockets. Once more, we see exaggerated acting and long held extreme facial expressions to communicate lying. While mentioning "wallet", Nick

performs a super exaggerated accent by opening his eyes and eyebrows very wide. Even though Judy has a built-in distrust of foxes, as seen in the beginning of the same sequence, she believes that Nick tells the truth in this scene. However, by now, the audience has understood that Nick is putting on a show, or to put it clearly - is lying - to get the ice cream; and now he is even getting Judy to pay for it, with a very blatant lie about forgetting his wallet. Nick continues his dialogue in the scene: "I'd lose my head if it weren't attached to my neck..." which he delivers truthfully and even adding "...that's the truth", playing further with the story theme of truth and lies.

Lying about Emotions

In the previous example, there were no emotional stakes involved. Nick's con was a purely economic endeavor. However, people lie for a range of reasons. Ekman, Friesen, and O'Sullivan have found differences depending on the motivation: "Facial expressions (and many vocal and bodily clues as well) are most likely to provide clues to deceit when the lie is about emotion, especially emotion felt at the moment of the lie. Even when the lie is not about feelings." [9]. According to Ekman, also feelings about lying may produce behavioural clues to deceit, such as the fear of being caught, the guilt about lying, or the pleasure of deceiving someone, also called duping delight [4].

This concept can be seen in action in the scene in which Judy's parents call her. They want to check in on her after her first day with the city police. Judy is frustrated just before the call comes in, but puts on a big smile for her parents. She tells them about her first day „it was real great"(27:00). Judy lies about her emotions, but her parents are too distracted to notice it. Judy's response is showing clues to deception and leaks through her exaggerated long held extreme facial expressions, such as raised eyebrows and wide-open eyes, and a frozen smile. Thus, the audience can easily spot that she is lying.

Judy also does not show a so-called Duchenne smile, which is a truthful smile that includes natural contractions of the muscles around the eyes [8]. Even though Judy does have some contractions in the lower eyelid area during her fake smile, it appears frozen and unnatural, and far from a genuine happy smile.

The most complex scene regarding lies and deception takes place during the end of the movie. After Sheep Bellwether shoots Nick with the "blue poison" bullet, Nick attacks Judy and Judy retreats in fear (1:31:43). However, the entire attack is fake: the bullet is a blueberry and not filled with blue poison. This is a story point that the audience does not yet know. Nick fakes a wild attack on Judy and Judy in turn fakes fear. By now, Judy has become an accomplished liar and both the audience and Bellwether believe the attack is real. During the attack, Bellwether explains her entire scheme to them and Judy records her confession.

Interestingly, there are no tells for deception from either Nick or Judy in this fake attack sequence! The audience is not supposed to know that both are faking and acting the attack, and that the poison has not affected Nick. This is a rare moment in which the audience is also deceived and not "in" on the lie. This further heightens the suspense into a well-deserved climax, and a surprising resolution once the deception of Judy and Nick is revealed and the confession of Bellwether successfully obtained.

4. Conclusion: To Lie or Not to Lie - Clarity is Key

Animated acting and performance has evolved in its believability and in its richness in detail. Certainly, this also applies to the animation of lying and deceiving characters, whether they lie with their words, their bodies, their faces or all parts together. Ekman's research into lies also focuses on micro expressions. Micro expressions are flashes of concealed emotions on and off the face in less than one-quarter of a second [4]. However, micro expressions are hard to detect and animators and storytellers would risk that only a part of the audience could detect them, thus it is not quite feasible to use them in animation.

To serve the storytelling, there may not be any ambiguity about the feelings, intentions or deception of a character. Clarity is key in the communication with the audience [10]. Easily understandable facial acting in the animated characters performance is a main priority in successful storytelling. As shown in the acting analysis of the characters discussed, lies can be expressed by a multitude of animated behaviour. The characters in the films Pinocchio, Aladdin, Mulan, and Zootopia show their lies through performances with generally overly exaggerated facial expressions. In Mulan, Rango, and Zootopia, we see lies communicated by frequent, hasty eye darts, and exaggerated raised eyebrow poses that are often held over a longer period than usual. Lastly, a more subtle expression of a lie is the fake smile of Judy as seen in Zootopia, animated to show a lack of proper contractions around the eyes. No matter what choices animators and filmmakers make for their characters performance, the audience must always be able to understand clearly and without ambiguity what emotions, feelings and intentions are being communicated - or lied about.

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A study of color association in Pixar's animations: An analysis of color based characters

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Abstract

This paper focuses on color and its use as an associative element to emotions, capable of conveying meanings and messages. This topic intends to explore the visual communication area as a means of investigation and analysis in communication design, focusing on studying the films by Pixar Animation Studios. Therefore, a statistical method was utilized based on the character's colors and emotions. This way, a statistical correlation was generated using specific software for statistics. It was possible to identify the intensity of those correlations (strong, moderate, and weak). So, it was possible to gather a data amount that was subsequently compared based on color theory. Based on the correlation between color and emotions, it was possible to have a better understanding and a scientific approach when comparing it with color theory. Thus, through color theory, one can interpret the character's color on a chromatic level. It can be just the character or it as a whole in the movie. Then, with the theory, previously established about color in the design, it was viable that the colors analyzed in this work were related to the character's emotions that they were supposed to convey. Which makes it a narrative element to associate color and emotion in Pixar Animations.

Keywords

Color, Animation, Pixar, Emotions, Characters

1. Introduction

This paper came from the interest in reflecting on how visual communication elements — specifically color — convey meanings, messages, ideas, and values. As designers, we are challenged to produce visual content to reach the public's understanding. Color has always been present in society with such power that it influences people's behavior and culture. It can produce sensations, feelings, and sensory effects. It can influence our senses and perform as a good stimulator or disturb our emotions, conscience, impulses, and will [1]. This study aims to investigate how the use of Pixar characters' color schemes based on color theory is associated with their emotions, allowing to compare their colors and whether those are relevant to the emotion the character is supposed to convey.

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2. Emotion, color, and animation

Best-known animation studios like Disney, Pixar, Ghibli, DreamWorks, Blue Skies Studios, Sony Pictures, and many others worldwide have inspired the public with their work. So, it is understandable why their films are used as a base for research in the academic area when the subject of study is animation films.

Those companies are already well established, and because of that, many searches have been developed based on their animation [2, 3, 4]. Since their knowledge in the area resulted in many great works, researchers started to study and compare their way of creation to better understand animation films [5, 6, 7].

An animation film with a rich expression of subjective color can strengthen the narrative role of animation film, balance the color of the screen, give a better understanding of the film's ideas, interpret the film's emotions can be appreciated better. If we consider the animation films as a medium of visual communication, it is possible to say that animation is kind of a symbol itself. It is mainly expressed through image, color, light, and shadow [8].

Therefore, it is known that the characters are more profound than just some drawing lines. One of the tools that the designers have in their hands is color. Using it to create characters for animated films helps them come to life. The cognitive experience of color shapes affects the experience in films. [4].

Even though, color is an inseparable part of our everyday lives, and its presence is evident in everything that we perceive [9] when it comes to the academic area the topic about color and emotions splits results. Some research leads to believe that an association about color and emotion is real [10, 11, 12, 13], although others have found that the relation between color and emotion is weak [14, 15, 16].

The study of emotions by itself is one of the most confused (and still open) chapter in the history of psychology [17] and more than 90 definitions of "emotion" were proposed over the course of the 20th century and that's why there is little consensus on the meaning of the term and much disagreement among contemporary theoreticians concerning the best way to conceptualize emotions and interpret its role in life.

For this analysis we decided to considerer that there are three meanings of the term "basic" [18]. The first, is believed that there are several emotions that differ one from another in important ways. Like, fear, anger, disgust, sadness, and contempt, all negative emotions. Also, amusement, pride in achievement, satisfaction, relief, and contentment, are all positive emotions, but different from each other. This first basic emotion perspective is different to those that treat emotions as fundamentally the same, differing only in terms of intensity and pleasure. The second perspective is to indicate that the emotion appraisal of the current event is influenced by our ancestral past. He believes that the primary function of emotions is to mobilize the organism to deal quickly with important interpersonal encounters, prepared to do so by the types of activity have been adaptive in the past history of human species, but it also refers to our own past history.

Although a cognitive response can be the history of our species or the on our own individual history [17, 19, 20]. There is also the third mean-

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ing of the term "basic" is described elements to combine and form more complex emotions. For example, smugness might be considered a blend of two emotions, happiness, and contempt.

Each emotion is not a single effective state, but a family if related states. Each member of an emotion family shares the characteristics that had been described before [18]. This shared characteristics within a family differ between emotion families, distinguishing one family to another. Therefore, a list to distinguished one emotion from another was created: amusement, anger, contempt, contentment, disgust, embarrassment, excitement, fear, guilt, pride in achievement, relief, sadness/distress, satisfaction, sensory pleasure, and shame. Those will be the basic emotions in which this paper will be based on.

Thus, color is an indispensable element in design that can meet a variety of human needs, which is helpful for the color designers to understand the feelings of the target customers in many fields such as architecture, advertisement, and automobile. [21, 48].

When talking about color is it also necessary to talk about color harmony [22], which is the combinations that are created based on a color harmony and uses someone personal taste is called subjective color, therefore they are individual opinion and any experiment that implies that this kind of color combination may revel character or mode of thinking or feeling should be approach very carefully. Although, subjective color can be about color and feelings, it is important to consider that the colors do not combine by chance neither they are a matter of individual preference [23].

One of the ultimate goals of a movie is to convey a sense of emotion through the artistic choices made in each scene. This should be a topic of great interest and concern when developing a project. In particular, the importance of color in visual communication, where it assumes an aesthetic and a practical function above all. Also, due to its range of articulation with elements inside or outside animation, the color goes beyond an orientation of reading the images: it creates meanings, sensations, or emotional states. Color is no longer just an aesthetic issue to be assimilated as a structural element of the image, which raises interpretations and contributes to the film's narrative.

Therefore, for this work we decided to use as the main palette the two types of primary colors [25], the additive colors (RGB): red, green, and blue and the mixture of colors that results from this primary colors overlaps, which are cyan, yellow, magenta and white. Followed by the subtractive colors (RYB): red, yellow, blue, and its overlap colors results, such as, orange, green, purple and black. And the subtractive color (CMY): cyan, magenta, yellow and, also, its overlap colors, blue, red, green and black.

So, after putting the primary colors together and eliminate the color that repeated, the result of the main color palette was red, yellow, green magenta, blue, cyan, white, orange, purple and black. Even though we had the main palette we still felt the need of a bigger range of hues, like a dark green or a lighter magenta for example. So, we took into consideration Itten's concept of color wheel and color sphere [16] and use a darker tone and a brighter tone for each color. For that, we decreased the value in 50%

less to create a brighter tone and then we increased the value in 50% more to create a darker tone. The result was a color pallet of 28 colors, as per Fig.1. We were aware that this method of choosing colors can go on forever, since we can increase or decrease the value for each color, over and over and this would result in a different color range, but we decided to keep this as it is, since this colors already have a good range for the propose of this work.

Fig. 1 Final color scheme with the total of 28 colors.

3. The Correlation

Once the emotions and the colors were determined we considered to be necessary base our results in a more precise analyzes. So, we decide to use correlation, which is a statistical relationship between two variables. Although in the broadest sense, "correlation" may indicate any type of association, in statistics, it normally refers to the degree to which a pair of variables are related. Examples of dependent phenomena include the correlation between the height of parents and their offspring, for example.

For each character, we attempt to identify the presence of color and emotion. If there is, fill it with 'yes' and if not, fill it with 'no'. See the table example on Table 1.

The usage of statistical correlation has been the focus of attention of

	Amusement	Anger	Contempt	[...]	Red light	Red	Red Dark	Green light	Green	Green dark	[...]
Woddy	YES	NO	NO		NO	YES	YES	NO	NO	NO	
Buzz Lightyear	NO	YES	YES		NO	YES	NO	NO	YES	NO	
James Sullivan	YES	NO	NO		NO	NO	NO	NO	NO	NO	
Boo	YES	NO	NO		NO	NO	NO	NO	NO	NO	
Bob Parr / Mr. Incredible	NO	NO	NO		NO	YES	NO	NO	NO	NO	
Elen Parr / Elasticgirl	NO	NO	NO		NO	YES	NO	NO	NO	NO	
[...]											

Table 1 Example on how the information of characters, colors, and emotions was organized on the table.

several authors [16, 17, 26, 27] with some different purpose. But the idea for this work is after filling the table with color and emotions information for each character, the data will be processed in a software based on statistical analysis and will be analyzed later based on color theory.

4. Pixar Animation Movies

Once the data collection was settled, we focused on analyzing Pixar animated film characters and how they are built based on their color scheme. Therefore, for a better and more profound analysis, the work will analyze the animation from 1995 until 2021, their main characters and their antagonists:

Toy Story [28, 29, 30, 31] and the characters: Woody, Buzz Lightyear, Mr. Potato Head, Slinky Dog, Rex, Hamm, Bo Peep, Sid Phillips, Andy Davys, Stinky Pete, Lotso, Gabby Gabby.

Monsters, Inc. [32] and Monsters University [41]. Here are their characters: Michael Wazowski, James Sullivan, Boo, Randall Boggs, Celia Mae, Roz, Dean Hardscrabble, Squishy, Don Carlton, Art, Terri and Terry Perry.

The Incredibles [33, 34] and the characters: Bob Parr (Mr. Incredible),

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Elen Parr (Elasticgirl), Dash Parr, Violet Parr, Lucius Best (Frozone), Edna Mode, Buddy Pine, Evelyn Deavor.

Cars [35, 36, 37] and the characters: Lightning McQueen, Chick Hicks, Sally Carrera, Doc Hudson, Toe Mater, Luigi, Guido, Sir Miles Axlerod, Jackson Storm.

Wall-E [38] and the characters: WALL-E and EVA.

Up [39] and the characters: Carl Fredricksen, Ellie Fredricksen, Russel, Dug, Kevin, Charles F. Muntz, Alpha.

Brave [40] and the characters: Merida, Queen Elinor, King Fergus, Harris, Hubert, Hamish (the triplets), Witch.

Inside Out [42] and the characters: Anger, Sadness, Fear, Disgust, Joy, Bing Bong.

Coco [43] and the characters: Miguel Rivera, Abuela, Hector Rivera (person), Hector Rivera (skeleton), Ernesto de la Cruz (person), Ernesto de la Cruz (skeleton), Imelda Rivera, Coco.

Onward [44] and the characters: Barley Lightfoot, Ian Lightfoot, Laurel Lightfoot, Corey the Manticore, Colt Bronco.

Soul [45] and the characters: Joe Gardner (person), Joe Gardner (soul), 22, Libba Gardner, Dorothea Williams, MoonWind (person), MoonWind (soul).

Luca [46] and the characters: Luca Paguro (mosnter), Luca Paguro (person), Alberto Scorfano (monster), Alberto Scorfano (person), Giulia Marcovaldo, Ercole Visconti, Daniela Paguro (monster), Daniela Paguro (person), Massimo Marcovaldo, Lorenzo Paguro (monster), Lorenzo Paguro (person), Grandma Paguro (monster), Grandma Paguro (person).

For this study we did not considered the movies that had animals as their main character, since their colors would not actually reflect their emotions but the color the animals actually have in nature. Since it is not associate with the creation process or with what emotion the character is supposed to convey, we left it out.

5. Practical Analysis

This part of the work will show the correlation results after the software had process the data, informed previously. The process worked as follows: each character's color scheme was collected and analyzed based on the parameter previously explained in section 3. Then, it was generated a table with results, see a sample on Table. 2.

Therefore, it was possible to analyze the correlation between these subjects based on statistics.

So, with what was processed, we treated the correlation with positives values such as: 1.0 as a very strong correlation, the range of 0,7 to 0,5 as moderate correlations. The range of 0,3 to 0,5 it was considered a weak correlation, but it wasn't analyzed since this is not strong enough and they will not be relevant for this work. Furthermore, it was verified that opposite correlation also happened, such as -1.0 for very strong correlations and moderate correlations within the range of -0,5 to -0,7.

The correlation shows how strongly the colors are related to the

Contentment	Green dark	1.0
Excitement	Orange	1.0
Anger	Red Dark | Brown light	0.692
Satisfaction	Yellow	0.659
Excitement	Yellow	0.655
Contentment	Green	0.631

Table 2 Sample of the result table with emotion, color, and correlation value, respectively.

POSITIVE CORRELATION

Emotion	Value
Contentment	1.0
Excitement	1.0
Anger	0.692
Satisfaction	0.659
Excitement	0.655
Contentment	0.631
Anger	0.630
Pride in Achievement	0.627
Satisfaction	0.624
Pride in Achievement	0.591
Amusement	0.589
Disgust	0.583
Sadness	0.578
Anger	0.540
Amusement	0.534

OPPOSITE CORRELATION

Emotion	Value
Anger	-1.0
Anger	-1.0
Fear	-1.0
Anger	-1.0
Disgust	-1.0
Fear	-1.0
Fear	-1.0
Fear	-1.0
Sadness	-1.0
Sadness	-1.0
Sadness	-1.0
Sadness	-1.0
Pride in Achievement	-0.675
Anger	-0.61
Fear	-0.60
Contempt	-0.60
Fear	-0.572
Pride in Achievement	-0.55
Amusement	-0.515

Fig. 2 Result of the positive and opposite correlation based on the statistical analysis.

emotions, so we can proceed to analyze the characters based on the data collected and its relationship with color theory. See the result of the positive and opposite correlation on Fig. 2.

The results shows that the colors and emotions are correlated such in a positive way, where the color tends to be use in favor of the emotions. Also, the correlation can be negative as well. In those cases, when there is a negative correlation, it means the color and emotions don't match, and one leads to a contradictory perception about the other.

6. Pixar's Characters and Color Theory

After analyzing the color and its correlations with emotions we moved to investigate this relevance when it comes to Pixar's characters. As Pixar's mode of production towards a storytelling that drives technological innovation, believability is preferable to realism, and emotionally compelling character growth serves as the foundation to every film [47].

Analyzing the correlation with the emotion it is possible to see the correlation between the color dark green and contentment. Color theory explains that green acts in a way that calms and conveys security, and it is also related with positive feelings [23]. Therefore, we took some characters, such as Rex [28], Merida [40] and Lorenzo Paguro [46], with dark green as it predominates color and it was possible to see that this color is used in a positive connotation, like Rex [28] who is a goofy and friendly dinosaur tends to give the idea of a happy character, see color scheme on Fig. 3. Also, the correlation between green and this same emotion reinforces the idea this color is often used to transmit this emotion.

The correlation between orange and the emotion excitement, showed that this color has relation with a lot of positive emotions [23] as well as creativity, energy, vibrancy, stimulation, etc. On the movie The Incredibles [33, 34] we can see some orange touches in the superhero family outfit, although is not the main color, the orange is relevant to increase the energy that their clothes intend to give the characters, see their colors scheme on Fig. 3. Also, the same happens with Lightning McQueen [35, 36, 37]. Thus, orange is related to the emotions like pride, and satisfaction. The characters who have this color in their scheme passes the idea of being pride and are satisfied on doing something, such as Russel [39] and Giulia Marcovaldo [46].

Furthermore, there is also the correlation between the emotion anger and the color dark brown. We can see it being used with the character of Dean Hardscrabble [41], her dark brown tones give the idea of an evil character, see her color scheme on Fig 3. This color is also related with the pride in achievement, and we considered that most of those charac-

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ters that use this color give a bad first impression. Most of the times it is related to the emotion anger. Usually, those characters are also pride and tends to use their anger to impose their will over them like Alpha [39]. But sometimes this color is only there to show the unfriendly side of a character, like Carl [39] and Massimo [46].

Moreover, the relation between the color yellow and the emotions satisfaction and excitement, shows that yellow is related with feelings like glory, harmony, intellect, wisdom, optimism, radiance, joy, satisfaction, etc. [23]. A character who has the yellow in their color palette is Joy [42]. The idea for its color pallet is to transmit the emotion joy. See Fig. 3. Also, we noticed that the characters who uses this color in their scheme tends to be more fulfilled with the life they have, like, Woody [28, 29, 30, 31].

So, in the end we considered that indeed, most of the colors, has relation with the emotion that the characters are supposed to convey.

Furthermore, in the correlation between light magenta and disgust, it was possible to see that even though it was a moderate one, for most of the characters did not fit their personality quite well. Although, this could be the case for the character Disgust [42], the rest of the characters who use this color does not show disgust in their personality, on the contrary, they tend to show good emotions, like Bo Beep [28, 29, 30, 31], Bing Bong [42] and Mamá Coco [43].

In the case of white and its correlation with the emotions of sadness and angry. It was possible to see, while analyzing the emotions, that the color chord that usually is used to give the impression of angry personalities are black and white, this was possible to conclude while analyzing characters such as Sid Phillips [28], Buddy Pine [33], Ernesto de la Cruz [43], EVE [38], and Dorotheia Willians [45]. Therefore, it is possible to interpret that white conveys angry feelings as much as black when putted together. On the other hand, when we have sad characters, with white in their color palettes, this emotion can be conveyed with brown tone, such as in the characters like Carl Fredricksen [39] and Anger [42]. Other than that, the white color is very used to enhance other emotions from the character's personality which is the case of the character Sadness [42] where white only enhance the color blue and gives the perspective of sadness. Let have in mind that it is important for us to have in mind that the color chord has influence on how we can interpret the character's color and therefore, their personality.

Although black gives a sense of angry and negative feelings to a color scheme, it can also give the impression of seriousness, like when analyzing characters like Edna Mode [33. 34], Dorothea Williams [45], Anger [42], all of them use black in their outfits but in this case the color is not

Fig. 3 Examples of some analyzed characters and their color scheme. From left to right, respectively: Dean Hardscrabble [41], Joy [42], Rex [28], The Incredibles [33, 34].

related to the emotion anger but to their serious personality. Another case that can also be listed as a not angry emotion but uses black in his color palette is Barley Lightfoot [44] from the movie Onward, his clothes are mostly black creating the idea of a rock music listener.

It was also relevant analyzing the opposite correlation and verify that most colors that have not being used. On our analyses the only opposite correlation that was use together was light purple and the emotion fear, as the character Fear [42] has it of one of his main colors. Here it is important to considerer that according to what was analyzed, this character color is no related to the emotion fear but itself but to his eccentric personality, which makes a proper interpretation for this color. Since purple can also be related to the emotion exaggeration [23].

7. Conclusion and Future Work

Our interest in exploring color as an element that carries meanings and acts on the viewer. It led us to meet several publications and authors dedicated to its study from an objective and subjective point of view. Through different perspectives, we came across theories formulated over time about how we see color, how it interacts with the surrounding environment, and how human beings interpret it. In a more or less conscious term, we attribute to it meaning, connotations, symbols, memories, etc. On the one hand, we consolidated some knowledge that we already had. Additionally, we discovered new questions and curiosities that allowed us to develop our reflection and critical positioning in the face of the more functional character of color. Furthermore, as most authors mentioned, we conclude that color and emotions are vast and complex topics with several ramifications. Thus, despite being the subject of study for many theorists, scientists, psychologists, and artists, there is still a lot of work ahead for color to be understood in its entirety — if that can be considered at all.

The fact that color is seen as an element associated with emotions in animated films leads us to question its role in other sectors. Specifically in other visual communication areas, like animated films, some scholars defend color as more than an aesthetic element, elevating it to a structural element of the images, capable of establishing emotional understandings, creating atmospheres in scenes, marking rhythms, creating associations and contributes for the narrative [3, 6, 25, 47]. However, color in anima-tion as a way of conveying feelings still needs to be better documented, although greater interest in exploring the theme has started to increase only in recent years.

Therefore, a recommendation for future researchers includes explor-ing if the antagonist color pallete can be associated with the emotions they are supposed to convey. If the protagonists have brighter colors than the antagonist and which emotions the protagonist is supposed to convey based on their color pallet. Also, verify if color influences the scene and creates an atmosphere in animated movies.

Finally, I intend that this work can contribute to extending the aca-demic research related to graphic design and animation movies. Also, it continues to lay the grounds for other researchers to develop the theoreti-cal study of color association in animation films.

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Motion Capture, Turning Point in the History of Motion Pictures

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[Animação · Animation]

Abstract

The purpose of this article is to present Motion Capture (*MoCap*) as an electro-mechanical-virtual artifice shared by the two ways of creating moving images, Animation and Live-action. Considering McLuhan's concepts about the electrification of the media, the rupture of the system, and video making, the text frames the development of *MoCap* in this context. The complete electrification process of the production means provided the ground for its appearance. In addition, the article shows the *MoCap's* differences, comparing it with Rotoscopy and Live-action, and evaluating that it is closer to Animation and animated effects. By this path, the paper concludes that *MoCap's* characteristics and the consequences of its application proven this device into a turning point in the history of Audiovisuals, breaking paradigms and changing long-standing concepts.

1. Introduction

Animation and Live-action Cinema share the history of the audiovisual narrative, although with diverse development over time. Between the 19th and 20th centuries, they shared the same space of experimentation, technical, and technological discoveries without specific labels or borders. What raised the Live-action image due to the more remarkable expansion of both Audiovisual means (emphasizing that such nomenclature makes more sense after recording and reproducing the sound together with the projection of these images).

The fact that Animation is the result of manual production (drawing or manipulation of objects), and the so-called Cinema is the result of the image captured directly on film (now, digital sensor), and intrinsically linked to the "real" image, determined Cinema faster evolution, both at a productive level and at the recognition level as Art[2]. Animation and animated effects – started by Méliès – were relegated to a second level without the equal status of recognition or more significant theoretical considerations, as occurred with live-action[3].

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2 The book *Le Cinéma: Naissance d'un Art* 1895-1920 (Banda & Moure, 2008)[1], presents several texts from that time.

3 Sergei Einsenstein's works on his own films are examples (*The Film Sense*, 1942 and *Film Form: Essas In Film Theory*, 1949).

With the computerization of the production means, which began between 1980-1990, and the complete dissemination of television images, Cinema began to adopt ways of editing and creating images from video making, resulting in the interaction of images and multiple collages [2]. In fact, that had already been used by Animation since Émile Cohl, as in *Les Transfigurations* (1909)[3] and *Les Joyeux Microbes* (1909)[4], mixing animated and filmed images.

By adopting digital three-dimensional moving images and technical-visual articulation, filmed productions increasingly became dependent on animated effects (Animation). That resulted in Manovich's famous statement 22 years ago [5]: "the cinema enters the digital age, [...]. Consequently, cinema can no longer be clearly distinguished from animation". In other words, a century later, Cinema and Animation lost their limits in a cyclical trajectory. This statement justifies itself: Nowadays, as in the past, the same device can capture and project the image[4].

This article shows itself in this historical context. Then, one of the artifices digital technology developed is capture, be it image, sound, or movement, transforming them into mathematical data that can be decoded by the various equipment involved in the production process. Motion capture, or *MoCap,* revolutionized live-action Cinema in productions such as T*he Lord of the Rings: The fellowship of the ring* (2001) [7], *Avatar* (2009) [8], and *War for the Planet of the Apes* (2017)[9], moreover in the productions considered animated as *Polar Express* (2004) [10] and *The Adventures of Tintin* (2011)[11].

Although, one should remember that movement is the cornerstone of Animation [12], not of live-action.

Therefore, the author considers that *MoCap* is the crucial element that represents the hybridization of Cinema and Animation, as this article's study object. For such, the author develops this analysis through considerations and clarifications on movement capture and the shapes of movement, the electrification of animated production means, and the frame-by-frame manipulation of the "real" image. Concluding that André Bazin's Cinema [13] no longer exists, but ironically, it was abducted (and not the other way around) by the philosophy of Méliès and Cohl. It is noteworthy that questions about technical details and evaluative analyzes of *MoCap* forms are not addressed here as they do not interfere with the questions raised. Nevertheless, to analyze its characteristics and role in the practice of the creation methods of the movement on the Audiovisual.

This text results from developing thoughts about the moving image initially articulated in the thesis *The Representation of Diagetic Imaginarium by Animation on the Live-Action Cinema* (Gordeeff, 2018) [14], mainly on its virtuality using the animate image creation. Based on studies by Marshall McLuhan [15], the concepts of "Cool" and "Hot" media, and electrification of media, for analyzing animated and real-life images, respectively. These analyzes are helpful for the development of this text, as well as the work by Arlindo Machado [16] on video, and by Kitagawa & Windsor (2008) [17], and Alberto Menache (2011) [18] on *MoCap*.

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4 Like cell phones and digital cameras, the cinématographe also filmed and projected images (Sadoul, 14) [6].

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2. Motion Capture and Motion Shape Capture (Copy)

First, there is a need to clarify a misconception that has been propagated as a fact: Rotoscopy is not Motion Capture – although some consider the technique a type of motion capture [19][20][21][22][23][24].

Rotoscopy may be considered a "forerunner" of *MoCap*. However, despite realizing the historical line that some scholars aimed to contextualize[5], such an approach is considered a mistake of historical nature, of objective evaluation, and even etymological, to qualify the animated technique as being a motion capture. This observation is grounded on what Rotoscopy and motion-capture effectively are.

The first is the copy (and future reproduction) of a movement's recording (photograms). In contrast, the second is the capture of the movement itself, not its representation (as the name says, movement capture).

The Rotoscopy application as an animated technique began in the XX century, being patented in 1917 by the Fleischer Brothers [26]. It consisted of drawing on paper using the frame-by-frame projection of a previously filmed image as a reference. It was also widely used by Walt Disney and was responsible for the fluidity of the naturalistic movement that became a hallmark of his productions.

While the first use[6] of motion capture in audiovisual was in 1985, in Brilliance[7] produced by Robert Abel and Associates for the *National Canned Food Information Council* and aired during the *Super Bowl* of the same year on American television [27][28].

They captured the dancer's movement in a 3600 axis, through photographs from several angles, of the 18 joint points of her body marked with black dots. The photos were edited from the SGI Iris 1000 systems, workstations produced by Silicon Graphics, which created movement algorithms to be applied to a 3D robot character [30].

Therefore, it is evident that the development of actual motion capture was possible only with technological advances in Audiovisual.

Besides, to justify the difference between Rotoscopy and *MoCap*, it is crucial to observe that the animated technique continues to exist as such. The change has been using digital tablets instead of paper as a productive method[8].

On the other hand, Rotoscopy even adopted the same advances as the cartoon because it results from many drawings made by copying a filmed image (or taking it just as a model to follow). However, nowadays, this process itself uses layers (filmed images under the drawings) but is the same. However, all elements are digital – image files captured by a camera, and the drawings made on a digital tablet.

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5 Mainly when they observe the work of "Motion photographed" by Etienne-Jules Marey (1886)[25]. Marey's extensive legacy shows that his goal has always been to understand and "capture" movement from the most diverse sources. In one of these works, he photographed the movement of a person dressed in a black suit but with white lines on the sides. By being photographed in motion against a black background, he could register the body's movements and not the walker's body.

6 Although the study of motion capture began in the 1970s, by Gunnar Johansson in the medical field. The objective was: "[...] be to study the visual information from some typical motion patterns of the human body when the pictorial form aspect for these patterns has been abstracted" [29]. Developing methods that allow the understanding of the movement without the interference of the figure that moves.

7 https://adage.com/videos/the-canned-food-information-council-brilliance/115

8 The method is still practiced today in more experimental films and didactic processes.

MoCap is a mechanic-electric-virtual process through which an actor's natural movement is captured and converted into mathematical codes. Then, these codes are applied to a virtual character, allowing the extension (using McLuhan's term) and the reproduction of human movement in the virtual environment. This procedure significantly altered the actor-movement-character relationships and the filmed and animated image. *MoCap* does not capture the representation shape of the movement, but its action[9], and it can even have several different forms since the coded movement can be applied to many different characters. The issue is discussed below.

3. Motion Capture, Example of Electrification of Audiovisual Production Means

The electrification of media and its consequences was a study by Marshall McLuhan published in his reference book *Understanding Media* in 1964. Briefly, McLuhan developed this analysis considering

> Obsession with the older patterns of mechanical, one-way expansion from centers to margins is no longer relevant to our electric world. Electricity does not centralize, but decentralizes. It is like the difference between a railway system and an electric grid system: the one requires rail-heads and big urban centers. Electric power, equally available in the farmhouse and the Executive Suite, permits any place to be a center, and does not require large aggregations [31].

In other words, the change from mechanical to electrical structures streamlines and decentralizes processes. That happened with the Audiovisual process, which stopped using film and acetates to use encoded image files, which can be edited and altered by professionals worldwide, not just in the production company's studio.

In addition, another consequence of the electrification of the means of production was the cooling of the live-action image and heating of the animated ones. For McLuhan [32], cinema is considered a hot medium with high definition, providing much information to the audience. While the cartoon is a Cool medium, poorly defined, and demands greater audience participation to be understood [33]. The other animated techniques also carry this feature [34].

With the electrification of the production means, Animation became codified, with drawings made on digital tablets and no more drawings on paper, resulting in "electric" drawings. At the same time, 3D Animation is a child of this "heating", as it is already a consequence of the electrification of the production means.

As an artifice to produce the character movement, one observes that Motion Capture is possible just because the existence of an electrified production system. That provided the technology to capture and encode

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9   That was pursued by Etienne-Jules Marey and by Gunnar Johansson, as mentioned.

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the motion with sensors, programs, and computers. That is, *MoCap* is the result of a process of hybridization of Audiovisual production itself with the adoption of a modus of making from other areas.

3.1. Real (Real ?) Image
Frame-by-Frame Manipulation

While the real image having its image on the film support transformed into electric-mathematical codes, it becomes more divisible, editable, and looses the power of the snapshot that the image captured on film guaranteed.

It thus carries a more illusory dimension, with the addition of all sorts of interference, and often being digitally treated frame-by-frame, which results in an approximation to the modes of animated production. Therefore, there is an approximation of Animation and Live-action. The identification of such a situation as a breaking point of a means or system [35]: one can transform into the other or, by hybridization, raise something new.

At this point, it is necessary to observe: It is undeniable that nowadays, any live-action production makes use of digital artifices and even animation, as visual effects. This flexibility of the image, the alphanumeric interaction, and multiple collages have historical origins in the production of the video-graphic image [36].

That whole creative process of a new image, different from the captured one, is observed by Machado as being a "metamorphosis of the image", often generating "hybrid and exotic landscapes, halfway between surrealism and abstraction" [37]. Precisely what happens in the live-action film *Interstellar* (2014) [38]. Therefore, with the electrification of the production means and the consequent technological advances, real-life cinema could adopt video artifices, animated techniques, and even other methods such as Motion Capture. As mentioned, it has the original creative application, primarily in video. Thus, today we have a hybrid image that does not obey the purity of the immaculate captured image but is a digital collage.

4. Motion Capture, is it
Animation Or Live-Action?

Historically, *MoCap* comes from the Medicine field. Therefore, it can be considered a "strange" procedure in the Audiovisual field, being neither Animation nor Live-Action. Its primarily application was video production. However, there are crucial points to ponder to understand its connection with these two means since both are electrified as mentioned. The first observation concerns the real image and, later, the animated one.

When the actor Andy Serkis[10] complained about the lack of recognition for his work [39], "it was the actor's work that defined these characters, and not the animator's, arguing that the avatar displayed in the films was merely a digital version of costuming and make-up" [40], he drew attention and created a morally reasonable doubt. After all, his representation and movements were captured and applied to an animated character. However,

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10 Actor responsible for the performances in films such as *The Lord of the Rings: Two Towers* (Jackson, 2002) as Gollum, *King Kong* (Jackson, 2005) as Lumpy, and *The Adventures of Tintin: The Secret of the Unicorn* (Spielberg, 2011) as Captain Haddock.

the *MoCap* provokes a detachment between the actor and his movement –
this has always been sought in Marey and Johansson's experiments. That
happens since the actor's movement is captured, but "he" is not. Further-
more, there is no real-life movement anymore. However, a set of informa-
tion from the motion that had existed: the natural mechanical and organic
movement, was converted into mathematical codes, reproduced, and
applied to one or more virtual characters. Although, not even this exact mo-
tion set is applied unchanged. Just as mathematical data and with the need
to express the actions and expressions to a "character-avatar", it is edited,
cleaned, and exaggerated, which is performed in any animated production.

In addition, one should make other previous actions before the
capture process, such as preproduction, storyboarding, and animatic. As
Kitagawa and Windsor explain [41]:

> Capturing data using Mocap equipment is, of course, the essential part
> of the pipeline, but equally important are the things we do before and
> after capturing data, that is preproduction (planning), data cleaning
> and editing, and data applications.[. ..] After capture sessions, data
> needs to be cleaned, edited, and applied to a 3D model. Applications
> are getting better every year but they are tools, that is, technology does
> not create arts, you do. You are the creator and decision-maker.

Concerning Live-action, this connection is more distant. Understandably
the motion, and even, in some cases, the actor's expression are captured.
However, it is not the same thing seen or applied to the virtual character,
but a set of procedures: *MoCap* + character + animation adjustments.
Keeping the due proportions, it would be a comparison between listening
to a song recorded in the studio, and a song from a show taking place. The
difference is that in both cases, the musician plays. In the case of *MoCap*,
the musical notes were abstracted from the music and applied to another
instrument and, perhaps, with another cadence. Therefore, it is a miscon-
ception to consider it a Live-Action Cinema technique. More accurately, it
is considered an Audiovisual technological device.

5. Conclusions

As exposed, motion capture stands out as a movement-creation device that
has a greater connection with animation. Since it carries in its *modus operandi*
the objective of creating the movement, even edited post-capture. Another
crucial point is that this movement, now electric-mathematical informa-
tion, is applied to a character that does not exist. It is a virtual character. This
movements set will be adapted for a better expressiveness of the character
and suspension of disbelief[11] in its actions. That is the strong connection with
the entire modus operandi of animated work. However, in other words, the
animation is no longer a protagonist but an extra element of the captured
"motion adjustment" process – this is no more a creation act.

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11 In Biographia Literaria (1817) [42], the poet Samuel Taylor Coleridge, presents the expression for the
first time.

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However, considering all the observations made throughout this text, it is justified that *MoCap*, an electrified technological artifice of motion capture, is an element external to live-action and animated cinema. Nevertheless, this can be integrated into and shared by both media simultaneously, and modifying the concept of how movement can be created. That is the reason the *MoCap* is considered a ground-breaking of the Audiovisual. Thus, the movement creation was based on the reproduction (being drawings or photos) of its shape results, and not by capturing and codifying the movement as just an "action," without a shape, without a *corpus* to be seen.

That resulted on a dynamic "movement" of hybridization, where the *MoCap* represents it as something new that did not exist but modifies what already exists and is at its periphery (as McLuhan states). *MoCap* appears as a symbolic landmark and a turning point in the history of Audiovisuals as it integrates by modifying existing means and paradigms.

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Aneurysm – Uma experiência de animação expandida

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[Animação · Animation]

Abstract

Expanded animation can be understood through its hybrid character as an artistic practice capable of exploring issues of performativity, social, political, or documentary activism [1], and through a set of mechanisms of dispersed subjectivity activated by the viewer, making it an unfinished work [2] or an artistic experience that can be a source of investigation into contemporary life. Therefore, the present study aims to present: i) the expanded animation project Aneurysm (2022, 10 minutes), which records events from the author's personal life, such as the aneurysm, loneliness, and lack of family communication; ii) and the observational results of users' interactivity with the installation Aneurysm. Using a practice-based methodology, the concept of animation-space-reception privileges an intimate experience, placing the viewer/participant at the center of the viewing, enabling investigation into how their involvement should be promoted. At the same time, the relationship between reality and abstract animation is discussed, as well as its ability to create 'thinking spaces' for engaging viewers [3]. Aneurysm was presented in 4 main moments, with participation in different festivals, with special mention to Cinanima 2021, from which the observation was carried out through a) a sensory approach, used in the early installation experiences, in which the images and sound appealed to emotions, with a greater impact associated with illness and death for the audience; b) an intimate and narrative approach, with greater individual visual involvement and immersion, focused on the narrative. In this process of iteration, the Aneurysm project evolved progressively, both in its representation (from stop motion animation to 3D animation) and in its mode of interaction (from video projection to interactive installation).

Keywords

1. Introdução

Um aneurisma cerebral é uma dilatação anormal num dos vasos sanguíneos que levam sangue até ao cérebro. A parte dilatada geralmente apresenta uma parede mais fina, existindo um elevado risco de romper, provocando uma hemorragia. Quando tal acontece, a ameaça de morte pode ser imediata se nada for feito a nível cirúrgico, obrigando a uma hospitalização

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e intervenção imediatas. Constitui, portanto, uma situação pessoal de enorme risco, com eventuais perdas de consciência e morte, registando-se em Portugal os acidentes vasculares cerebrais como uma das principais causas de morte [4]. A ideia para a realização do projeto Aneurysm surgiu após uma experiência pessoal da investigadora, a qual a influenciou artisticamente para a investigação e produção em artes da animação.

A força impulsionadora de Aneurysm combina um registo de realidade, mas que se distancia de um registo de animação documental para se afirmar num domínio de animação expandida, pretendendo refletir sobre as relações entre a arte interativa, o envolvimento das audiências e o desenho da experiência por animação expandida. O conceito de animação expandida, já definido por diversos autores [5,6,7,8,9], está ligado ao desenvolvimento do cinema, vídeo e televisão com novas visões culturais surgidas na década de 1970 que visavam a criação de novas práticas cinematográficas [1]. Nomeadamente, a forma como os filmes poderiam ser exibidos, criando uma nova envolvência na ligação filme-espectador, complementar ou alternativa à existente em sala de cinema. Estas mudanças abriram caminho a novos formatos para os média e a arte, usualmente exibidos como instalações artísticas/instalações de animação em locais públicos ou em salas. Definindo-se pelo seu caráter híbrido, não constitui uma obra terminada, preparada para o consumo, mas sim um conjunto de mecanismos que o espectador ativa - o significado da obra e a experiência artística – que tornam necessária uma redefinição da animação contemporânea do ponto de vista interdisciplinar, transdisciplinar e pós-disciplinar [2].

Gostaríamos também de salientar como Norman Klein [10] e Lev Manovich [11] consideram a animação como um conjunto híbrido de efeitos visuais, metamórficos, muito mais presente e intrusivo na cultura moderna dos media, do que a maioria dos investigadores nesta área dos média são capazes de reconhecer. Neste âmbito, autores como Brigitte Hosea, Pedro Serrazina e Theresa Stehlikova, têm chamado a atenção para a exploração do processo criativo, visando uma melhor compreensão de como a animação promove uma "embody reality as a process of becoming, transformation, in a way that is unique to this art form" [12]. Por outro lado, Deborah Levitt [13] realça as constantes alterações das interações das materialidades da comunicação, dos modos de experienciar e da perceção humana, daí decorrendo a importância de um artista observar a interatividade do seu trabalho em ação, em contexto real e a necessidade de aprender a partir dessas observações.

Assim, o presente estudo visa apresentar: i) o projeto de animação expandida - a Instalação 3D Aneurysm (2022, 10 minutos), que documenta eventos da vida pessoal da sua autora, o aneurisma gera a solidão, a ausência de comunicação; ii) os resultados da observação da interatividade de utilizadores com a instalação, usando uma metodologia baseada na prática, na qual o conceito espaço-animação-receção privilegiou uma experiência intimista, colocando o espectador/participante no centro da visualização.

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2. Instalação Artística
e Animação Expandida

O termo instalação, possui um caráter polissémico, não específico, envolvendo a experiência compartilhada entre a tríade autor-obra-espectador [14], podendo integrar várias técnicas artísticas, em locais e contextos diferenciados, sendo necessário que o artista trabalhe com e no local da instalação, desmontando-a, deslocando-a e reinstalando-a. A técnica da instalação constitui, por isso, uma fonte de informação e de investigação da vida contemporânea. Desse modo, o espaço é determinante para a conceção da obra, caso seja situacional ou relacional e para a sua receção por parte do visitante, espectador e/ou participante. A forma como se promove a interação com o visitante está igualmente interligada com o espaço, o qual deverá, idealmente, envolver e suscitar a sua curiosidade e atenção. Em instalações itinerantes e versáteis, no qual o espaço é parte integrante como um elemento do storytelling, o conteúdo e a forma da sua apresentação desenvolvem-se em paralelo [15]. Para Candy e Edwards [8] algumas questões de investigação são gerais, tais como: Quando se pode falar em envolvimento das audiências? O que promove o envolvimento? Quais são as modalidades mais bem-sucedidas? É possível prever o envolvimento? Quais os impactos provocados pela familiaridade temática? Como avaliar as experiências interativas? Como capturamos a experiência vivida pelas audiências? Devemos pedir-lhes para falarem dos seus sentimentos durante a experiência? Devemos nos basearmos no que recordam após a experiência? Existem medidas objetivas para avaliar? É a arte interativa uma fonte potencial de novas visões sobre as experiências das audiências? Onde está a arte: no objeto ou na experiência?

Também Birgitte Hosea, em conjunto com Pedro Serrazina e Tereza Stehlikova, editores do número especial da *International Journal of Film and Media Arts*, dedicado a examinar o potencial da animação expandida ao dar significado à realidade através de todos os sentidos, colocam questões sobre "provisionality and uncertainty: of facts, philosophies, moving images, implicit in the subjectivity of perception and the unpredictability of matter" [9].

Outras problemáticas contemporâneas relevantes na animação são as que investigam a arte de intervenção baseada em investigação transdisciplinar [7] e a discussão de posições teóricas sobre realismo, materialidade, atualidade e processo na relação intrínseca entre realidade e animação, na qual o espectador participa ativamente na receção da obra. Max Hattler [3] identifica a animação abstrata na sua capacidade de criar 'thinking spaces', os quais em vez de representar a realidade, apresentam o Real Abstracto, possibilitando a construção de mais narrativas abertas e diferentes formas de envolver espectadores. Abordagens e propostas de representações espaciais diferenciadas têm também vindo a crescer visando o restabelecimento da animação como arte independente, pronta para desafiar os modos existentes de percecionar e organizar socialmente espaços alternativos [16].

O contexto social e histórico, bem como o quotidiano, constituem fontes de reflexividade, inspiração, justificação e legitimação, ao qual deve ainda ser acrescentado nos últimos 20 anos, duas grandes tendências, ambas focalizadas nas relações interpessoais:

i) A viragem dos afetos – que considera os afetos, emoções e sentimentos e as suas relações com os pensamentos, cognição e saúde mental, como ponto de análise [17] e;

ii) A viragem social na arte [6], caracterizada por temas políticos, modos de coexistência social, ativismo interventivo e modelos de interação, um contraponto à viragem cultural dos anos 70. O tipo de envolvimento que as audiências desenvolvem na interação artística e a forma como a interpretam está dependente do seu enquadramento familiar e das preferências culturais [7, 18].

As emoções podem ser definidas como ocorrências resultantes de interações humanas e das suas dinâmicas, as quais as produzem, modelam/transformam e as comunicam [19]. Entre os vários teóricos assume particular importância o foco de atenção do indivíduo e as diferenças individuais na receptividade a um ambiente interracional, no qual nem todos são afetados da mesma maneira, existindo uma clara configuração afetiva do participante.

Em síntese, a criação de um projeto de instalação artística e animação expandida beneficia das viragens temáticas e epistemológicas dos últimos anos, na arte em geral e na animação, em particular, exigindo um maior envolvimento e participação das audiências e um interesse pela investigação das relações com o espaço e as formas narrativas que adota e com as formas de interação e avaliação da receção da mensagem emocional do artista.

3. O Projeto Aneurysm

Para o desenvolvimento deste projeto, assente na experiência pessoal para a criação de processos criativos, optou-se por uma abordagem baseada na prática artística como método de investigação [20], na qual o criador é simultaneamente um investigador. Explorando a questão de investigação principal - Como desenvolver uma dimensão visual intimista, abstrata e metafórica do tema, utilizando a animação expandida? - através da prática artística baseada na realização de várias experiências com distintas audiências, a instalação interativa *Aneurysm* foi progressivamente desvendando questões e gerando novos debates. A realização de entrevistas com os utilizadores da instalação nos diferentes momentos de apresentação ao público, promoveu assim um processo criativo de produção de animação com iteração constante, gerando novas possibilidades, diferentes experiências, repetida observação das intervenções para tomada de decisões artísticas.

De igual modo, a pesquisa no estado da arte sobre projetos que recorrem à neurociência como tema criativo foi uma importante fonte de inspiração. Contudo, a presente pesquisa demonstrou a escassez de exemplos concretos nos temas de AVC ou aneurisma, revelando originalidade na abordagem deste tema no contexto da animação expandida.

A ideia para o projeto de instalação Aneurysm nasceu do conjugar de vários elementos. A partir do desafio para realizar uma animação documental, no contexto de uma unidade curricular do estudo de Mestrado em Artes da Animação (Universidade Lusófona) e de explorar as possibilidades criativas de animação expandida numa outra unidade curricular, a experiência pessoal

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da autora em que viveu de perto os desafios de um aneurisma, fomentou esta necessidade de exprimir esta experiência através da animação. A necessidade de partilhar um problema que afecta tantas famílias em Portugal, foi uma força interior da autora muito impulsionadora no registo visual e narrativo.

Se numa primeira fase dos estudos de mestrado foi criado uma animação documental para ser projectada num formato tradicional (ecrã/tela), numa segunda fase, a autora foi desafiada para explorar as potencialidades do espaço, da interacção, da performatividades, entre outras possibilidades criativas em espaços híbridos.

Aneurysm é assim uma instalação artística com diferentes objetivos, sejam do domínio artístico ou académico, mas que pretende oferecer um contributo activista, de modo a sensibilizar o utilizador para a doença com a maior taxa de mortalidade em Portugal. Aneurysm descreve sinais da presença de um aneurisma cerebral, de modo a criar uma experiência envolvente para o espectador.

O género da animação desenvolvido combina conteúdos reais (documental) com ficcionais e, por isso, o poderemos considerar uma abordagem híbrida de animação ficcional, documental e expandida (performativa). A partir de 134 imagens de ressonâncias magnéticas pessoais, foram selecionadas, editadas e colecionadas para serem usadas na narrativa da instalação. Assente numa narrativa com quatro eixos entrelaçados, a animação apresenta uma situação familiar de comunicação telefónica entre uma mãe e um/a filho/a, através da audição da gravação de mensagens. Retratam vivencias que se interceptam, nomeadamente, i) a ausência de comunicação entre familiares (para criar tensão narrativa e os envolver espectadores com o desespero da personagem), ii) os vários problemas de saúde apresentados (compondo o seu aspecto documental e educativo sobre o aneurisma cerebral), iii) a solidão (mensagem pessoal da autora nesta animação para exprimir uma das mais fortes sensações sentidas na experiência de um aneurisma cerebral), iv) e a necessidade de enfrentar uma nova realidade (segunda mensagem da autora).

No que se refere às referências narrativas desta obra, destacam-se a obra de José Cardoso Pires, *De Profundis, Valsa Lenta* [21], a tese de doutoramento de Samantha Moore [22], a representação cinematográfica, como o uso de mensagens telefónicas, especialmente os filmes de Anatole *Litvak, Sorry, Wrong Number* (1948) e *Dial' M for Murder* (1954) de Alfred Hitchcock. O resultado destas influências pode ser verificado nas figuras seguintes, contudo tornou-se claro a necessidade de representar a personagem feminina da Mãe nos conteúdos projectados, remetendo a outra personagem para a imaginação dos participantes na instalação, como receptores das mensagens telefónicas da mãe através de um dispositivo físico - telefone (fig.1).

Cada participante, ao escutar as mensagens, assume esse papel, permitindo uma maior imersão na narrativa. A personagem da mãe deixa de ser uma personagem dentro de uma narrativa para assumir o estatuto de uma pessoa real, com diálogos que todos os filhos/filhas já ouviram em algum momento do seu relacionamento com os respectivos familiares.

Seja em filmes de género de horror, como Don't Hang Up (Alexis Wajsbrot, Damien Macé, 2016) ou em thrillers como Midnight Lace (David

Fig. 1 e **2** Visualização da exposição interativa Aneurysm e fotograma da animação.

Miller, 1960) e When A Stranger Calls Back (Fred Walton, 1993), o telefone tem sido frequentemente utilizado para criar suspense, terror, ansiedade, ou para o realizador informar o espectador sobre determinados contornos da narrativa. A literacia cinematográfica é uma importante característica de distintos média porque activa percepções no espectador que não estão necessariamente descritas ou produzidas [23]. Em Aneurysm, a presença física deste objecto no centro da sala, transporta o espectador de imediato para este contexto. A presença do objeto em cena (telefone fixo) e o som do seu toque, a par das atuais mensagens escritas e sonoras integram o leque de funcionalidades utilizadas, despoletando assim a atenção do espectador para a interação e respectiva audição das mensagens telefónicas.

O tempo foi considerado um elemento fundamental na perceção da mensagem, sendo apresentadas oito cenas, espaçadas no tempo, em narrativa linear, representando registos diários de telefonemas realizados para o filho/a. Nestes eventos decorrem num fluxo contínuo da passagem do tempo, com quatro estados mentais (pensamentos, recordações, desespero e medo) acompanhados de monólogos, imagens em movimento e som estéreo (manipulando-se o som espacialmente em redor do telefone). Cabe a cada mensagem da chamada telefónica criar uma diferenciação de ritmo com os outros momentos da narrativa, inicialmente mais lenta e tranquila e acelerando durante os momentos de desespero, até à cena final, novamente mais lenta.

3.1 Fase de Produção da Animação

Tendo sido pesquisado e definido o tema, foram planeadas as distintas etapas de produção deste projeto, nomeadamente:

    i) as fases da produção da animação;
    ii) o desenvolvimento da instalação artística;
    iii) a análise da recepção e feedback;
    iv) e novo ciclo de iteração até ao formato final.

Na etapa da pré-produção, procedeu-se à elaboração do guião, o conceito de instalação e a definição das técnicas de produção de imagem animada. Nesta fase, desenvolveram-se testes de animação, para a definição estética da imagem, criando-se *moodboards*, *concept art*, *model sheet* para a personagem principal a ser modelada posteriormente em três dimensões (3D), um *storyboard* e respectivo *animatic*.

ANEURYSM – UMA EXPERIÊNCIA DE ANIMAÇÃO EXPANDIDA
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Na fase de produção de imagem animada, recorreu-se a *software* de modelação e animação 3D (Blender), de *render* em tempo real (Unity3D) e de edição vídeo (Adobe Premiere). Para a definição dos tempos de animação, foram gravados previamente os diálogos definidos no guião. O som foi captado em estúdio de som, editado em Avid Protools, tendo sido efectuado um casting de voz prévio à gravação do actor escolhido para interpretar a voz da personagem. Paralelamente ao trabalho de edição vídeo, as diferentes pistas de áudio ambiente foram manipuladas de forma a criar som espacial, distinguindo o som emitido por colunas de som à frente e atrás do espectador. O áudio da personagem apenas é projectado através do telefone.

3.2. Desenvolvimento
da Instalação Artística

O projeto Aneurysm foi desenvolvido e iterado em 4 momentos principais, nomeadamente o evento universitário Over&Out 2021 (Julho, 2021), o festival Cinanima 2021(Novembro 21) a ICLI22 - International Conference on Live Interfaces (Junho, 2022) e o Over&Out 2022 (Julho, 2022). Esta importante disseminação permitiu sessões de teste com audiências, promovendo a maturação, modificações e aperfeiçoamentos à passagem por cada um destes eventos. Estas ocasiões ofereceram o espaço para testar as diferentes hipóteses que foram sendo levantadas, seja a nível estético (cores, áreas de projeção), a nível de interação com audiências mais passivas ou mais activas, entre outros. Como pode ser verificado na figura 3, destacamos a instalação realizada no festival Internacional de Animação Cinanima 2021, na qual a inspiração na instalação *Exacting Light* (Gary Hill, 2011) refletiu-se na utilização de imagens reais de um cérebro (fig.4), tendo por base imagens de uma ressonância magnética onde se visualizam veias e artérias do cérebro (a materialidade da situação), potenciando o lado emocional e o sentimento de vida em perigo. Para o movimento animado desta instalação, foi utilizada a técnica *stop motion* com recurso a imagens microscópicas de frutas e vegetais, para que através da falta de continuidade visual (*raccord*) que esta técnica de animação pode oferecer, ser gerado um maior efeito de estranheza efectuado através de *jumpcuts*, movimentos disruptivos, alterações de escala, entre outras experiências visuais.

Fig. 3 e **4** Visualização da instalação no festival Cinanima 2021 e no evento Over&Out 2022.

Neste processo de iteração, o projecto Aneurysm foi evoluindo progressivamente, tanto na sua forma de representação (de animação *stop motion* a animação 3D) como no seu modo de interacção (de projecção vídeo a instalação interactiva).

Na versão de 2022 (figs. 1, 2 e 4), foi utilizada a técnica de renderiza-
ção em 3D com estilo *point cloud* promovendo o necessário o tratamento
das imagens 2D (ressonância magnética) para um registo gráfico consis-
tente, utilizando-se assim técnicas de simulação *halftone*. Tendo como
inspiração visual os filmes de animação Maaulbeek (Ismael Joffrov, 2020)
e Forever (Mitch McGlockin, 2021) que usam esta estética digital *Point
cloud*, Aneurysm inspirou-se deste aspecto fantasmagórico de passado,
de imagens pouco concretas, para se transmitir a narrativa por memórias
difusas. Com esta técnica, foi conseguida uma maior interligação entre as
imagens com movimento mais disruptivo (*stopmotion*), o universo digital
em 3D, a composição sonora e as diferentes chamadas telefónicas da
personagem, para uma constante progressão da narrativa.

3.3. Análise aos resultados da recepção de Aneurysm

Estando identificada na literatura a pertinência da realização de estudos
sobre as relações entre as intenções do artista e as formas de recepção por
parte da audiência, foi conduzido um estudo exploratório da receção da
instalação, visando recolher as diferentes percepções e interpretações dos
participantes. Para concretizar os objectivos deste estudo optou-se por con-
duzir entrevistas no local das experiências, evitando o preenchimento de
questionários e garantido a observação directa para uma adequada recolha
de dados. A observação directa, apesar de apresentar algumas limitações,
nomeadamente no facto da memória do investigador poder apresentar
falhas no registo da interacção ao vivo [24], por outro lado mostrou-se
muito importante para a análise e intuição da artista para o percurso que a
obra Aneurysm deveria seguir. De modo a complementar possíveis falhas
no registo deste método de observação directa, optou-se por conduzir um
inquérito por método de entrevista, logo após a interacção com a obra
Aneurysm. Este método tem a vantagem da adaptabilidade das questões
aos entrevistados [25], permitindo que a investigadora pudesse clarificar
perguntas menos claras, respostas mais vagas e obter informação adicio-
nal que normalmente não se obtém num inquérito devido ao facto das
perguntas "open-ended" em questionários qualitativos estarem por vezes
condicionadas à interpretação e disponibilidade de cada inquirido [26].

Foram tidas em conta as recomendações de Bilda et al. [27] que real-
çam que na avaliação da instalação interativa através da recolha de dados,
usando entrevistas, poderá sempre existir o risco de que os participantes
não recordem exatamente o que fizeram ou sentiram. Sendo por vezes
difícil expressar por entrevista ou questionário, emoções e reações que
despoletam quase de forma inconsciente. Estes aspectos foram considera-
dos na análise e apresentação dos resultados.

O guião da entrevista integrava as seguintes questões:

i) Qual o tema da Instalação?
ii) Sentiu-se envolvido na história?
iii) Quem são as personagens da história?
iv) Acha algo distrativo?
v) a Interface é fácil de se usar?

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vi) e intuitiva?

vii) Gostava de ter mais informação sobre o que é um Aneurisma?

viii) Acha que a estética visual faz sentido com a narrativa apresentada?

No conjunto das entrevistas realizadas e, tal como nos revelam os resultados de outras avaliações [28], registaram-se algumas experiências emocionais junto dos participantes, seja por visível comoção no impacto da narrativa através da dificuldade e desespero da mãe ao tentar contactar a filha/o. O risco de solidão, a impossibilidade de contactar um ente querido, a presença de um perigo iminente (doença), foram alguns dos apontamentos retirados das entrevistas. De um modo generalizado, esta transformação emocional momentânea dos participantes por via de animação expandida, ocorreu pelo facto dos participantes terem relatado experiências prévias que foram despoletadas por via da narrativa. De igual modo, detectou-se nas faixas etárias mais elevadas uma maior sensibilização e consternação por via do seu envolvimento com o conteúdo narrado. A entrevista não pode quantificar o nível de transformação ocorrido junto das audiências, mas os relatos evidenciaram uma presente experiência emocional ocorrida durante estas sessões, validando as intenções da artista, assim como o reconhecimento do conteúdo emocional simbólico da animação.

Registaram-se igualmente outras interpretações e significados, distantes das intenções da autora da instalação, no qual os entrevistados indicaram ter compreendido apenas parcialmente o tema, fazendo ligações à pandemia da COVID 19, à morte, ao distanciamento de um familiar ou a más relações da mãe com um filho. Em casos menos pontuais, detectados nos relatos das entrevistas efectuadas durante a conferência ICLI, foi sugerido que a interface da instalação (telefone fixo) poderia oferecer uma dimensão mais interactiva, permitindo que as teclas do telefone facultassem a deslocação pelo espaço representado. Conforme indicado anteriormente, esta é uma característica importante de como a recepção de uma obra pode ser influenciada pelo ambiente envolvente. No âmbito de uma conferência em performatividade e tecnologia a expectativa dos participantes foi distinta do festival Cinanima ou dos eventos Over&Out 2021 e 2022 e por essa razão se justifica a sugestão de uma obra mais próxima do universo de jogos e performatividade em tempo real.

Durante este percurso por festivais e conferências, o tema aneurisma sofreu várias abordagens quanto ao formato e conceito da instalação. Para aprofundar a comunicação por meio artístico e, simultaneamente incrementar a literacia da saúde, foram definidas várias estratégias de animação expandida para implementação de:

- Uma abordagem sensorial, usada nas primeiras experiências de instalação, na qual as imagens e o som apelavam às emoções. Procurou-se nesta fase a produção de um maior impacto junto da audiência por associação narrativa da doença e morte.
- Uma abordagem intimista, com maior envolvência narrativa e imersão visual numa experiência individualizada, uma vez que a

interação se encontra preparada para um só indivíduo em sala. Aqui abandonou-se a transmissão de dados estatísticos, informação, histórias pessoais e presença, numa perspectiva de animação documental, para um maior enfoque na narrativa, através da transcrição de pensamentos, sentimentos, afetos, sofrimento ou reflexões pessoais. A abordagem narrativa revelou ser mais adequada para se obter uma reação emotiva e, por conseguinte, garantir o agenciamento no processo de interação com a instalação.

Estas duas abordagens possibilitaram igualmente constatar como diferentes espaços influenciam a avaliação da instalação e a sua interpretação. Os resultados dos estudos realizados junto dos visitantes contribuíram também para realçar o papel influente da animação na abordagem a temáticas activistas, educativas ou científicas, podendo promover o estudo "social turn" na animação, pelo facto de várias respostas aos inquéritos demonstrarem que os participantes ambicionaram adquirir mais conhecimento sobre o tema Aneurysm.

Conclusão

O uso de investigação pela prática artística consolidou o processo de aprendizagem em animação expandida, realçando a importância de se reflectir sobre o percurso criativo nesta prática de *arte-enquanto-processo*. As diversas experiências efectuadas, os recuos em decisões cometidos, os contributos de especialistas ou comentários dos visitantes das várias exposições, promoveram a reflexão individual e a adopção de novas soluções criativas para a proposta final. De igual modo, esta prática artística de investigação forçou a aquisição de competências de animação 3D e de pós-produção áudio visual, para a correcta criação de uma experiência imersiva capaz de transmitir uma mensagem concreta.

Surgiu assim o interesse na direcção de animação para fora do ecrã, numa ideia de animação expandida, consequente exercício de reflexão sobre as várias tendências atuais das práticas artísticas no contexto de interacção narrativa com audiência e meio envolvente. Este percurso promoveu na autora de Aneurysm, novos significados da animação por via da arte interactiva, na relevância da fragmentação do espaço da animação, convivendo com a interpretação do espectador a expressão visual das suas emoções e orientações narrativas.

Finalmente, espera-se que este trabalho possa contribuir para o debate em curso sobre a importância da prática artística como investigação e no impacto da interação da audiência no formato da animação expandida.

Agradecimentos

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Breaking the Frame: Unbinding the Language of Wordless Visual Narratives

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Abstract

This paper presents material taken from ongoing doctoral research which seeks to develop and analyse experimental forms of wordless narrative illustration. This practice-based research challenges the format of the wordless picturebook repositioning illustration into immersive spatial contexts. By relocating drawing as a method of narrative production, a discussion emerges which seeks to comprehend the language of the form articulated through the panel and the framing device and arranged as a complex network of sequenced images. Through deconstructing the bound book, and by removing a dependence on the written word, opportunities for non-linear storytelling arise which confront new ways in which narrative experiences might be designed and understood. Several practical examples are presented across the paper leading to a larger body of work which was exhibited at the *Discover Children's Story Centre*, London, 2022. The reception of this remediation was examined through fieldwork and interview studies, situating the reader within the experience as a co-narrator. Qualitative data was gathered from dialogic group readings, seeking to better understand how the manifestation of an emerging theoretical framework is navigated and understood by a pre-teenage audience. This research examines the possibilities for the design of narrative material that is unrestrained by commercial necessity. In this context, the role of the authorial illustrator becomes central to the investigation, seeking the boundaries between complexities of narrative design, form and content. Whilst the author acknowledges that this research forecasts the transposition of material into digital contexts, including augmented reality and virtual reality, the material presented here is grounded in tangible experiences. The author's positionality within this research is both as practising illustrator and as a teacher within the context of a formal education system. This research was conducted between the years of 2021 and 2023 with the support of Loughborough University.

1. Introduction: Words and the Wordless Narrative

An introduction to wordless visual narratives should first acknowledge the importance of how words and images function as a system. Words

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inevitably change the ways in which pictorial information is understood. Likewise, images transform the ways in which words are interpreted. This synergetic relationship is ever more pronounced in narrative texts, offering divergent points-of-view and tones-of-voice, composed on the page through synchronisations of text and image. The author's voice and the illustrator's voice are distinct, yet together they harmonise through the design of the narrative object. Naturally, in the conception of stories without words, the removal of textual information places a greater emphasis on the image, consequently promoting the singularity of the illustrator as both creator of the visual text and author of narrative intent. Therefore, by understanding the complexities of word and image relationships, further opportunities are presented for how wordless narrative illustration might evolve as a distinct visual language. In this context, it is useful to consider how drawing operates as a multi-modal form of communication through the layering of visual information which can be codified to tell, as well as to show. A language that can present parallel stories, multiple points of view, or the inner thoughts of characters, visualising both the subjective and objective.

For example, Perry Nodelman considers that, in the picturebook, words and images influence one another in a way that by "placing them into relationship with each other inevitably changes the meaning of both, so that good picture books as a whole are a richer experience than just the simple sum of their parts" [1]. Maria Nikolajeva and Carole Scott further elaborate on the use of this system within picturebooks. The authors suggest that "complementary" word and image relationships "fill each other's gaps wholly". Producing a total reading, leaving "nothing left for the reader's imagination" [2]. Likewise, "symmetrical" relationships assume an identical approach, where text and image communicate the same sorts of information. Essentially, the authors also recognise that words and images may contradict each other in some way, suggesting a multitude of understandings. They refer to this concept as "counterpoint", "picturebooks that employ counterpoint are especially stimulating because they elicit many possible interpretations and involve the reader's imagination" [2]. Furthermore, Nikolajeva and Scott infer that illustrative material can be presented as two divergent modes of communication applied through a single narrative object. They refer to this as "counterpoint by juxtaposition: (...) where two or more parallel visual stories are delivered in the reading of the book, and may or may not be supported by the text" [2].

These theories are important as they demonstrate the possibilities of multi-modal relationships that layer information and which emphasise interpretative qualities, further locating the responsibility of the reader within the decoding process. This suggests that counterpoint, without the need for words, benefits a reading experience by 'stimulating' the reader to use their 'imagination'. Thus, an argument for the production and potential of multi-panelled imagery surfaces in the discussion of the language of wordless visual narratives.

2. Development of a Theoretical Model

2.1. Temporality and the Panel

Wordless picturebooks have evolved to use ever more complex arrangements of sequenced illustrated panels as a method of inferring narrative. Nikolajeva and Scott refer to this technique within the classical picturebook as "simultaneous succession", "depicting moments that are disjunctive in time but perceived as belonging together, in an unequivocal order. The change occurring in each subsequent image is supposed to indicate the flow of time between it and the preceding one" [2]. Scott McCloud also generalises that panels in comics divide time and space. The author states that the reader learns to perceive time spatially, "for in the world of comics, time and space are one and the same (...) so as readers, we're left with only a vague sense that our eyes are moving through space, they're also moving through time—we just don't know how much" [3]. However, McCloud has received criticism from both Thierry Groensteen and Neil Cohn who argue that time and space are not bound in comics. Instead, the authors argue that a sequence of panels can imply that no narrative time passes, whilst a viewer's reading time can be infinite [4],[5]. Nevertheless, McCloud conveniently categorises six types of illustrative panel transitions that imply various passages of narrative time. These range from brief moments, implied through the movements of a single subject, to larger moments of inferred time through the representation of multiple subjects or events. Of note are 'aspect-to-aspect' transitions, "sequences of disconnected moments, suggesting a sense of a place or scene", and 'non-sequitur' transitions, "offering no logical relationship between sequenced panels, although suggests some arbitrary connection" [3]. I have adopted these conventions and divided

Fig. 1 *Crossings.* This output demonstrates the use of the inclusive panel as a framing device. There is a suggestion of time in the context of a visual journey, presented through the horizontal axis and pictorial placement of the inset panels. However, the output presents 'asynchronous' connotations and juxtapositions, assembling what might be regarded as an impression of a place, fragments of memories, or possible desires, directed through the vectorised figure positioned compositionally bottom-left.

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them into three broader classifications. 'Chronological' narrative sequence, is produced through panel associations that represent a logical progression of time, movements, or events. 'Synchronous' transitions, are produced through panel associations that infer movements or events that are able to occur at the same time. Lastly, 'Asynchronous' panel associations do not necessarily deal in temporality, instead they may build a sense of narrative through connotations of juxtaposition (Fig.1).

Therefore, a summary of these theories demonstrates how visual units can be structured to infer transitional events which build a sense of time and narrative. However, panels and frames may also be presented as purely aesthetic or experimental groupings, implementing multiple framing devices which do not infer temporal or narrative qualities. Indeed, Gunther Kress and Theo van Leeuwen state that visual structures may manifest as narrative or conceptual representations. The authors define narrative presentations as "unfolding actions and events, processes of change and transitory spatial arrangements". And conceptual representations as "stable and timeless essences", which can be further defined and understood as "classification structures, analytical structures and symbolic structures" [6].

2.2. The Story Container and Pictorial Placement

The story container becomes an essential component in how the transition of narrative time is assembled through wordless visual narratives. Traditionally, the pages of the picturebook fix sequences of narrative illustration into a linear reading order. Barbara Bader describes the experience of reading a picturebook as the "drama of turning the page" [7]. Nikolajeva and Scott further demonstrate the functionality of pictorial arrangements within the framing of the book. The authors examine the 'page-turning' device which generally locates prominent imagery within the bottom right-hand section of a double-page spread, prompting the reader to "continue at the bottom left corner of the next spread" [2]. The function of the page is also significant in comics, acting as punctuation in the reading experience. As Paul Gravett points out, 'the turning of a page is the only way to surprise the reader of a comic, because unless we are unusually self-disciplined, our gaze cannot avoid looking across the immediate spread to scope out what lies ahead' [8].

Therefore, a critical discussion arises which examines the story space as an operative device, conveying the sequencing of narrative time through physical experience. Neil Cohn argues that the reading order of panels within this pictorial space is influenced by cultural reading and writing patterns, and that a Western reading mode "mimics text to follow a preference hierarchy: higher > left > right > lower" [9]. The author states that the connections between panels follow an intrinsic 'grammar' or 'syntax', through which the construction of a visual language is ordered within the story space (Fig. 2).

Additionally, a discussion surfaces which examines the psychological status of a pictorial objects in relation to their relative placements within the story container. For example, Nikolajeva and Scott argue that "pictures naturally have a superior ability to convey the spatial position of the character, and especially the mutual spatial relationship of two

or more characters, which often reveals their psychological relationship and relative status" [2]. William Moebius refers to this effect as 'codes of position and size', arguing that, "it matters whether the actors are shown on the left or the right. A character shown on the left page is likely to be in a more secure, albeit potentially confined space, than one shown on the right, who is likely to be moving into a situation of risk or adventure" [10]. This discussion can also be expanded to the intangible vertical plane within the story space. Molly Bang refers to the narrative effects and implied weighting of compositional elements positioned across these zones, "the upper half of a picture is a place of freedom, happiness, and triumph; objects placed in the top half often feel more spiritual. The bottom half of a picture feels more threatened, heavier, sadder, or constrained; objects placed in the bottom half also feel more grounded' [11] (Fig. 2).

Therefore, transitioning wordless visual languages from bound contexts to unbound physical spaces presents the illustrator with design challenges such as directed momentum and pacing of storytelling, whereby the turning of the page is no longer a factor. In addition, the consideration of the position and weighting of pictorial elements can be combined with emerging multi-linear reading patterns, more readily offered by an expansive physical space. Daniel Merlin Goodbrey is an example of a practitioner and academic whose research investigates architecturally mediated hypercomics, creating and analysing multi-cursal structures that are "designed to inhabit and be navigated via a real-world, three-dimensional environment." [12]. These cross-disciplinary outputs are described by Paul Gravett as "gallery comics" [8].

2.3. Networks and the Dynamic Frame

Thierry Groensteen examines the function of the frame as an aperture that encloses a panel and forms a gutter between two panels. The author demonstrates its versatility, encapsulating the shape, size, and location of each panel within the layout. He describes this complex arrangement as a 'network' of connected images [4]. Jane Doonan also recognises that the "quality of the frame affects the psychological meaning of what it surrounds. A rigid structure contains events while a free-hand drawn line appears less formal and allows for a livelier effect" [13]. Groensteen further elaborates on this concept, suggesting that the modification to a single frame within an already established visual sequence tends "to draw attention to a rupture in the level of enunciation regarding the status of the image, and to indicate, for example, a flashback or the beginning of a dream sequence" [4]. Charles Hatfield also recognises the symbolic effect that this modification generates as a form of communication, defining the method as a 'code of signification' [14]. The author argues that any alteration to a frame must be learnt by the reader, decoded as a distinct and meaningful change within the vocabulary of a visual text. That this alteration may indicate a contradiction in the narrative sequence, implying some distinctiveness, or other narrative viewpoint. Therefore, the modification of a frame within an already defined visual identity further expands the theory of visual counterpoint within the wordles narrative illustration.

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Groensteen also observes the use of the 'inset' frame within a network of images. This technique dispenses with the separative gutter function. Applied in context, a smaller inset panel is composed on top of, and within, a larger inclusive panel (Fig. 1.) The author argues, "in the first case, it allows itself to be reduced to a simple superimposition; in second, it puts in place a dialogic interaction between the concerned panels" [4]. This interaction alters the communication generated from the panels; by occupying the same pictorial space, their relative size and grouping become more relevant within the narrative. This device enhances these image associations within the vocabulary of a wordless visual language, suggesting a variety of readings and configurations; shifting a viewpoint or denoting a specific connectedness, that may or may not deal in temporality.

2.4. Extra-Diegetic Space and Connecting Devices

As William Moebius asserts, "the code of the frame enables the reader to identify with a world inside and outside the story. Framed, the illustration provides a limited glimpse into a world. Unframed, the illustration constitutes a total experience, the view from within" [10]. Molly Bang also states that, "the edges and corners of the picture are the edges and corners of the picture-world" [11]. However, Pascal Lefèvre elaborates on the function of frame as a device that delineates diegetic space; the fictive world in which the characters of the story inhabit. The author argues that through the delineation of the frame 'extradiegetic' space is created, being the "material space that surrounds the individual panels: not only the whites between the panels but also the real space in which the reader is located" [15]. This concept is pertinent to the transposition of wordless illustration into immersive three-dimensional spaces. Theoretically, by breaking down the boundaries of the book, extra-diegetic space has the potential to be converted into diegetic space. That the physicality of the story container may also act as an extension of the story world or influence the narrative in some way (Fig. 3).

In this regard, Joseph Witek foregrounds another visual system used in comics, that of the connecting device or arrow. This pictorial device has traditionally been used as a wayfinding system for the reader, occupying the gutters it predefines a reading strategy by physically linking panels in succession. For example, panels may be numerically labelled, influencing a precise reading order,

Fig. 2 *Toy Circle.* The pictorial placement of panels within the story space is indicative of the narrative weight and content. Note the placement of panels which occupy the bottom right-hand section, which alludes to a chase, representing some negative emotional weighting. Cohn argues that panels are naturally read: Higher-Left-Right-Lower.

or directed by the arrow device which physical joins panels together. However, Witek argues that in contemporary comic design, the connecting arrow and numerical system have been substituted for more subtle compositional techniques. That the navigation of complex arrangements of panels is influenced by the design of the pictorial elements themselves via "the lines of sight of the characters (and) the physical orientation of figures and objects' [16]. Nevertheless, the connecting device is a key component which I believe has the potential to evolve from a graphic sign into a figurative element, further extending the vocabulary of a wordless visual language within a narrative design (Fig. 4).

Fig. 3 *Toy Circle* Projection. This example demonstrates the superimposition of the wordless visual narrative within a physical location. In this case, the work was projected onto the real-life graffitied walls which initially inspired the story. Here, the white extra-diegetic space between the panels is converted into diegetic space, which further becomes part of the visual language, altering and enhancing the narrative..

3. Fieldwork and Reception Study

3.1. Practical Exhibition

The output shown in Fig. 5 was presented as a large-scale exhibition at the Discover Children's Story Centre, London, in Autumn of 2022. The content of the output transposes material I created for *'Our Tower'*, a children's picturebook published by Frances Lincoln, part of the Quarto Group in 2022. This work was produced in conjunction with Joseph Coelho, the 12th Children's Laureate. As a longer-form picturebook of 48 pages, this work could be classified as a hybrid format, merging methods of sequential storytelling borrowed from comics and graphic novels, with the traditional picturebook format.

The exhibition output was designed, pre-composed and layered, presenting the implementation of various aspects of my evolving theoretical model, and further investigating the practical transposition of wordless visual narratives into immersive experiences. The work explores the structural language of visual storytelling without words, further examining the organisation of pictorial information that encourages multi-linear readings. The panels were printed on Foamex and laser-cut into predefined shapes which were mounted and arranged into the space, combined with drawings

which were made directly on to the walls of the gallery between the panels. These drawings acted as both wayfinding devices that influence possible reading orders, and an extension of the story into the physical space itself. The work was presented without textual information or explanation.

3.2. Interview Design

The research participants were selected from children who lived in the local area of Stratford, London. The interview group consisted of ten children, an equal split of girls and boys who were all aged between 8 and 9 years old. The group contained a diverse mix of cultural backgrounds. The study was granted ethical clearance from Loughborough University and written consent was obtained from all of the children and their parents before the workshop and interviews took place. The aim of this interview study was to answer these questions:

- Would the children respond to the output as a narrative text, and if they did, what aspects of the design helped them to interpret the imagery as a story?
- What skills were the children using to navigate the exhibit?
- What sort of reading experiences did this present?
- Were the children relating this reading to any previous experiences they may have had?

Using qualitative inductive research methods, data was collected from three smaller groups which were each composed of 3-4 children. The methodology was based on the principals of dialogic reading, where group discussion is an essential aspect of the experience. This approach was influenced by the research methods used by Professor Fiona Maine, University of Cambridge, in her own studies with children reading visual texts [17]. I spent time with the participants reviewing the work, encouraging the children to discuss their thoughts collectively. I made it clear that there were no right or wrong answers. The conversations were guided by a semi-structured questionnaire that employed open-ended meta-cognitive question stems, prompting the children to consider how they were reading the output. This approach was also influenced by research methods developed by Evelyn Arizpe and Morag Styles [18]. I asked the children to use drawing to indicate where they first started reading the work from, and to trace their own reading pattern across the panels. The purpose of the workshop and interviews was to attempt to better understand how children would respond to this pictorial text when presented as an experimental form, different to that of the ubiquitous picture-

Fig. 4 *Our Tower Detail* The panels were pre-composed and printed on foamboard, laser cut into specific shapes. The illustrations were created using mixed media combining pencil drawing with digital collage and colouring techniques. Note the connecting devices which extend the story between the panels acting as wayfinding, visual annotation, and converting the extra-diegetic space.

book format, yet which principally implemented similar illustrative material. None of the participants had previously been exposed to the book, and this was the first time they had encountered the work.

Fig. 5 *Our Tower* exhibition Illustration of the positional placement and scale of the panels which occupy the vertical and horizontal axis of the pictorial plane and story space. the narrative.

3. Interpretation and Conclusions

This research facilitated my understanding of how young readers were navigating the output and constructing meaning. Ideas were voiced, discussed, and often adapted through group discussion. The initial findings indicated that the participants found the output to be challenging. One child recognised that the output did not use text to indicate a starting point. There was also a suggestion from another child that they had no reference to know if their understanding was right or wrong. Other children were mindful that the output required some effort to understand.

However, it was evident that exhibit was understood to be a narrative text, even without the typical title or a front cover image that usually accompanies wordless children's illustration. The children appeared to naturally use features such as the horizontal alignment of panels, variety of scale, and the use of colour groupings to understand the form. The children tended to group sections of the exhibit together as clusters by similar colours and proximity. After which, the children often made decisions on the meaning of the work by looking at the whole exhibit, making dynamic and fluid choices on the nature of the story, and theorising on narrative possibilities through comparisons of these features. Indeed, the participants were constructing a start, a middle and an end.

The participants also appeared to consider how changes in reading direction altered the story structure, yet they favoured logical visual connections rather than unconventional reading approaches. The data indicated that the children understood how to generate starting points within the visual text and highlighted that a predominantly left-right reading of the form was adopted. Other questions arose on the influence that the exhibit site had on audience reading patterns, principally to how entry points, or entrances, to exhibit might affect and change the readings patterns. These factors will be sustained and considered in future research, as designs for new sites and outputs evolve. This research also investigated features such as the vertical position of the illustrations, in relation to the character's emotional weighting within the story-world. However, for most of the children this was not thought to be particularly relevant.

Perhaps my most interesting evaluations were made through the questions that focussed on the children's use of the connecting drawings, which they appeared to view as an extension of the story-world, even though the visual language and materiality of these drawings differed from that of the main visual text. These pictorial wayfinding devices

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were prototyped within the design to help the reader generate predefined reading routes through the clusters of minor panels. Drawings which were made directly onto the walls of the exhibition space, sometimes branching into multiple directions.

Interestingly, the children projected a physicality of the story-world characters movements onto these drawings, translating these features into prepositions and transitional pathways between story events. Furthermore, conversations developed that considered the directional choices that could be made through these connecting drawings. The children appearing to use the feature to anticipate and even avoid some story-world events, choices which shaped and reshaped the narrative as a dynamic reading process.

In conclusion, the visual narratives that I have developed here are structured in groupings of panels that transition a story through time and space. Many aspects of my theoretical model consider how the story-world space is affected by a physical story space, and vice versa. Indeed, it is of great interest to consider how the extra-diegetic story container space might be further converted into an extension of the story world. This leads to some potentially exciting multi-modal possibilities, where contrasting visual languages on the inner panels and outer frames might generate new narrative meanings and extended counterpoint. This feature will be a focus of ongoing research through future collaborations, applying and extending these characteristics more rigorously and through more complex experimental arrangements. I argue here that these new understandings have a fundamental impact on both the design practices and the interactive reading strategies of wordless illustration.

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A delimitação da imagem no espaço animado em Realidade Virtual

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[Animação · Animation]

Abstract

The study presented takes place in the context of a Fine Arts PhD, under the subject of Multimedia Art. This paper explores the resources used to limit the image, in the VR animated space by comparing it to other mediums. On the one hand, this allows to deepen the subject matter of the framing of the animated space in the *Surface-Reality* and *Virtual Reality*, on the other hand, to recognize ways of exploring the image frame in tridimensional space, using the same and new resources in the Virtual Reality medium. Therefore, there are pointed various ways to delimit an image in both spaces. On one hand, in Surface Reality, the image is circumscribed within a rectangular space, where delimitation can occur from the physical edges of the device to the boundaries created within the frame. This allows for different types of shots and metamorphic shapes that can merge with the image itself or transform into characters. On the other hand, in Virtual Reality, the delimitation of the image is not imposed by the device and therefore must always be added. As the spatial presentation may be, so image delimitation methods are devised through the strategic placement of elements capable of interacting with the observer, as well as through the constant change of the silhouette of those elements. Although there has already been some exploration regarding the delimitation of the image in VR, mostly in the horizontal axis and in animated illustrations. Therefore, based on this analysis a strategy was designed in the format to explore a more metaphorical frame in VR where it could take advantage of its three cartesian axes in a form of VR animation.

Keywords

Animated space, animation, frame, Virtual Reality, Surface Reality

1. Introdução

O espaço animado existe quando uma imagem está em movimento e consegue ser percecionado pelo observador aquando da sua projeção. Segundo Magalhães [1, p. 16] trata-se de "um espaço comprometido e ativado através da manipulação imagem por imagem". Este espaço surge da relação entre os vários elementos em movimento [2, p. 1] e confere à imagem enormes e inesgotáveis potencialidades criativas, pois pode trabalhar um processo constante de mudança no espaço [3, p. 133], onde o que é percecionado, e tido por garantido, pode ser alterado e transformado em algo imprevisível. O espaço animado pode, portanto, comportar-se

de um modo inesperado e distinto daquele que se consegue atingir com a reprodução da imagem real. Por um lado, na animação que denomino de Realidade de Superfície (RS)[2], o espaço animado é representado por elementos visuais organizados sobre uma superfície plana, como uma tela de projeção ou um ecrã. Trata-se de um *espaço-superfície*[3], à semelhança do espaço-ecrã[4], delimitado pela finitude do dispositivo físico onde é projetado. Contudo, esta qualidade finita e bidimensional da superfície, devido às possibilidades maleáveis proporcionadas pelas técnicas de animação, não torna impeditiva a exploração da delimitação deste espaço. Na segunda secção deste artigo faz-se uma revisão da literatura e explora-se como a delimitação da imagem tem vindo a ser trabalhada neste espaço bidimensional ao tirar-se partido da moldura máxima do dispositivo físico e das delimitações adicionais que se podem inserir dento do quadro.

Por outro lado, na animação de Realidade Virtual[5] (RV), o espaço animado é representado por meio de elementos visuais que são organizados num espaço tridimensional, sem delimitações devido à interatividade do *medium*. Trata-se de um *espaço-volumétrico*, imersivo e interativo, onde o observador controla a câmara. Contudo, quando há a necessidade de conduzir o olhar do observador pelo espaço é necessário enquadrar-se e delimitar-se a imagem, por isso, é necessário encontrar métodos para a delimitação inexistente. Neste sentido e por se tratar de uma tecnologia com poucos anos de existência, a terceira secção deste artigo explora como a delimitação da imagem tem sido trabalhada no espaço tridimensional através da análise de estudos de caso.

Em ambas as secções, as obras analisadas são tecnicamente inovadoras no modo como lidam com recursos formalistas e estilísticos o que as torna particularmente interessantes tanto a nível teórico como analítico, tornando esta seleção estratégica segundo Grønmo [4, pp. 171-172].

Esta análise expõe a constatação de que a maioria dos métodos utilizados para explorar a delimitação da imagem em RV são provenientes da imagem real e, por isso a sua aplicação e transposição acaba por ser explorada em maior quantidade em CVR[6], ou em espaços que rodeiem totalmente o observador à semelhança de um ambiente real. Deste modo, surge a questão sobre como se pode explorar o espaço-volumétrico animado tirando partido das possibilidades maleáveis da delimitação da

2 O termo Realidade de Superfície vem da comparação que estou a fazer com o outro espaço que exploro neste artigo, o da Realidade Virtual, e da característica física da superfície de projeção onde o espaço animado, na animação projetada em tais superfícies, está circunscrito. Por acréscimo ao conceito do "espaço-ecrã" (definido por Bordwell [11, p. 84] como "o espaço visível dentro da moldura" de um ecrã), o termo da RS contempla qualquer espaço de projeção bidimensional seja ele plano ou curvo, com ou sem ecrã. E utilizo o termo "realidade", pois tanto a Realidade de Superfície como a Realidade de Superfície conseguem espoletar a *Suspension of Disbelief* (SoD) no observador. Este aceita, ainda que momentaneamente, que o que perceciona é realidade.

3 O espaço-superfície é também denominado pelo termo pejorativo "flatties" referido por Lev Manovich [29, p. 173] ou de "Flat Word" (numa entrevista feita por mim ao CEO da Tech/Media LLC – Chris Pfaff).

4 O espaço-ecrã é um conceito que refere a relação espacial entre o conteúdo visual no espaço-superfície e a perceção do observador sobre esse conteúdo. Segundo José Xavier [30, p. 34] o "espaço-ecrã" é um espaço de representação onde se projeta um "território total visível" ou apenas um "pedaço de um território", que apesar de poderem apresentar perspetiva "o território em questão vai aparecer como uma sucessão de espaços percetivos bidimensionais".

5 Apesar de não haver um consenso sobre o que é a Realidade Virtual, há uma definição geral que é comum a vários autores [31, pp. 1-2], [32, p. 3] e [33] que define que a RV é a simulação de sistemas reais ou imaginários por computador que possibilitam a interatividade em tempo real

6 CVR, Cinematic VR ou Cine-VR são termos para denominar filme a 360º. Este trabalho tem sido analisado por vários autores como [18], [38], [39] e [40].

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imagem que a animação de Realidade de Superfície já conseguiu aplicar, mas que ainda não foi tão explorada neste espaço tridimensional que explora o espaço parcialmente.

Assim, na quarta secção, propõe-se que se pense no espaço em Realidade Virtual como um espaço com uma composição diferente daquela que se assemelha ao real. O espaço-diorama ou espaço-fatiado, é parcial e possibilita a constante mudança das delimitações do cenário, podendo acomodar-se às várias posições que o observador pode tomar. Esta exploração é conseguida através da criação sequências animadas interligadas por uma pequena narrativa como fio condutor para se testarem hipóteses de enquadramento, onde a delimitação da imagem tira partido dos três eixos cartesianos, e da transformação da delimitação da imagem, através da animação e metamorfose de dioramas, seja pela expansão, diminuição ou reconfiguração em redor do observador, ou pela sua interatividade.

2. A delimitação da imagem na animação de Realidade de Superfície.

A projeção de uma imagem numa superfície plana está delimitada pelas suas extremidades em forma de retângulo.

> "Ao retângulo que limita a superfície de representação chama-se moldura e o seu interior quadro, ou a expressão inglesa frame, e determina o enquadramento visível sobre o espaço de representação." [5, p. 194].

Esta delimitação pode ser encontrada noutros *media* como nos livros, nas pinturas emolduradas, em ecrãs de televisão, e, até, na primeira aplicação de Realidade Virtual (os vídeos a 360°)[7], à semelhança das pinturas panorâmicas.

Nos primórdios do século XX, muitas obras do proto-cinema[8] de animação, mostram simultaneamente, duas delimitações na imagem e, portanto, duas molduras que coincidem com as extremidades físicas da superfície plana onde a imagem se encontra circunscrita. Em "Enchanted Drawing" [6], pode observar-se o ator/criador a contracenar com o conteúdo de um bloco de papel. Nesta obra, a moldura da imagem real coincide com as extremidades da tela de projeção e as extremidades do bloco de desenho constituem outra moldura.

Por outro lado, no período pós proto-animação as animações demonstram qualidades exploratórias a nível da moldura da imagem, provando que esta não precisa de coincidir com os limites físicos da superfície em que se encontra circunscrita. É a delimitação da imagem, através do enquadramento, que traz o conceito de "fatias de espaço" supracitado por Deleuze

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7 Existem vários tipos de Realidade Virtual, dependendo do grau de interatividade [26].

8 O período do proto-cinema é considerado por Cavalheiro [6, p. 156] como a altura onde estão compreendidas "...as primeiras obras de animação em filme", entre o final do séc. XIX até 1908: *"Na viragem do séc. XIX para séc. XX, começaram a surgir aquelas que são, em rigor, as primeiras obras de animação em filme. Este primeiro período de realização de obras de animação deverá ser entendido como aquele que vai desde os últimos anos do séc. XIX até 1908, altura em que obras como Fantasmagorie, de Émile Cohl, marcariam uma nova fase no panorama da animação. Por razões que ao longo das próximas páginas se tornarão progressivamente mais claras, denominaremos esta primeira fase por proto-cinema de animação"*

[7, p. 46], que se refere às "fatias" como a imagem resultante da distância entre a câmara e o objeto: *"o plano é uma determinação unicamente espacial indicando uma «fatia de espaço» a tal ou tal distância de câmara, do grande plano ao plano afastado"*. Em animação as "fatias de espaço" podem ou não coincidir com as extremidades físicas das superfícies de projeção.

Deste modo, a imagem também pode ser delimitada por outros elementos visuais que a enquadrem dentro dela própria. No entanto *"o enquadramento é sempre limitação"* [7, p. 31]. Segundo este filósofo francês, a delimitação da imagem pode ser conseguida de dois modos: o dinâmico e o matemático.

O enquadramento dinâmico é proporcionado pelo tipo de plano e, consequentemente, pela posição da câmara em relação ao objeto. Neste tipo de enquadramento a moldura é, normalmente, coincidente com as delimitações físicas do ecrã.

Em "How a Mosquito Operates" [8] há uma maior preocupação na colocação do ponto de vista sobre a imagem. Primeiramente, as imagens são apresentadas num enquadramento afastado, onde se pode ver uma personagem a entrar numa casa, seguida por uma melga. Numa segunda parte, vê-se a melga sobre a cabeça da personagem adormecida, num enquadramento claustrofóbico, demasiado fechado sobre a cabeça da personagem que se movimenta incessantemente, deixando pouco espaço livre no enquadramento, para a personagem ou o inseto se movimentarem, acentuando um espaço perturbadoramente desconcertante.

Já relativamente ao enquadramento matemático, Deleuze [7, pp. 30-32], quando fala sobre filmes de imagem real, refere a utilização de elementos do espaço cénico na composição do enquadramento, como elementos arquitetónicos (portas ou janelas), ou os contrastes de cor e de luz. No entanto, em animação, apesar de o espaço visual poder ter este cariz matemático, à semelhança da imagem real, as formas que daí resultam não precisam de ter uma conceção tão rígida como aquelas que encontramos na matemática e geometria. Em animação, a delimitação da imagem ganha possibilidades acrescidas, pois pode conferir à moldura da imagem propriedades moldáveis, conferindo-lhe uma plasticidade na sua constante possibilidade de transmutação. Esta maleabilidade da moldura é bem evidente em "BitzButz" [9] ,uma animação que mostra uma batalha entre o espaço positivo e negativo, representados por um pássaro e um enorme monstro. A animação começa com um quadrado branco dentro do enquadramento, do qual surge um pássaro negro que perfura a sua moldura e, logo a seguir, aparece a segunda personagem, um monstro, a preto, que se confunde com as extremidades da moldura do quadro onde se encontra inserido, parecendo que o quadrado branco está a ser recortado pela silhueta do monstro. Ao longo da animação, os espaços branco e preto variam de proporções devido à interação das personagens, que conseguem alterar a forma da moldura do quadrado branco. Esta interação entre os contrastes dá qualidades plásticas à moldura, removendo-lhe toda a rigidez e conferindo-lhe uma consistência quase líquida.

Contudo, apesar deste recurso da animação trazer liberdade à forma, o que dá uma qualidade plástica ao enquadramento da imagem, esta estará sempre restringida à moldura física e retangular do ecrã, conforme

refere Eisenstein no ensaio sobre as proporções do ecrã [10, pp. 48-66]. Neste ensaio, o cineasta russo, reflete sobre a imposição do espaço horizontal que impreterivelmente faz com que o eixo vertical tenha sempre menor amplitude visual relativamente ao eixo horizontal. Esta posição torna a delimitação física do dispositivo como um fator inibidor.

Por oposição a Eisenstein, Bordwell & Kristin [11, pp. 186-187], entendem que a delimitação é uma vantagem, pois esta traz-lhe a possibilidade de exploração sobre o que fica para além das fronteiras e que não se vê – o fora de campo.

A curta"28" [12] tira partido da delimitação da imagem para trabalhar tanto o enquadramento dinâmico como o matemático. Nesta obra a moldura ora aparece com disposições verticais, horizontais ou diagonais, ora tem uma dimensão retangular ou quadrada, ora as suas extremidades servem de limitador do quadro (sugerindo um espaço fora de campo), ora deixa trespassar formas para fora ou para dentro do seu interior. O quadro está em constante oscilação de perspetiva, pois, depressa passa de plano geral para um plano médio enquanto a moldura altera de tamanho incansavelmente, sem que o movimento de ambos esteja diretamente relacionado.

Nesta obra a moldura mostra uma facilidade em oscilar entre uma concessão rígida retangular para uma ser maleável, isto permite-lhe que possa mudar de identidade dimensional e oscilar entre a duas e três dimensões ao adotar várias formas que fazem parte do cenário, enquanto o delimita em simultâneo.

A delimitação da imagem tem vindo a ser explorada também em 3D CGI (*Computer Generated Imagery*), como em "Day &Night" [13] e em "Inner Workings" [14]. Nestas obras há mais do que uma delimitação da imagem. Há a delimitação máxima, que coincide com as extremidades do ecrã e que diz respeito ao enquadramento geral que contém o cenário e as personagens. E depois temos a delimitação feita pela silhueta das próprias personagens, que contém imagens dentro delas. É com estas personagens que a delimitação da moldura ganha um duplo significado quando deixa de representar apenas a delimitação da imagem e passa a ser, também, a própria personagem. Através da silhueta, estas duas molduras personificadas apresentam sentimentos e deslocam-se no espaço, ora adotando posições verticais, em pé, ora adotando posições horizontais, deitadas ou baixadas, demonstrando que a moldura não precisa de ter uma única configuração. Enquanto na primeira obra a silhueta das personagens é feita em 2D, na segunda é em 3D. O enquadramento principal é delimitado pelas extremidades físicas do ecrã e varia o tipo de planos usados, aproximado e afastando a posição da câmara conforme a necessidade. No entanto, apesar da silhueta das personagens apresentar configurações diferentes da horizontal a delimitação máxima coincidente com os limites físicos do ecrã impõe-se sobre estas, cortando-as e delimitando-as consoante as necessidades narrativas da animação, restringindo-as às proporções horizontais do ecrã.

A maioria da animação em Realidade de Superfície tem uma delimitação da imagem com uma proporção horizontal. Apesar de existirem argumentos[9]

9 Eisentein apresentou 4 argumentos em "The dynamic square" [8]

que tentam contrariar esta tendência, o facto é que existe um número muito reduzido de obras que exploram a verticalidade em ambas as realidades.

A solução mais prática e simples para contrariar a horizontalidade do ecrã seria rodar a orientação, deste, tornando-o vertical, como é tão habitual no conteúdo visualizado através dos *smartphones* atualmente. Contudo, o problema do eixo dominante mantém-se presente nestes enquadramentos verticais, ainda que de um modo invertido. Não obstante, é de evidenciar que a narrativa da imagem, quando disposta verticalmente, pode dar outras qualidades à imagem quando comparada com a sua orientação horizontal. Segundo Genis [15], o campo de visão torna-se mais estreito, sendo possível trabalhar melhor perspetivas picadas e contra picadas. Este enquadramento vertical dá primazia a objetos com disposições verticais, onde os pontos de fuga são acentuados, pois há menos espaço para percorrer sobre o horizonte, conforme é demonstrado humoristicamente por Kaufmann na sua curta "Wild West Compressed: This Town Ain't Big Enough" [16].

Apesar da orientação da imagem vertical poder parecer um conceito recente, devido ao aparecimento dos ecrãs de telemóvel que incentivam essa orientação, pois a ergonomia do dispositivo funciona como uma extensão da mão do utilizador e para um melhor manuseamento deve ser colocado na vertical em vez da horizontal, a orientação vertical já teve vários vislumbres em certos períodos históricos. No ocidente, durante o período Gótico havia uma ênfase nas linhas verticais da arquitetura, pintura e ilustração [17], e na era industrial as construções de arranha-céus e chaminés industriais privilegiavam o eixo vertical.

Já, no oriente, as pinturas japonesas vão mais além, nesta questão da expansão da moldura, como Eisentein denota [10, p. 56]. Tanto os rolos de pintura com um desenrolar horizontal (emakimono), como os rolos suspensos, com um desenrolar vertical (kakemono), têm uma moldura dinâmica, podendo a imagem expandir-se sobre o eixo dominante e tomar diferentes proporções e assim narrar uma história à velocidade do observador que a desenrola. Este dinamismo do tamanho da moldura faz Eisenstein [10, p. 56] entender que este tipo de pinturas não tem moldura, pois para ele este desenrolar *"põe de parte toda e qualquer forma de abertura e estabelece, como um exemplo e um ideal, a ausência de moldura de um desenho japonês."*[10]. Todavia, a moldura está presente, apesar da sua dimensão dinâmica, devido aos limites físicos do dispositivo onde a imagem se encontra circunscrita.

A solução para o problema entre a superioridade dos eixos na imagem, segundo Eisentein [10, p. 52], seria o uso de um enquadramento quadrado ("dynamic square") para que nenhum dos eixos se pudesse sobrepor ao outro. Todavia, mesmo que o espaço animado estivesse compreendido numa superfície quadrada, a imagem iria estar sempre delimitada pela moldura física e retangular do ecrã. A Realidade Virtual vem remover essa delimitação.

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10 Tradução livre do texto original "and from the moment in which painting liberates itself by an impressionistic movement, turning to purely pictorial problems, it abolishes every form of aperture and establishes, as an example and an ideal, the framelessness of a Japanese impressionistic drawing".

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3. A delimitação da imagem na animação de Realidade Virtual.

Paralelamente ao desenvolvimento da animação de Realidade de Su-
perfície, por computador, por volta dos anos 80[11], surge a animação em
Realidade Virtual[12]. Neste medium, o espaço animado ganha possibi-
lidades acrescidas devido ao seu ambiente imersivo, pois passa de um
espaço-superfície, maioritariamente plano, para um espaço-volumétrico,
inerentemente tridimensional. Aqui, o espaço do enquadramento fica sem
a delimitação da moldura física e sem a moldura imposta pelo criador e o
observador é elemento integrante desse espaço.

Esta imersividade[13] e interatividade[14] no espaço animado a 360° é
possível devido à junção de características que estão subjacentes a três
meios desenvolvidos desde o século XVIII: as pinturas panorâmicas, os
dispositivos estereoscópicos e os brinquedos óticos.

Na prática, a Realidade Virtual possibilita ao observador mover-se e
olhar em seu redor digitalmente, em tempo real, num ambiente tridimen-
sional a 360°, à semelhança do real, e interagir com ele.

Enquanto na animação de Realidade de Superfície a delimitação
máxima corresponde aos limites físicos do plano de projeção, em Realida-
de Virtual a delimitação máxima deve corresponder às extremidades do
campo de visão do observador, que é amovível, por este poder escolher a
sua localização e posição na experiência, pois "...todo o 'enquadramento'
pode ser movido a qualquer altura pelo observador"[15] [18]

Mas, a delimitação da imagem não corresponde, apenas, às extremidades
máximas da imagem, conforme foi evidenciado na secção anterior. É possível
criarem-se delimitações no campo visível através de duas abordagens gráficas,
estabelecidas por mim, na criação espacial na animação em Realidade Virtual.

Uma das abordagens ocupa visualmente todo o espaço volumétrico e
coloca o observador como membro integrante desse espaço, como se este
tivesse entrado num "portal" para outro mundo e a sua escala virtual é
proporcional a outros objetos em cena. A outra abordagem ocupa parcial-
mente o espaço virtual, revelando-o por "fatias" como se o espaço fosse
algo maleável e ainda em construção e o observador não tem de ter uma
dimensão que o integre no cenário apresentado ao estilo de um diorama.

Nesta primeira abordagem, enquanto "portal"[16], o enquadramento
matemático é o recurso delimitador da imagem mais utilizado. Em "Aste-
roids!" [19] a moldura dentro da moldura está presente, de um modo mais

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11 O termo Realidade Virtual apenas foi cunhado em 1987 por Jaron Lanier [35]. Este cientista descreveu
um sistema de computador que permitia aos usuários visualizar e interagir com ambientes virtuais tridi-
mensionais em tempo real, enquanto utilizavam óculos e luvas especiais para interagir com o *medium*.

12 É certo que já tinha havido várias tentativas de experiências em Realidade Virtual como no caso do siste-
ma multimédia imersivo - Sensorama - de Morton Heilig, em 1962, contudo, animação em Realidade Vir-
tual como a entendemos hoje, é apenas a partir da década de 80 que se começa a desenvolver oficialmente.

13 Imersão é um estado emocional onde o observador se sente totalmente absorvido por esse mundo.
Janet Murray [34, p. 99] afirma que a sensação de imersão seja equivalente ao mergulhar para dentro de
uma piscina, onde fiquemos rodeados por uma realidade diferente.

14 Interatividade é o grau de habilidade em manipular ou obter uma resposta de um sistema informati-
zado [36]. Por exemplo: pode haver interação entre uma pessoa e um objeto livro, mas o livro poderá ter
pouca interatividade porque não pode ser aberto.

15 Do original: "... not only can the elements move within frame, but the entire "frame" can be moved at
any moment by the viewer."

16 O termo "portal" é normalmente utilizado na bibliografia sobre Realidade Virtual quando se refere ao
um tipo de navegação virtual [37, p. 357].

convencional. A ação no exterior da nave espacial é conseguida através de uma janela "física" na própria nave. Contudo, este enquadramento matemático tem um cariz estático, que apenas delimita o exterior do cenário. Por oposição, em "Pearl" [20], a moldura composta pela estrutura do veículo onde se encontra o observador sustenta uma qualidade mais maleável, pois as janelas e portas são móveis, interagem com o ambiente que as rodeia. A iluminação altera a cor da estrutura da janela e as suas delimitações mudam de forma à medida que as portas do carro abrem, fecham ou são destruídas, possibilitando o trespasse dos seus limites, uma vez que as personagens e outros objetos podem entrar e sair da viatura.

Estes exemplos mostram uma moldura semelhante à apresentada em animação de Realidade de Superfície devido ao controlo que o criador tem sobre ela, pois, devido à distância e à passividade interativa, imposta ao observador, nenhuma destas molduras pode sofrer alterações significativas. Por oposição, a moldura em "Dar Cria" [21] transforma-se numa ferramenta que proporciona ao observador a opção de interferir na narrativa [22] através de uma janela digital. Ainda que rígida, a moldura desta janela serve para delimitar uma realidade sobreposta àquela que se vê, como se fosse uma janela e, se o observador assim o desejar, pode transformá-la num "portal" para entrar neste novo ambiente que está a observar. Este método é semelhante ao aplicado a garrafas de vidro que podemos observar no teatro imersivo virtual "The Under Presents" [20], um jogo em Realidade Virtual que mistura o teatro performativo com narrativa através de cenários e personagens animadas em RV. Apesar de ter uma funcionalidade interativa, neste caso, a moldura torna-se uma "muleta" para enquadrar a imagem e guiar o olhar do observador como em animação de RS.

Por outro lado, o espoletar espaços psicológicos perturbadores e claustrofóbicos conseguidos na animação de RS através do enquadramento dinâmico e da sua variação de planos também pode conseguido na animação de RV. Na abordagem enquanto "portal" este efeito é conseguido quando observador é colocado em cenários mais apertados ou num ambiente mais hostil e volátil, como pode ser observado em dois momentos distintos em "The Age of Sail" [23]. A certa altura, nesta obra, o observador é colocado na cabine do barco, um espaço apertado que oscila de posição, espoletando uma sensação de claustrofobia e impotência dentro daquele espaço. A mesma sensação de impotência e medo também é conseguida num espaço amplo, no final da narrativa, quando o observador é colocado à deriva no meio do mar ondulante. Nesta abordagem não há um trabalho de planos ou de enquadramentos, mas antes um esforço em definir a colocação do observador pelo cenário e delimitando-lhe a esfera exploratória.

Enquanto na primeira abordagem, enquanto "portal" a delimitação da imagem acontece através da colocação do observador no espaço, na segunda abordagem, enquanto "fatias", a delimitação da imagem é conseguida através da apresentação de porções de cenário iluminando ou através da construção parcial deste, contudo sente-se sempre a imposição do eixo horizontal em detrimento do equilíbrio com o eixo vertical e de profundidade.

As obras que utilizam a abordagem visual, como "fatias", mostram outras possibilidades a nível do enquadramento dinâmico, que até aqui tinha as suas

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possibilidades limitadas devido à imobilidade da câmara por parte do criador.

Em "Gloomy Eyes" [24] e "Paper Birds" [25] os criadores tentam adotar esta abordagem, trabalhando os cenários como se fossem dioramas e predispondo alguns dos elementos mais próximo do observador para recortarem o resto do cenário. Apesar de utilizarem um enquadramento matemático através do uso das formas para guiar o olhar do observador pelo espaço visual, dá-se primazia ao enquadramento dinâmico, ao contrário dos exemplos anteriormente citados.

Segundo Deleuze, um enquadramento dinâmico é criado através da perspetiva da câmara, conseguindo tipos de planos diferentes consoante a distância entre a câmara e o objeto em campo. Contudo, num ecrã convencional, a dimensão ocupada geometricamente por um grande plano ou um plano afastado é igual, dado que a delimitação do ecrã é sempre a mesma [7, p. 33], mas em Realidade Virtual a ausência da moldura faz com que a dimensão geométrica dos enquadramentos possa diferir. Em "Paper Birds", o enquadramento do plano depende do tamanho do cenário apresentado, sendo por vezes, pequenos apontamentos que ocupam uma mínima percentagem do espaço e outra vezes ocupando o espaço totalmente a 360º. Neste caso, o enquadramento varia a sua escala no espaço, mas também faz com que a escala possa variar aos olhos do observador, se este decidir aproximar ou afastar-se do cenário. Em animação de RV, a "fatia de espaço" [7, p. 46], termo que Deleuze usa para designar uma parte da imagem enquadrada, passa a ter uma medida diferente em cada enquadramento.

Todavia, o espaço animado tem estado cingido ao eixo horizontal que curva em redor do observador.

4. Noises – Exploração da delimitação do espaço animado em Realidade Virtual.

Conforme foi evidenciado, nos pontos anteriores, há delimitações a explorar sobre a imagem em Realidade Virtual. Apesar do espaço-volumétrico não impor nenhuma delimitação sobre a imagem nem sobre os eixos da composição espacial, é certo que há uma tendência para a replicação de situações reais onde a exploração horizontal do enquadramento e em redor do observador estão bem presentes. A delimitação dinâmica e matemática da imagem, na maioria das vezes, tem uma delimitação rígida, apesar de existirem exemplos na Realidade de Superfície onde a moldura se metamorfoseia, tornando-se parte integrante do conteúdo do quadro.

"Noises" é o projeto prático da minha investigação de doutoramento que explora estes problemas. Apesar do projeto ainda estar numa fase inicial, já é possível evidenciarem-se explorações espaciais a nível das possibilidades acima referidas em relação à delimitação e enquadramento da imagem. Para isso, houve uma preocupação com a liberdade de movimento que o observador tem neste *medium* de modo que se conseguisse tirar partido dos outros eixos para além do horizontal, e criaram-se delimitações metamorfoseáveis à semelhança do que se consegue fazer nas obras de Realidade de Superfície.

Para a exploração da delimitação da imagem optou-se pela abordagem gráfica do espaço através de fatias, onde os cenários são apresentados parcialmente, como se se tratasse de dioramas virtuais. Esta abordagem permite que evitemos a tendência do observador em mover-se sobre o plano horizontal, dando mais liberdade para se trabalhar o eixo vertical e o de profundidade.

Fig. 1 À esquerda encontra-se a visão panorâmica do ponto de vista do utilizador em tempo real a partir do Meta Quest 2 e à direita o *mockup* da montagem do menu no Blender.

4.1. Criação do Menu inicial

O menu inicial explora a verticalidade e profundidade do espaço ao apresentar um espaço delimitado apenas pelos elementos principais para a navegação espacial.

Inicialmente houve uma tendência para a criação de um menu com uma disposição horizontal ao se criar um chão onde as personagens estariam dispostas. Esta disposição de elementos enfatizava a movimentação horizontal do observador pois apenas necessitava de rodar sobre si para ver o que o rodeava. Esta abordagem foi corrigida para um menu com uma orientação em diagonal (fig.1). Este espaço é composto por uma escadaria que curva sobre o observador com uma personagem no topo e outra no fundo, para incentivar o observador a explorar o espaço horizontal e verticalmente, assim que inicia a experiência. Para além disso, a escada e as personagens estão longe o suficiente, sendo necessário uma aproximação do observador à escadaria onde estão as duas personagens que devem ser "agarradas" virtualmente para ativar umas das narrativas possíveis, incentivando-se assim a uma exploração do 3º eixo tridimensional – o eixo da profundidade.

4.2 Delimitação da imagem na animação

A história inicia tendo em conta a zona para onde se está a olhar quando se agarra uma das personagens. Assim, se se agarrou a personagem à esquerda, a cena inicial aparecerá nessa zona e se se agarrou a personagem à direita, a cena inicial aparecerá mais perto desse local.

Na primeira cena (fig.2) foi tido em consideração o espaço que o cenário ocupa, o movimento dos elementos, e a sua escala em relação ao observador.

Fig. 2
À esquerda e ao centro encontra-se a visão do observador e à direita a cena montada no Unity.

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Deste modo, primeira cena tem um enquadramento semelhante em ambas as histórias onde se enfatiza o eixo vertical através da delimitação do plano de fundo que faz de céu e se estende para além da altura do observador, conduzindo o seu olhar até ao cimo da sua cabeça. O prédio é alto o suficiente para chamar a atenção do observador, convidando-o a olhar para cima ou para baixo. Neste cenário as personagens estão a uma escala demasiado pequena, propositadamente, para obrigar o observador a baixar-se fisicamente para poder apreciar melhor os pormenores. À medida que a história avança a delimitação do cenário altera-se ao apresentar mais ou menos elementos e assim apresentado formas diferentes na sua constituição e silhueta.

Uma vez apresentado ao observador como este se deve movimentar sobre o espaço há mais liberdade para a deformação da silhueta tridimensional. A possibilidade de movimentação do observador pelo espaço permite que este observe o cenário a partir de vários ângulos, tornando a delimitação da imagem interativa devido aos vários enquadramentos que o observador pode definir ao reajustar-se espacialmente.

Na terceira cena (fig.3) houve uma preocupação temporal na escolha de elementos para que a metamorfose da forma e da delimitação do espaço fosse justificada na narrativa, funcionando como montagem. O facto de não haver um ajuste à colocação do cenário em relação ao observador, obriga a que este se ajuste ao cenário, aproximando-se e contornando o espaço.
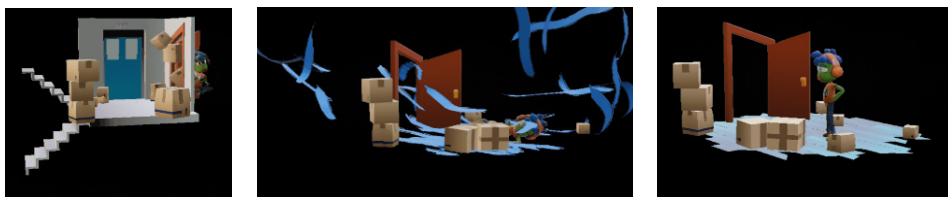
Nesta cena, onde a personagem da história B chega a casa carregada com caixas, utiliza-se a delimitação e enquadramento da fatia de espaço como montagem onde passamos do exterior do apartamento, para o seu interior apenas através da metamorfose de elementos e da modificação da sua delimitação. Isto foi conseguido através da junção de ferramentas clássicas na criação e 3D, como o Blender e de ferramentas de Realidade Virtual como o Quill.

Fig. 3 Frames da cena 3 da história B em "Noises".

5. Conclusão

A utilização estratégica do espaço através de "fatias espaciais" permite que se consiga conduzir mais facilmente o olhar do observador num espaço sem moldura inerente. Através do projeto "Noises" ficou evidente que as "fatias espaciais" permitem a variação da silhueta e delimitação do espaço através da dimensão preenchida deste, tornando-o mais dinâmico e interessante, mesmo que seja um cenário simples, como um *hall* de entrada ou um simples lance de escadas. Para além disso, esta abordagem gráfica permite que se predisponha os cenários ao logo dos vários eixos tridimensionais, obrigando o observador a mover-se e a curvar-se para poder aproximar-se dos dioramas.

A metamorfose como edição é algo complexo de se fazer volumetricamente, pois as técnicas dos softwares 3D são limitadas, mas os programas de desenho e animação em RV facilitam este processo agilizando a fluidez do espaço animado a três-dimensões.

Neste sentido, a abordagem gráfica escolhida demonstrou possibilidades artísticas a nível da delimitação da imagem que costumam ser evidentes na animação da Realidade se Superfície, em desenho, mas não tão comum na animação em 3D, nem em Realidade Virtual.

Contudo, ainda há espaço para uma maior exploração a nível da delimitação da imagem sobre os vários eixos cartesianos e a metamorfose que se irá continuar a explorar em "Noises".

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Narratives and Visual Language of the 'Recap Cartoon': Analysis and Exploration

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[Animação · Animation]

Abstract

With growing attention to 'snackable content', animated cartoons that summarise existing stories in just a few minutes have appeared on various video sharing websites and have been investigated by animators from different cultural backgrounds. This paper uses qualitative visual content analysis to investigate the narratives and visual language of these 'recap cartoons' created by three different social media animators. By combining exaggeration, symbolic substitution and symbolic association with elements of digital culture and Internet pop culture, recap cartoons explore new ways of animation storytelling in the fast-paced era of social media.

1. Web 2.0, Video Sharing Platforms and Indie Web Animations

'Web 2.0' describes 'practices that form the participatory web where users contribute but do not control content' [1]. In the era of Web 2.0, video sharing has 'established itself as a central part of Net culture' [2]. Being the 'fastest-growing site in the history of the Web' and the 'default site for video and the prototype for all similar sites to come' [3], YouTube becomes the largest and most popular community-focused (as compared to other sites like Vimeo) online video sharing platform. 'Film and Animation' has made its way into the top five most popular categories on YouTube by late 2022, making up 6% of all the YouTube videos [4]. Channels dedicated to web animations have appeared, among which some have accumulated over 10 million subscribers, and others over 3000 million total video views [5].

In the context of Web 2.0, 'all users are equally creative and are created equal' [6]. Online content creation has become so ubiquitous, and tools to distribute creative content have become available to a much wider potential audience [7]. It has also been discovered that nowadays video sharing website users have similar tendencies to watch videos produced by professional media firms and individual content creators [8]. This discovery, as well as the 'community-focused' characteristic and the ease of uploading videos on the platforms such as YouTube, have made video sharing websites ideal places for less-known indie animators to share and promote their creative work.

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2. Engaging Audience with 'Snackable' Content

Snackable content refers to short, straightforward, easy to digest and engaging information that can be 'consumed' quickly by the audience, which is often found in the fast-paced era of social media [9]. With short length, they allow people to see more diverse content within the same amount of time [10]. Ways to 'snackify' content include applying infographics, using GIFs, using memes and creating text-animation videos [9][11]. From this we can see that 'snackification' relies quite heavily on the use of graphics and visual storytelling. This is a good opportunity for visual artists, such as graphic designers, illustrators and animators to research into the narrative and visual language of snackable contents.

This research focuses on a specific type of 'snackification' through animation: a specific type of 'animated recap' referred to as the 'recap cartoon'. The snackable recap cartoon format is gradually getting attention from animators on video sharing platforms, who have been exploring their unique ways of telling long, well-known stories in the form of a 'snack-sized' original animation.

3. Defining the 'Recap Cartoon'

There has not been any agreed definition of 'animated recap' or 'recap cartoon' yet. In this paper, I would define recap cartoon as the following:

> A short, usually comedic, original animated cartoon that summarises the main plot of a long story, utilising visual humour and audio humour, with little or no reliance on a narrator, dialogues, or text.

Many animators on video sharing websites who make original short animations summarising story plots rely heavily on a narrator and accompanying textual information to tell the story effectively within a few minutes. In these animations, the animation itself seems more like an illustrative, visual support for the text and the narration. The recap cartoons that this study investigates, on the other hand, are those that use the art format of animation as the primary storytelling vehicle. Instead of having a narrator or using infographics containing text, these recap cartoons make full use the animation medium, and tell the story with adept use of visuals and non-verbal sound. Examples of animators who make this type of recap cartoon include Cas van de Pol and TerminalMontage on YouTube, as well as Mi 2 on Bilibili (a Chinese equivalent of YouTube).

Authors of recap cartoons are predominantly independent animators and do not have the resource for creating highly polished animations like those produced by major studios. As social media content creators and/or influencers, they also have the pressure of audience retention which pushes them to create new animations on a regular basis, and this becomes a further challenge considering the time it takes to make an animation. Fortunately, the nature of animation makes it a great platform for offering new possibilities 'narratively, aesthetically and technically', which would encourage new practitioners to explore new kinds of storytelling [12].

Recap cartoons interrogates the conventional approaches to narration, aesthetics and techniques utilised by professional animation studios. As creations of independent animators within short periods of time, recap cartoons have formed their unique style, narrative and visual language that are equally effective in storytelling – despite looking 'cheap'.

'Condensation' is considered as a narrative strategy in animation [13]. Examples of condensation techniques include 'elliptical cut' and 'comic elision', where the former uses video clip transitions such as fade-in/out to represent the flow of time, and the latter constructs 'a sequence of comic events which operates as a self-determining process informed by the particular timing and relationship of the visual and verbal jokes' [13]. The recap cartoon can be seen as a category dedicated to exploring condensation narratives in animation. Apart from implementing elliptical cuts and comic elision as forms of visual language, the Internet-based attribute of recap cartoons also led to new insights into the combination of Internet popular culture (especially memes) and the 'vocabulary' of condensation. The research question of this study is: What specific types of narrative methods and visual language are used as methods of story condensation in recap cartoons, and how are they informed by/combined with Internet popular culture?

4. Methodology

This research uses both descriptive and semiotic content analysis [14][15] to study the narratives and visual language utilised among popular recap cartoon animation clips on major video sharing platforms. I include videos made by Cas van de Pol and Mi 2 – this is because Cas runs the most successful recap cartoon channel on YouTube, and Mi 2's recap cartoons largely contributed to his channel winning the new blood award of Bilibili Power Up 2022. Besides, my own recap cartoons will be analysed as well, providing a dual-perspective understanding of recap cartoons is established.

The variables are based on condensation techniques proposed by Wells: elliptical cut and comic elision [13]. In this paper, a wider range of time-based narrative techniques are explored apart from elliptical cuts, all falling under the variable 'storytelling through time and pace'. Comic elision is broken down into the following variables: exaggeration, symbolic substitution, symbolic association, and sound.

Storytelling through time and pace includes the use of scene cuts, unconventional moving speed and body movement pace to condense information and communicate mood. Exaggeration refers to the application of exaggerated visuals (e.g., facial expressions, body deformation) to demonstrate character relations and plotlines in concise manners. Symbolic substitution refers to the use of alternative characters and/or events to represent key moments in the story. Symbolic association, on the other hand, refers to the use of associable visual vocabulary, conventions and indicators to represent key moments and conditions without replacing the characters or events with alternatives. Sound means the use sound effects to illustrate character personality, emotions, or plot events in brief. This means atmospheric background music will not be discussed.

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5. Understanding the Visual Language of Recap Cartoons: A Content Analysis of Recap Cartoons Made by Cas van de Pol and Mi 2

Owing to space limitations, only one animation by each author will be discussed in this paper. The animations are: *The Ultimate 'The Incredibles' Recap Cartoon* by Cas van de Pol [16], and *Empresses in the Palace in 30 seconds* (30 秒讲完《甄嬛传》) by Mi 2 [17], which is his debut video. Tables 1 demonstrates the content analysis results for Cas van de Pol's videos, and Tables 2 demonstrates result for Mi 2's video.

Table. 1 Content analysis results for *The Ultimate "The Incredibles" Recap Cartoon*

Storytelling through time and pace	Exaggeration	Symbolic substitution	Symbolic association	Sound
Elliptical editing throughout the whole video, appearing as sudden cuts to the next scene with little to no explanation.	Dramatic, chaotic visuals introducing family superpowers (0:54)	Finger flick representing neglect (0:31) or defeat (2:52)	Mii customisation interface reference during family suit design scene (1:41)	Throughout the whole video, screams, gasps, grunts etc. have been used for quick narration of character mood, actions and events
	Bulging suit buttons representing bad body shape (1:08)	Knocking things off desk representing conflict at workplace (0:47)		
Using long pauses and changing rhythms to indicate unexpected event (1:55-2:00)	Fast bench presses indicating effective training (1:12)	Using push and punch actions to represent process of defeating enemies (1:04, 3:03)	Antagonist blows a raspberry indicating his triumph (2:41)	Robotic voice emphasising Edna's unique character and nerdiness (1:15)
	Distorted, stretched face indicating character's shock (2:00)	Enemy breaks though a wall, grabs and throws protagonist representing the whole fight (1:20)		
		Password shown as 'POOPY' indicating upcoming trouble (1:51)		
		Exploding the enemy with remote controller indicating enemy's defeat (3:07)		
		Character transforms into Shrek when defeating villain (3:18)		

Storytelling through time and pace	Exaggeration	Symbolic substitution	Symbolic association	Sound
Quick montage of key moments summarising key events as well as indicating chaos in the palace (0:00-0:05) Sudden cut to calm scene indicating appearance of main character and creating contrast (0:05) Sudden slow-down indicating turning point in story (0:17)	Exaggerated facial expressions and body movement further emphasise chaotic environment (0:00-0:05) Enlarged body of protagonist indicating her triumphing over enemies (0:09)	The whole video uses the slapping action as a substitution for representing competition and conflict between protagonist and antagonists	Faded flames in foreground showing anger (0:06) A reference to a well-known scene from Tom and Jerry is shown at 0:10 to show antagonists ganging up Wifi disconnect icon and browser buffer icon demonstrating the emperor neglecting events (0:19-0:22)	Screams in the background indicating chaos and conflict (0:00-0:05) Volume contrast in slap sounds showing protagonist's triumph over antagonist (0:05-0:09)

Table. 2 Content analysis results for *Empresses in the Palace in 30 seconds*

Both recap cartoons use lots of sudden cuts to show time elapse, omitting all details of what happened in-between the scenes. There is not even transition such as fade in/out or page turn. The 'sudden-ness' of these elliptical cuts significantly cuts down the video running time and at the same time, generates humour by causing senses of surprise. Occasionally when the pace changes, such as inserting a long pause or a slow zoom-in amidst a series of quick cuts, it is usually an intentional demonstration of the story's climax, turning point or an unexpected situation. These methods of time-based storytelling that could both communicate time elapse and plot highlights have been applied in many other videos made by the two artists and can be considered key techniques of condensation in recap cartoons.

Exaggerations in recap cartoons are used to express character relations and character status, rather than the plotline. Some of these exaggerations require preliminary knowledge of cartooning and caricature to understand, while others can be understood through logic and general knowledge – for example, understanding that bulging buttons indicate obesity. In a recap cartoon setting, where the aim is to shorten the time of the story as much as possible while generating humour, exaggerations are mostly effective when displayed as character traits and actions, visualising long processes of character development and interactions within few seconds of facial expression or body size change.

Symbolic substitution is the most used narrative method for summarising character conflicts and battle scenes. The most common approach is using simple actions such as finger flicking, slapping and punching to represent character conflicts and battles. The common sense that these actions would cause pain on the body means that audiences will have little difficulty understanding the connotation: to argue with or fight against. They are not only used to represent physical arguments and fights, but also mental battles of wits and conspiracies (in *Empresses in the Palace*,

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for example). Knocking things off a desk, breaking through a wall and creating an explosion represent getting fed up, intrusion and destruction respectively. These visual elements require a bit more life experience to interpret as compared to knowing that punching represents fight, but they are nevertheless quite easy to understand for the target audience's age range. Occasionally, the substitution requires specific cultural knowledge to interpret, such the hero character's transformation into Shrek. Considering how often the target audience use the Internet, the recognition of Shrek should not be difficult. It is interesting how these three types of symbolic substitutions somewhat correspond with the three types of signs proposed by Peirce: the slaps and punches could be seen as the 'icon' as they are direct representations of fight and pain; wall-breaking and explosions could be seen as the 'index', because the intrusion and destruction they represent are pointing towards 'enemy attack' and 'enemy defeat'; lastly, the Shrek transformation could be seen as the 'symbol' – it has nothing to do with the story of *The Incredibles* and only with sufficient knowledge of Internet pop culture would the audience know that this is an indication of the character becoming overpowered.

Symbolic association appears in Mi 2's video more often than Cas's. From the table, it can be observed that besides the traditional symbols (such as flames representing anger), the recap cartoons also apply visual cues and conventions from digital culture and Internet culture to indicate character behaviour and plot. The Wifi disconnect icon and buffer icon are easy to understand in the era of Internet, while the Mii reference and *Tom and Jerry* reference require more cultural knowledge. This also reflects their respective cultural backgrounds, since Mii memes are much more popular in the West, while *Tom and Jerry* memes have been circulating among Chinese social media for quite a while. From this it is also inferred that the use of Internet culture and memes in recap cartoons is most likely to appear as the form of symbolic association.

Sound is not the main narrative method in the selected recap cartoons, but is often used to accompany the visuals and accentuate of character properties and/or interaction. Although these accentuations do not directly retell a specific event, they indirectly condense the story by representing the conditions of characters and environments, together with the exaggerations and substitutions.

6. Exploring the Visual Language of Recap Cartoons: Practitioner's Notes

I run my animation channels on both YouTube and Bilibili, attracting a total of 38k subscribers and over 5 million views. I create recap cartoons of less well-known video games with the primary purpose of entertaining the fanbase and attracting new audiences to the games, and the secondary purpose of further exploring the potentials of the recap cartoon format. Table 3 shows the analysis for my latest recap cartoon video, *The King of Fighters Gaiden: Origin of the Flame explained in 3 minutes* [18].

Storytelling through time and pace	Exaggeration	Symbolic substitution	Symbolic association	Sound
Elliptical editing throughout the whole video, appearing as sudden cuts to the next scene with little to no explanation	Big biceps in contrast with thin body indicating protagonist's fitness progress (0:02)	Falling into a pit hole representing time travel (0:25)	Colour reverse as an indicator of time-travel related event (0:26)	Clock tick sound indicating time-travel (0:26)
		Protagonist being dragged on the ground, reflecting helplessness in the situation (0:36)		'Ding' sound highlighting introduction of a key character (0:45)
Text-based scene cuts throughout the whole video are also included	Quick dash indicating excitement (0:48, 2:35)	Characters drawn in Among Us style hinting there are traitors (0:53, 1:22)	Speech bubbles with images summarising key conversations (0:40-0:46)	
				Police siren sound during a black screen representing the protagonist being caught and locked up (1:17)
TV screen noise cut indicating protagonist's sudden return to the present (2:28)		Slap action representing sneak attack (1:05)	Reference to fighting game interface GUI (0:53)	
		Broken seal shown as an explosion (1:14)		Heartbeat and tinnitus sound representing the curse (1:42-1:47)
			Police lines indicating dangerous area (1:02)	
		Lightning zaps showing influenced by curse (1:38, 1:52)		
		Defeating enemy with one punch (2:14)		
		Defeating enemy with frying pans (2:20)		

Table. 3 Content analysis results for *The King of Fighters Gaiden: Origin of the Flame* explained in 3 minutes

The King of Fighters Gaiden: Origin of the Flame is a manga series that tells a story of a teenager boy who travelled back in time and met the ancestors of his martial arts idol and the ancestors of his idol's archenemy. The main story is set in a fantasy world of ancient Japan, unfolding the truths behind the curse of a bloodline.

I adopted the elliptical editing method of sudden cuts as this is a symbolic technique used in recap cartoons. Different from the cases from the previous section, I have also included text-based cuts and conventions in screen-based media (i.e., TV noise). These visuals enrich the elliptical editing and could provide a clearer timeline of events, although there is some dependency on text, which Cas van de Pol and Mi 2 seem to avoid. As long as the verbal information does not outweigh the non-verbal, the work would still fall within the definition of recap cartoon stated earlier.

For exaggeration, I have used size exaggeration as well as movement exaggeration. Overall, exaggeration was not my main area of exploration, as I believed that symbolic substitution and symbolic association are the two aspects that really make the narrative of recap cartoon stands out, and thus worth spending more time on.

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Slapping, punching and hitting with a frying pan are all adopted methods of substitutions used for character battles from Cas's and Mi 2's works as they are extremely effective in visual storytelling. To take a step forward, I spent more time experimenting with the 'index' and 'symbol' types of substitutions. For example, falling into a pit hole and being dragged along on the ground represent 'accidental change in location' and 'not being able to walk properly' respectively, and they point towards accidental time travelling and helplessness in an unfamiliar dimension respectively. The former is also a slight reference to the 'Backrooms' online urban legend. Drawing the antagonist as an *Among Us* (game released in 2018) style character to indicate his impostor status, as shown in Figure 1(a), is not only a tribute to the popularity of *Among Us*, but also a method to evoke humour through referencing popular Internet memes. This constructs an aspect of the recap cartoon's unique identity – that it is a product of Web 2.0 and Internet culture.

For symbolic association, I have implemented familiar comic vocabulary such as speech bubbles to visualise and summarise conversations. The speech bubbles are combined with sound effects to further emphasise key topics. The fighting game GUI is not only inspired by Cas's use of video game GUI in his work, but also a nod to the background of the story – that it is a spin-off based on a fighting game franchise. These examples of symbolic associations demonstrate the versatility of the visual language of animation not just in recap cartoons, but also in a wider sense – that animation is capable of implementing visual conventions from other types of visual media. The use of modern police lines in a story set in ancient Japan, as shown in Figure 1(b), represents restricted access, though it evokes humour by showing an associable symbol from the modern age in an ancient world, just like the appearance of the Wifi icon in the recap cartoon of *Empresses in the Palace* where the story is set in ancient China. This method of using elements outside the story's social setting but familiar to the audience to communicate a message could be applied by other visual narrative forms such as comics, but the inauthentic nature of this method suggests that it only works well in a humour-oriented setting, or when plot-accurate representation of events is of less importance than speed-storytelling.

I have further explored the use of sound in my recap cartoon. There are accentuations such as the clock tick and the heartbeat sounds, but there are also sounds that narrate an event on its own without having to accompany visuals, such as the police siren during the screen blackout. This technique was inspired by drama CDs, and it has not been used by Cas or Mi 2. I use it in my cartoon to give them a short break from the fast-paced visual narratives, and to provide audiences a chance to imagine and picture the event in their own ways, just like the way gutters work in comics and graphic novels.

Fig. 1 A screenshot from *The King of Fighters Gaiden: Origin of the Flame explained in 3 minutes*, featuring the antagonist drawn in *Among Us* style (a) and police lines (b) guarding the sealed demon.

Conclusion

The 'snackable' nature of recap cartoons is what demands their fullest use of visual vocabulary, conventions, symbols and semiotic connotations. This explores new and simple ways of animation storytelling in the fast-paced, indie-friendly and meme-oriented era of social media content creation. The ease of creating recap cartoons encourages more independent and amateur animators to explore this format and discover new narrative methods. The comical narratives and visual language of recap cartoons are flexible and versatile, meaning that they can be applied to many other types of information condensation animation. Rather than just a pile of information with a voiceover explanation, audiences would receive a mini-film with engaging and whimsical audio-visual components.

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Where are the Women? An Overview of Female Representation in Popular Contemporary Animation Feature Films

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[Animação · Animation]

Abstract

This article addresses the underrepresentation of women in the context of popular contemporary animated feature films. These films reach world-wide audiences and play a pervasive role in contemporary society, by contributing to the creation and reinforcement of social concepts, while shaping young audience's social expectations. Therefore, it is relevant to understand how the content presented in these movies is evolving. For this study, we gathered data on 260 popular animated movies that were released after 2001 and, through quantitative data analysis, learned that: more than 90% of the directors of these movies are men, approximately 80% of the movies have a male-driven narrative and almost half of these movies don't pass the Bechdel test. The staggering results confirm the gender imbalance in today's animation industry. Nonetheless, the present research intends to contribute to overcome this imbalance by fostering critical thinking and discussion around the subject.

1. Introduction

This paper is part of an ongoing PhD in Design research project[4] that aims at clarifying how female characters are represented and how they relate to one another on screen in the context of popular animated feature films of the 21st century. The study presented here served to establish and better understand the context of the representation of women in contemporary animation feature films, while demonstrating and denouncing the under-representation of women in this field.

The first section of this paper critically reflects on the previous research done on the topic of representation of women in animation. The second section explains the methodology used to analyze and collect data on the relevant movies for this study, while reflecting on the constraints of the selection criteria. Then, we present and discuss the results. The last section offers future development suggestions.

2. Previous Research on Female Representation in Animation

Popular media content, such as animated television series and feature films, reaches audiences worldwide, and has the ability of being seen by a vast number of people, as these media productions are now powered by the ubiquitousness of the digital screen and the ease of access to streaming services.

Different learning theories support the idea that movies and television shows — as well as other types of media — can influence its viewers, particularly the more impressionable and malleable young ones [1, 2, 3]. These theories suggest that the observation and imitation of influential role models — like parents and teachers, but also fictional characters — impacts children's social beliefs and expectations, including those about gender roles. Through processes of attention and retention of relevant information and behavior, reinforced by the repeated rehearsal of thoughts and actions, children learn and apply this knowledge to their surroundings and create expectations about others' behaviors: "Repeated viewing leads children to retrieve, rehearse, solidify, and expand existing scripts, resulting in cumulative long-term effects. Children who identify with media characters and who consider television a realistic reflection of the world are especially likely to incorporate and act on its messages" [4].

Therefore, growing awareness of the potentially damaging effects of stereotyped gender conceptualizations, and other harmful representations, pushed researchers to investigate what influences the development of gender identity and gender-coded behavior in children, which included analyzing animated audiovisual content aimed at young audiences.

In the late 20th century, numerous studies revealed gender inequities and gender stereotyping in representations in the context of animated television media, concluding that male characters appeared much more often and showed more aggressiveness and proactiveness, while female characters were scarcer, more deferent, and respectful [5, 6, 7, 8]. In the subsequent decades and until today, researchers would establish that gender, racial and cultural stereotypes have persisted in animated productions [9, 10, 11, 12], where male characters still outnumber female characters by a significant margin, even though we can see improvement towards gender parity [13]. It has also been shown how female characters talk significantly less than male characters [14], both in animated movies as well as live-action ones. And, as expected, representation discrepancies are not limited to gender; e.g., the dominant skin color of animated characters in television series is still white [13]. This means that animated content is not doing a good enough job of providing diverse, inclusive, and relevant role models for its audience.

Unfortunately, the lack of women on screen reflects the absence of women behind it, since production teams of animated content are still very much male-dominated. Despite the reported increase in female practitioners in the industry over the last few years, "women are still underrepresented in the workforce, in senior positions and among the ranks of directors" [15]. A recent report on the US animation industry shows how

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the percentage of women across the pipeline diminishes drastically as you're going up the ranks: 18% in story departments and 16% animators, but only 7% Heads of Story and 8% Heads of Animation, culminating in a woeful 3% Directors [11]. Virtually every key position in the animation production pipeline is occupied by men, where only 2% to 21% of the positions are filled by women [11].

3. Methodology

Because the PhD project aims at investigating visual and narrative gender representations that may be impactful to a worldwide audience, it was of high importance to guarantee that the corpus of analysis is composed of films that have a wide viewership. A wider audience increases the probability of these films influencing more spectators and of achieving a greater popularity status, thus becoming more pervasive in society.

The research also focuses on contemporary representations and intends to offer an updated perspective on the subject. Therefore, we gathered data exclusively on movies that were released during the 21st century (between January 1st, 2001, and March, 2022, when the data was collected). We've also limited the study to fully animated feature-length films, excluding any film that had live-action footage, to avoid hybrid films that could have animated characters interacting with live actors, thus going beyond the scope of the PhD research project. We used the Internet Movie Database (IMDb) and its Animation filter to search for and identify the movies that fit the criteria described above.

In summary, using the IMDb filter for Animation, we gathered the list of movies that were released after January 1st, 2001, until March, 2022, that had no live-action footage and that had over 10 000 ratings on its IMDb page.[5]

In this section, we present an overview of the film selection criteria, while discussing its relevance and restrictions.

3.1. Film Selection Criteria

3.1.1 IMDb Votes. There are two distinct and important aspects regarding the IMDb votes: the first is the total number of votes and the second is the rating score. The total number of votes reflects the volume of user interaction with the rating system in each movie's page, while the rating score reflects how much the users of the platform supposedly enjoyed or appreciated the movie. Examining the full list of animated movies released during our timeline, we selected only the movies that had at least 10,000 user ratings[6].

On each film's page, we read the available data on the film's user ratings and concluded that: most voters are between 18 and 44 years old; there

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are significantly more votes by male users than by female users[7]; when compared to female users, male users tend to rate movies with lower scores.

This means that, by relying on the number of IMDb voters as a selection criterion for the research sample, we are relying on movies that were selected and upvoted by male voters. This happens in movies in general, and not just animation: "When you rely on the wisdom of the crowd on the internet, you risk relying on the opinion of mostly men" [16]. It has been shown that even though women and men both spare similar amounts of time using the internet [17], men are more likely to express their opinions and participate in online discussion [18]. In this case, it seems that women are not as involved or active in the rating of movies on the IMDb website, and therefore, their opinions are not as strongly represented on this platform.

A recent report on women's representation and impact as film reviewers in the US has shown that "male reviewers outnumbered women in every type of media outlet considered" and that "men wrote the majority of reviews about films in every genre" [19]. The report also concluded that, in general, women scored films with a female protagonist higher than their male counterparts — and the reverse is also true, since men rated films with male protagonists higher than the female reviewers. This shows that there is gender bias present in the rating of movies, that we need to acknowledge when using these reviews as criteria in a scientific study.

It is also possible to see that the users are voting from all around the world, therefore providing the global audience's perspective on each movie. Despite the gender disparity represented in the IMDb votes, it is still a useful tool to appraise a movie's success according to a worldwide audience. The sheer number of interactions some movie pages receive alludes to those movies' popularity among moviegoers.

3.1.2 The Bechdel Test. The joke in Alison Bechdel's[8] comic strip *The Rule*, from *Dykes to Watch Out For*, where a character stated she followed a strict rule when choosing a film to watch, is a harsh criticism of the alarming gender disparity that dominates the film industry. The guidelines presented in the comic strip are now known as the Bechdel Test[9], which is mainly used to expose the lack of female representation in popular movies. To pass the test, a movie must fulfill three criteria: "(1) it has to have at least two named women in it, (2) who talk to each other, (3) about something besides a man"[10]. It should not be interpreted as a quality test, but simply as a framework to think about gender representation in movies.

To assess whether a movie passed the test, we resorted to the crowd-sourced information available on *The Bechdel Test* database, whose verac-

7 There is a significant number of votes on each movie's page from users who did not disclose their sex identity, therefore, if the information were to be disclosed by the user, it could change our understanding of this criteria. Looking at a sample of 70 movies from our final list, we concluded that, on average, men's votes account for 75% of the total votes.

8 Alison Bechdel is a North American cartoonist, known for the long-running comic strip *Dykes to Watch Out For* and her graphic memoir *Fun Home*.

9 Although the test was named after Bechdel, the comic book author acknowledges her friend Liz Wallace as the real creator of the concept. https://dykestowatchoutfor.com/the-rule

10 Definition retrieved from The Bechdel Test database: https://bechdeltest.com/

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ity relies on the engagement of the community and peer revision. Whenever the movie being classified was not yet in the database, we watched the movie and then added our own review to the database, thus contributing to its growth and accuracy. We coded each movie according to the following classification: *No* — means the movie does not pass the test; e.g., *Up* (Docter, 2009) only has one named speaking female character (Ellie) who doesn't talk to any other female characters; Yes — the movie passes the test, without a doubt; e.g., *Turning Red's* (Shi, 2022) story is about the relationships between teenager Meilin, her three best girlfriends and her mother Ming, who all talk to each other about many different topics; *Barely* — the movie only has a very brief and irrelevant exchange of words between two female characters about something other than a men; e.g., *Big Hero 6* (Williams & Hall, 2014) has several named female characters, but there is only one very short dialogue exchange between them that is not about a man — in a fight scene, Go Go shouts "Get the mask!" and Honey Lemon responds "Right behind you!"; N/A — non-applicable; e.g., *The Red Turtle* (Dudok de Wit, 2016) characters don't speak to each other and communicate exclusively through body language.

The use of the Bechdel Test as a selection criterion helps streamline the process of filtering the movies that are in fact relevant for the PhD project, which focuses on relationships between female characters: movies that pass the test have a higher chance of portraying meaningful relationships between female characters; while movies that don't pass the test are almost sure not to have any. We'd like to acknowledge that films that don't pass the test may have female characters in important narrative roles, who are playing a crucial part in advancing the narrative, while creating deep and meaningful relationships with male characters. Albeit important for providing relevant female representation for the audience, these relationships are out of the scope of this research. It is also important to clarify that passing the test does not make a movie feminist, or an example of good gender representation. Moreover, it seems like the test premises constitute a very low standard for representation in films. However, according to *The Bechdel* Test website, only 56.7% of the 9329 movies in their database pass the test[11].

3.1.4 Gender of Each Movie's Protagonist. We gathered data on each movie's protagonist and coded each movie using the gender binary male-female (M or F), to understand if the movie presented a male-led or a female-led narrative. There were instances where the movie presented more than a single main character, and the characters were of different genders, so we used M/F to code those cases.

As was previously shown, male characters have been the majority of actors in animated content and women's stories have not been told as often, so we wanted to confirm if this practice was still ongoing.

Firstly, we believe the gender binary language diminishes the opportunity for individualized manifestations of identity, as if reproving those who do not fit into one of the two fixed categories. Nevertheless, repre-

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11 Data consulted on the 3rd of January 2022: https://bechdeltest.com/statistics/

sentation on popular mainstream media content rarely happens outside of the gender binary, as seen in the studies mentioned in section 2. This means that characters, and especially main characters, will almost always be clearly presented as unequivocally either male or female. Mainstream media often survives on the premise that it can be easily understood, and its patterns recognized by a large audience. And because the gender binary has been the reference for a long time in Western pop culture, when communicating a character's identity, it is easier to resort to stereotypical traits of femininity or masculinity.

The gender binary proved to be sufficient as a metric in this study, as there weren't any queer protagonists in the movies we analyzed. The only exception was Hana, a transgender character from *Tokyo Godfathers* (Kon, 2003), who chooses to present as female. This movie was coded as M/F, since there are several main characters of different genders (Hana and Miyuki are female, Gin is male).

3.1.5 Director's credits. The importance of understanding if women are working in leadership roles — such as producer, director, or head of department — lies on the assumption that their unique perspective and personal experience could help guide the teams to create animated content that exposes and shares the experiences of women. Hsiang Chin Moe, chair of Education at WIA, agrees that "decision-making people have, not necessarily bigger, but maybe more effective influence in terms of that on-screen representation" (H. C. Moe, personal communication, December 13, 2022). In a previous data analysis study, researchers showed that a filmmaker's gender correlates with the Bechdel test: "When writing teams are entirely male, about 50% of films fail the Bechdel test. Add a woman to the mix and only a third of films fail. The seven films written entirely by women all pass the Bechdel test" [20]. This shows, once again, that diversity in leadership and creative positions matters. The more diverse the group of decision-makers within big studios, the more diverse and inclusive will be the narratives and representations of the movies these studios produce. If the leadership roles are all being occupied by people who are alike, then we can assume that it will be harder for them to empathize and understand different points of view that aren't similar to their own experience. Unfortunately, this is often what happens.

Brenda Chapman, the first woman to direct an animated feature film in a major animation studio and the first to win an Academy Award for directing, explains that "...as time went on, being the only woman in the room once again, it was very difficult to make them understand a woman's perspective on female characters" [21]. Tracey Miller-Zarneke, who worked at Disney and is an active member of WIA, explains that "we in Women in Animation have talked about (...) the fact that 'like hires like'. And 'like' is comfortable with things that they understand, as opposed to stretching their boundaries to understand where a different perspective might have come from" (T. Miller-Zarneke, personal communication, January 23, 2023). This translates into characters and storylines not being approved if it's something that decision-making people can't relate to.

This ties back to the fact that men have historically tanked the online ratings of female-led narratives or other shows and movies that aren't specifically targeted at them: "Shows with more than 10,000 ratings are inherently popular and yet men thought the programs in that group that skew female were below average" [16].

This might be due to a lack of empathy from male viewers towards women-led narratives, since historically they have not had to watch female-heavy content; while women have learned to empathize with men's stories, since they've been in the spotlight for so long and the alternatives were scarce. This reinforces the importance of having diversity in top-leadership roles, as it has been shown to promote gender parity as well as to serve as a driving force to share women's (and minorities') perspectives through story.

4. Results Overview

For this study, we listed 260 animated movies that fit the criteria explained in the methodology section. Then, for each movie, we gathered data on each of the previously explained criteria: gender of the protagonist, the Bechdel test result and director's credits. Here, we present an overview of the results.

4.1 Gender of the Protagonist. Looking at the gender of the protagonists of each movie, we concluded that 201 movies have male protagonists (77.3%), 54 movies have female protagonists (20.8%), and 6 movies have more than one main character of both genders (1.9%) — these are *Lilo & Stitch* (Sanders & DeBlois, 2002), *Tokyo Godfathers* (Kon, 2003), *Gnomeo and Juliet* (Asbury, 2011), *Ernest & Celestine* (Renner, Aubier & Patar, 2012), *Your Name.* (Shinkai, 2016) and *The House* (De Swaef et al, 2022).
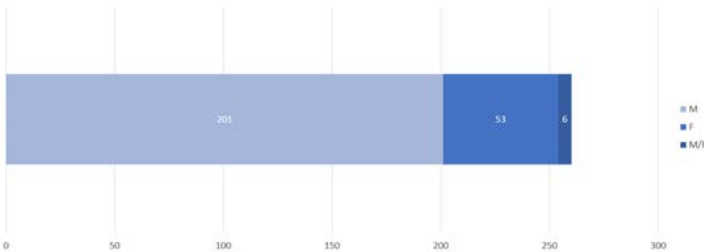
Fig. 1 The graph above shows the number of movies led by a male-presenting protagonist (201 movies), the number of movies led by a female-presenting protagonist (53 movies), and the number of movies with more than one main character, of each gender (6 movies).

4.2 The Bechdel Test. The overall results of the Bechdel Test show that 120 movies (46.2%) don't pass the test, 54 movies (20.8%) barely do and only 81 movies (31.2%) undoubtedly pass the test. The remaining 5 movies (1.9%) represent movies without dialogue. Unsurprisingly, looking only at the movies with female protagonists, out of 53 movies, we found that 43 (81.1%) of them pass the test; while only 6 (11.3%) movies barely pass the test, and 3 (5.7%) movies don't. In this group, there's one movie without dialogue (1.9%). Looking at the movies with male protagonists, we found that, out of 201 movies, 116 (57.7%) don't pass the test; 47 (23.4%) barely pass the test, and only 34 (16.9%) do pass the test. In this group, there are 4 movies without dialogue (2%).

Fig. 2 The graph above shows the results of the Bechdel Test for each of the 260 movies: 120 don't pass the test, 54 barely pass, 81 pass and the test doesn't apply to 5 movies.
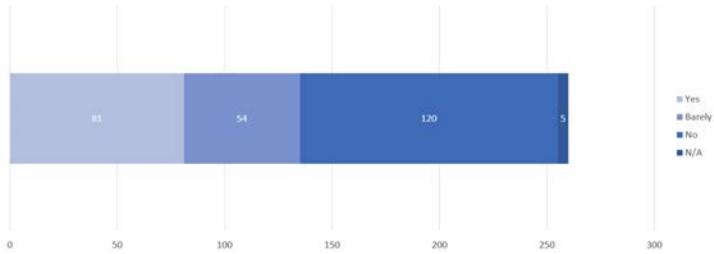
4.3 Directors Credits. There were a total of 268 different names, of which 247 (92.2%) were men and only 21 (7.8%) were women. We then looked at how many times each director's name appeared, since many people directed more than one movie. Most women directors, 15 of them (71.4%), had only one credit, meaning they directed only one movie in the timespan considered for this research. Still, 6 women (28.6%) had two credits, meaning they had directed two movies. Also, there were only 4 occurrences in which there was a woman directing a movie solo: *Kung Fu Panda 2* (Nelson, 2011), *A Silent Voice* (Yamada, 2016), *The Breadwinner* (Twomey, 2017) and *Turning Red* (Shi, 2022). In every other occurrence, women were paired with one or more male directing partners. The majority of men directors, 175 of them (70.9%), also had only one credit; 35 of them (14.2%) directed two movies; 22 (8.9%) directed three movies; 9 (3.6%) directed four movies; 3 (1.2%) directed five movies; 2 (0.8%) directed six movies and there was 1 (0.4%) who had directed seven movies — Carlos Saldanha directed *Ice Age* (2002), *Robots* (2005), *Ice Age: The*

Fig. 3 The graph above shows the number of movies that were directed by: a single man ("M Solo", 136 movies), a single woman ("F Solo", 4 movies), an all-male team of directors ("M Team", 99 movies) and a mixed gender team of directors ("M/F Team", 21 movies). In these mixed teams, there was always only one woman, except for the team of directors of the anthology movie *The House* (DeSwaef et al, 2022), where there were three women and one man.
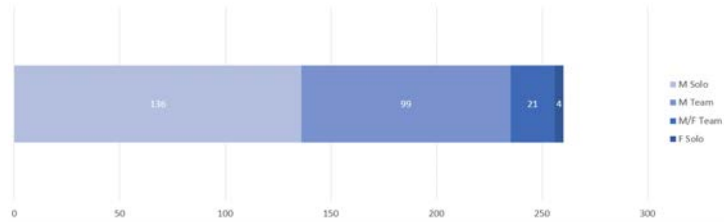
Meltdown (2006), *Ice Age: Dawn of the Dinosaurs* (2009), *Rio* (2011), *Rio 2* (2014) and *Ferdinand* (2017). There were 136 movies that had a single male director; the rest of the occurrences (124) presented a team of directors, most often all-male, as there were only 21 movies that included a woman in partnership with other male directors.

So, when we take into consideration the number of repeated occurrences on the names of the directors — i.e., the number of movies each director participated in — we realize that the discrepancy of representation is even bigger: in a total of 409 director credits, only 27 (6.6%) are attributed to women.

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5. Conclusions and Future Developments

In this paper, we have shown that women are still grossly underrepresented in the context of popular animated feature films, and we have also explained some of the difficulties around choosing criterion that are fair when conducting a study of this nature, as we noted that the movie industry and its appraisal channels are still male dominated, often offering a skewed and biased perspective.

With this study, we identified 260 movies that could arguably be considered popular, as they've had significant audience and critic interaction in their movie pages. Looking at these movies, we've learned that only 20.8% have a female-led narrative, with a female-presenting protagonist. We've also found that almost half (46.2%) of the 260 movies don't pass the Bechdel Test — a recognized low baseline for female representation in movies. Lastly, we found that there were only 21 women directors, meaning that of all the directors of the 260 movies, only 7.8% were women.

The staggering results confirm the gender imbalance in today's animation industry and show the need to understand what are the barriers that women and minority groups face when joining the workforce, to be able to discuss this topic in depth and offer solutions that will mitigate the current imbalance.

We'll continue to investigate this subject to uncover the possible causes for the gender imbalance that was presented here. The next part of this research will be conducted by interviewing animation industry professionals and people dedicated to adjacent areas that may be able to offer their insights and perspective on why women are still underrepresented both on and off the screen in the animation industry. This inquiry will provide information on possible causes for the current imbalance, as well as solutions to repair it.

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3D Animation as a Contemporary Learning Tool in (Slovenian) Secondary Education

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Abstract

The main objective of this paper is to determine the state and adequacy of contemporary Slovenian (secondary vocational) education in the field of 3D animation in relation to the demand for labour on the market. In a theoretical framework, it summarises the findings of the broader state of the European animation industry and the potential of 3D animation education in Europe. It aims to position Slovenia within the wider European community of digitally developing countries. Examples of good practice justify domestic efforts to improve the teaching and understanding of 3D animation through the work of students in the Media Technician vocational secondary school programme. The analysis of a survey on students' opinions on the presence and effectiveness of 3D animation in Slovenian education, carried out on a sample of 135 students, which was conducted on a sample of 135 students from two different secondary vocational media schools showed an increased post-pandemic interest in 3D animation (especially in computer games). They expressed a common desire to learn through more hands-on project work and complained about the lack of opportunities for further education in the field of 3D animation. The conclusion foresees possibilities for further development and improvement of 3D animation education in Slovenia.

1. The state of animation industry and education in Europe

There is a notable lack of up-to-date professional online resources summarizing the current state of animation education in secondary vocational school programs across Europe.

Most of them acknowledge that in most developed European countries we have quality higher education institutions for animation training, that prepare the necessary workforce for television and other media (among the most notable: the Animation Workshop at the Danish VIA University, FAMU Prague, Filmakademie de Baden-Württemberg, Germany, Gobélins in Paris, etc.). Most such educational institutions, similarly to educational institutions and entrepreneurship centres in

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Slovenia (for instance: www. kovacnica.si) also invest in the development of business incubators (with help of EU funds) to help young animators and companies get a head start in the market. The schools are closely linked to the animation industry. Programmes are usually developed in collaboration with renowned and active professionals from the animation industry. Accordingly, lecturers address the most relevant and up-to-date techniques and methods, and students are constantly confronted with industry-level quality expectations. Schools also usually co-create or participate in the creation of film funds. Most educational institutions are also investing in the development of business incubators to help young animators and companies get established in the market. (Raugust, 2006).

A study of the state of animation industry in Europe conducted by a European Audio-visual Observatory (Council of Europe) in 2016 does not include any eastern European countries other than Russia. It summarises observations on the state of animation education in general:

1. Animation training is facing rapid technological development. Various solutions have emerged to address this challenge. Some animation schools have chosen to specialise in 3D animation, while others offer tailor-made professional training and online courses.
2. Some schools and training programmes are supported or even set up by animation studios to address the shortage of skilled workers. There is a noteworthy trend in European animation education towards an increasing emphasis on industry integration. Educational institutions are becoming more closely linked to the animation industry and are actively looking for ways to bridge the gap between education and careers. This includes promoting cooperation and continuity between the two fields. To adapt to evolving industry practices, many schools invite industry experts as guest lecturers, allowing their programmes to keep up with new trends and adapt to the needs of the animation sector.
3. Animation is also being integrated as a specialisation in schools covering areas such as video games, digital effects, and software development.
4. To increase the employability of animation students, a growing number of animation schools in Europe now offer courses conducted exclusively in English, showcasing the education institutions' progressive focus on the international dimension of the industry and profession.

Arguably the least promising finding of the Observatory's analysis is that, despite strong presence of European animation among audio-visual works in Europe, European animation currently has only a 20% share of the animation market in terms of number of views and faces challenges when competing with productions from the United States. (Jiménez Pumares, et al., 2015)

The report of the state of animation in Central and Eastern Europe in by Vladan Petković (2019) summarises the state of the animation industry and education in Eastern European countries, from the Baltics to the Balkans, and notes that all of them have made more or less progress, varying considerably in terms of the number of animated films produced

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(annualy), distributed and awarded at festivals, as well as in terms of the way in which the industry is financed and the infrastructure in terms of active studios and educational institutions. (Petković, 2019).

2. Reflection on current education of 3D animation in Slovenia

After returning from studying 3D animation in UK (13 years ago), I started lecturing 2D and 3D Animation (based on given national curriculum) to 3rd and 4th year students (18 years old, which corresponds to A-levels students in the UK) as part of the so-called Open Curriculum (compulsory secondary school vocational programme, which can be, according to the Education Act, determined and developed by the schools themselves). I am sad to note that not much has changed since then.

When beginning I was struck by a few facts:

1. The designers of the original curriculum envisaged that education of 3D animation was suitable for secondary school level. The preparation of the lecturing material and exercises according to the given curriculum was initially very difficult, as the novice lecturer has no sense of what level of understanding to expect from secondary school students who have not encountered anything like this before, other than as users (playing 3D computer games, watching 3D animated features).

2. Up until today the subject of animation is not considered a distinct learning module/subject in any of the programmes of secondary school vocational education in Slovenia, although its wide everyday usefulness and ubiquity in the media space would make it deserve. Since the Media Technician programme was created (about 20 years ago) animation has been integrated as part of a module called Media Design, which is actually about designing web presentations (coding). The logic is based on the use of animation production tools on web sites, which have long been obsolete. The programme is therefore crying out for a renewal, especially to update the lecturing practices and content with new, more updated and technologically advanced approaches.

3. There is a lack of domestic literature and other educational materials suitable for lecturing 3D animation at the high school level, so I have been forced to create my own, which I have been meticulously updating and regularly renewing. Over the years, I have successfully conducted several workshops on 3D animation for fellow media lecturers (organised by National Center for Vocational Education - CPI). Despite the lack of domestic theoretical discourse in Animated media in recent years Slovenian students acquired two new manuals for 3D animation aimed at higher levels of education: 3D from Point to Rendering (NTF, 2009: Gabrijelčič, Erzetič), 3D ANIMATION Creating from Motion to Simulation (NTF, 2021: Gabrijelčič Tomc, Kočevar, Iskra). Lecturers are hoping for more cooperation and production of quality learning materials in the future.

When mentioning I studied in Slovenia and abroad, I am often asked by my fellow colleagues to compare my domestic learning experience to the foreign. I perceive it as a balanced mixture between the more theoretical practices of Slovenian secondary and higher education and the accelerated practical application of the British school system that enriched my educational experience and made me see the subject matter more holistically, but the biggest challenge was to practice a healthy interlacing of both poles. This is exactly the answer to how these two systems differ and what they lack.

Over the last decade, Slovenian animation has been growing slowly but steadily, despite a small domestic market and modest investments. It still faces many challenges, often depending on external factors and systemic solutions at the national level (Šturm, 2022). Slovenia has some outstanding animators and relatively successful companies creating 3D animation in the form of short films, series, or computer games (Dolenc, Mav, Kastelic, Leskovšek, Outfit 7, Invida, Triternion, etc.). These talented individuals have mostly gained their knowledge through independent online training or studying abroad, and often also gained experience by working on foreign productions. (Šturm, 2022).

The growth of the industry has also been helped by the increase in animation teaching at higher education institutions (NTF, Academy of Arts Nova Gorica, ALUO, Academia Maribor, IAM, etc.), and consequently by the influx of fresh animators and student production. Some of the creators and producers are actively involved in higher education programmes, co-designing them and lecturing at them. Since 2019, DSAF has been awarding prizes for student projects, a practice that was upgraded in 2020 with the Business Incubator project, which provides selected student projects with mentoring support in various professional fields (screenwriting, animation, art conceptualization, sound, editing, etc.) (Šturm, 2022). The Slovenian Animated Film Association also contributes to the professional discourse among filmmakers and encourages the production of quality pedagogical materials in the field of animation.

As a member of the National Examination Board for Media and Graphic Technology at the National Examination Centre (RIC), I am responsible for the preparation of appropriate assignments in the field of animation, audio-video production, and photography for the final external exams (A-level) of all final year students of the Media Technician secondary vocational education in Slovenia. When composing assignments, committee members follow the higher taxonomic levels and many other educational guidelines. In order to meet the needs for higher professional competence and consistency of lecturers across Slovenia in all the above-mentioned fields, we have organised several study workshops in the past years, where we agreed on terminology, definitions, appropriate literature, content and the scope of the teaching materials. In an effort to unify national terminology and teaching materials for animation, a few selected lecturers (M. Guštin, K. Saksida, T. Leder and A. Tolar Tomšič) have been working for two years with the National Centre for Vocational Education (CPI) and the Slovenian Association of Animators. We have been working on the professional translation of a new textbook for sec-

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ondary and higher vocational education, The Animator's Secrets (Julia Peguet, 2021), and we have undertaken the first nationwide dictionary of animation, where for the first time we have formulated and defined some of the professional animator's terms and definitions.

3. Examples of Good Practice in Introducing 3D Animation in Slovenian Education

In the lecture The Teacher of Practical Subjects and the Digital World (as part of the training courses for art lecturers, organized by Slovenian Institute of Education in 2020), I presented a set of specific creative skills that we (teachers of practical subjects) are purposefully developing with media students, and which are the basis for their further professional development. Most students leave their primary education (at the age of 15 in Slovenia) with very limited understanding of spatial perception. With appropriate mentoring, secondary media students can have their first encounter with three-dimensional designs already in the first year of their studies, this being implemented through conduction of appropriate exercises in spatial representation in the otherwise limited number of art lessons. Such exercises reinforce the individual's awareness of three-dimensional space (although, after all, painted images are always flat/two-dimensional) and form the basis for further, digital education in the field of computer graphics (e. g. 3D animation). These are in fact simple drawing exercises, where visual objects are deconstructed into basic (primitive) geometric solids, which serve as a tool for understanding of visual material (this coincides with Cezanne's idea: "Treat nature by means of the cylinder, the sphere, the cone, everything brought into proper perspective ..." Cezanne, Letter to E. Bernard, 1904). The logic of such gradual construction "from the whole to the details" encourages stu-

Fig. 1, 2 & 3
An example of a drawing exercise using spatial segmentation of selected models (objects) into primitive geometric solids. (A. Tolar Tomšič, EGSŠ Radovljica, 2022).

dents to observe the deeper (invisible) structures of any given object, be it rigid technical device with artificial geometrical structure or more difficult to comprehend naturally constructed object with organic structures. It is this knowledge that later facilitates students' understanding of the basics of 3D modelling and other processes in the creation of 3D animation, which are implemented in the higher (senior) years of their secondary media education.

Fig. 4 & 5
Analysis and understanding of the illumination of objects, the effect of different lights. (A. Tolar Tomšič, EGSŠ Radovljica, 2022).

The shading exercises encourage students to think about the specific placement of the light sources and their effect on the portraying subject. Students later apply a similar logic in practical situations when they learn three- or four-point studio lighting in product or portrait photography, which is very similar to the process of digital lighting of 3D scenes. Virtual lights have similar properties and settings to real lights in a photographic studio.

Fig. 6
The study of four-point lighting performed in Autodesk Maya 2023. (A.T. Tomšič, 2023.)
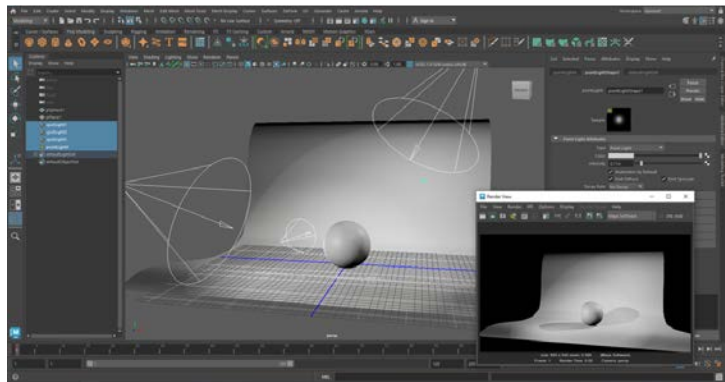
In secondary schools with a media programme, we train various 3D animation programs, mostly Maya and Bledner, which are also industry standards, so talented individuals can, with a little extra effort, quickly establish their own professional path in the given field (entertainment and advertising industry, computer games, industrial modelling, etc.) In recent years, the number of faculties that have been carrying out independent studies in animation has been growing, and quite a few of them are already including 3D modelling and animation in their courses (e.g., Faculty of Computer Science and Informatics in Ljubljana, Faculty of Information Studies in Novo mesto, Academia Maribor, etc.). In secondary schools,

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we have also started to use new technologies - 3D scanners, printers, as well as virtual technology (e.g., at EGSŠ Radovljica, we are using a virtual bicycle riding tours and action dance games as part of physical education. At the moment we are creating 3D virtual experience for Local Cultural and Tourist Association). We look forward to integrating new technological developments into our educational efforts.

Fig. 7 & **8**
Open Days promotion projects: virtual cycling and 3D interactive tours. (P. Zorko, EGSŠ Radovljica, 2019/22).

New technologies allow students to not only stay with simple 2D visualisations of their products (hand drawings), but can build them in a 3D virtual space, which enables the user to have a better spatial representation and predetermine parameters such as texture, lighting, and movement. The 3D printing service adds value to students work by reviving their prototype products in reality - in tangible 3D form.
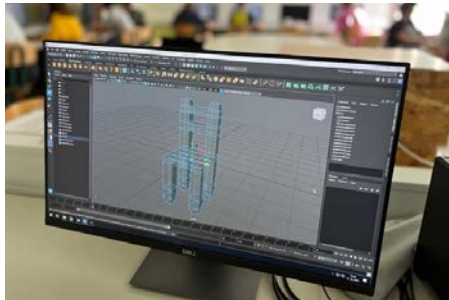
Fig. 9, 10, 11 & **12**
A project of designing a simple chair (senior year Media Technician students), its 3D model, interactive experience and finally also printed version. (A. T. Tomšič, EGSŠ, 2022).

For animation students at all educational levels, it is important to gain concrete skills and to experience the possibilities offered by modern technology already during their schooling, which is why we strive to implement and integrate theoretical knowledge in practice. Simulating tasks and work groups that are similar to those in real companies encourages students to work together in teams, to better organize and plan their projects and, ultimately, to produce products of higher quality. The pictures below show

some of the successful tasks carried out in our school in the Media Technician programme, both as part of regular lessons and as part of the vocational baccalaureate (matura exam) project, which allows selected individuals to study a chosen animation technique in depth in relation to a specific task.

Fig. 13
Team project of senior year (A-level) students of 2021/22 - 3D flyover visualisation with Autodesk Maya.Source: A. T. Tomsic, EGSŠ Radovljica, 2022.
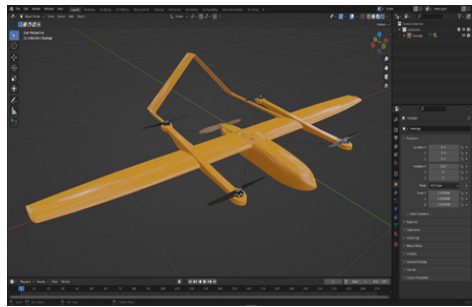
Fig. 14 & **15**
Vid Hribar, textured and animated drone prototype model (Blender), project for the vocational baccalaureate (matura exam) 2022. Source: A. T. Tomsic, EGSŠ Radovljica, 2022.

4. Analysis of the Survey on the Presence and Effectiveness of 3D Animation in Slovenian (Secondary Vocational) Education

A short-term online survey (https://1ka.arnes.si/a/3405484d) was developed to collect data on students' opinions on the presence and effectiveness of 3D animation in Slovenian education. The survey consisted of a combination of 31 questions, some of which were multiple-choice and those that needed further clarification were open-ended. To ensure the validity and reliability of the survey, a representative sample of educational institutions in Slovenia was selected, but unfortunately not all of them responded to the call, so (still a relatively large sample) it includes only two secondary schools with the same programme, but in different regions and different environments (one urban, the other rural). The survey was conducted electronically using the online survey platform 1KA (Arnes). Educational institutions were contacted by email and provided with a link to the survey. The data collection period lasted one week. Quantitative

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and qualitative data analysis techniques were used to analyse the survey responses. Descriptive statistics including frequencies, percentages, means and standard deviations were used to summarise and interpret the quantitative data. Open-ended responses were subjected to thematic analysis to identify common themes, opinions and recommendations.

The questionnaire was designed to capture information on the popularity and use of 3D animation content and learning materials, the adequacy of the integration of 3D animation in the curriculum, the appropriateness of the delivery of the animation module, the comparability of the education with industry standards, the effectiveness of the education and the desire for further training and employment in this field.

Survey was conducted in August 2022 among 135 students of different years (of study at the Radovljica School of Economics and Media and the School Centre Celje (Media Technician secondary school vocational programme), it generally showed an increased interest in usage and production of 3D animation.

Comment on the survey results:

1. 41% of participants were 3rd grade students, which means they have one more year to finish secondary school and decide whether to go on to further education or employment, and at this stage they are not sure what they will choose to study/work.

2. As many as half of all respondents believe that animation is widely used in their daily lives, and 76% believe that the use of animation (for commercials, films, games, etc.) is increasing.

3. A third of the students surveyed (36%) most often encounter animated content when watching animated films and series or playing computer games (27%) and in commercials (27%). In their younger years, they tended to prefer 2D series to 3D. Those who preferred 3D animation mainly attributed this to the fact that they found it more realistic, easier to empathize with, and therefore more interesting to watch. I think this is still one of the main reasons for the use of 3D animation in general.

4. More than half of the students surveyed believe that the use or sales of 3D animation increased during the isolation of covid-19. Indeed, the increased demand for 3D animated content is evidenced by the rapid growth in subscriptions and profitability of computer game companies (www.reserach ...).

5. As many as a quarter of the students surveyed play computer games regularly, 20% occasionally and the rest rarely or never. Only 16% play educational games (mostly Minecraft, Sudoku, Tetris and language games...).

6. As many as 42% of those who play computer games prefer 3D games, the most popular being Sims, League of Legends, Assassin's Creed, Grand Theft Auto, action shooting and simulation games. Most students therefore play games for relaxation. Unfortunately, this often results in academic procrastination (postponing assignments) and consequently lower performance.

7. Most of the respondents feel that it would make sense to use computer

games, such as Minecraft Education, or any other simple 3D tool/program to explain certain school subjects. When asked which technique of animation they think shows a subject in the most comprehensible way (e.g. how hearing works or a physics problem), the majority of respondents think 3D computer animation (47%). A third of the students surveyed think that a 3D virtual representation (simulation) of a subject would enable them to understand it better.

8. When asked in which general education subject 3D animation would most contribute to a better presentation and understanding of the learning material, most of them chose biology and physics (20%), slightly less chemistry and mathematics, and languages the least. When asked at which level of schooling 3D animated learning materials would most contribute to a better understanding of the learning materials, most of them are of the opinion that it would be equally important at all levels, depending on the quality of the animation.

9. The majority of students believe that 3D animation skills are more cost-effective and that the earnings in this field are therefore higher than in other media production industries (e. g. print design, videography).

10. Most students also responded that they feel there are currently not enough opportunities for education in the field of animation in general in Slovenia, and 56% of respondents are looking forward to being able to receive more and better domestic education in the future in the field of 3D animation, virtual simulation, 3D product design and printing, etc.

11. A quarter of all students surveyed had already tried to create 3D animation themselves (before receiving training/lectures), but surprisingly a very small percentage of these students actually want to pursue further education in 3D animation. The majority of those interested in studying and producing 3D animation would choose Blender over other available 3D software (Maya, Cinema 4D, etc.), probably because it offers competitive professional results despite its open-source nature and free license. The cost of subscriptions to professional software, such as Autodesk Maya, is increasing significantly each year and not many young professionals are able to purchase it.

12. The majority of respondents thought that professional 3D animation production in Slovenia was insufficient, but only 13 respondents were actually able to state a name of a local 3D animation producer/company. Among the companies mentioned, most of them knew Invida (Muri the Cat), Outfit 7 (Talking Tom) and our most successful 3D computer game to date, Triternion.

13. As mentioned above, despite the encouraging results of the survey in favor of the use of 3D animation, only 18 final year students answered that they intend to enroll in a faculty that teaches animation (independently or as a subject), two of them wrote that they intend to study animation at the Academy of Arts in Nova Gorica, one at the Academy of Fine Arts and Design in Ljubljana (Department of Animation and New Media), and one at the Media Production course at Academia Maribor.

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Conslusions

The survey shows that today's secondary school students generally have a poor understanding of their interests and the educational and employment opportunities available to them. However, there is a growing interest in 3D animation among vocational education students in Slovenia. Practical project work and links with industry are essential for authentic learning experiences. Despite the small 3D animation market in Slovenia, there is a significant shortage of qualified professionals. To address this, companies are advocating for more courses in this field and better links between education and industry. The survey on 3D animation in Slovenian education highlights the need for more educational opportunities and career paths in this field. Rapid technological development poses a challenge for vocational education, but specialised schools and tailor-made training courses have emerged to address this problem. Cooperation between schools and animation studios helps to bridge the gap between education and industry requirements. Animation is also being integrated into institutions working in related fields, such as video games and software/application development, providing students with a variety of career options. Improving employability includes the use of English as a medium of instruction, promoting cooperation between European schools and expanding networking opportunities for animation students.

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Miniature Atmospheres:
Capturing a Stop Motion City

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[Animação · Animation]

Abstract

This paper investigates the unique relationship between perspective, time, motion, haze, light and the camera when shooting miniatures for stop motion and visual effects (VFX). Through the documentation of a creative practice research project, the author provides insights into the many challenges, considerations and discoveries when shooting a miniature cityscape using motion control, miniature lighting, perspective, haze and long exposure photography. The paper examines each one of these factors as they relate to the project and the field of practice. Informed by research and analysis of several historical examples where miniatures have been used for well-known scenes from films such as *The Lord of the Rings* (2001)(1), *Bladerunner* (1982)(2) and *Alien* (1979)(3). Through a combination of traditional research and practice-based experiments, the paper shares many insights into the motion control photography of cinematic miniatures. The project examines and reflects on capturing a miniature cityscape scene for the author's stop motion film, currently in production, titled *Beyond Earth*. The relationship between scale, light and time offer unique insights for other researchers and practitioners when working with miniatures.

1. Introduction

This paper tracks a creative practice research project that required building and filming a miniature city for a stop motion film titled *Beyond Earth*. The story follows a female astronaut who journeys to a new planet to find a new home for humankind. The opening scene required a vast establishing shot of a post-apocalyptic city, showcasing Earth's demise due to climate change. It was decided to create a large, detailed miniature for the shot using a variety of techniques including 3D printing, laser cutting and traditional mould making practices. These were with the help of fellow staff members Dominic Lindus and Chris Wedlock. One of the biggest challenges was to light and photograph the miniature in the studio, which required several material considerations and a rigorous and comprehensive dive into both traditional and contemporary practices of working with miniatures, providing many valuable insights that move between not only technical but philosophical inquiry. These technical explorations

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uncovered many intriguing insights related to capturing objects at scale, particularly with the use of haze and its relationship to light, motion and time. The paper breaks these material and conceptual elements into five sections: Perspective, Long Exposure & Motion Control, Haze, Miniature Light and finally Miniature Cameras. These categories represent practical considerations when working with miniatures in the studio but also open the door to a philosophical question about materiality as it relates to working and perceiving objects and phenomena at small scales. The conclusion demonstrates how these five elements are inextricably linked to one another as their entanglements open further considerations for the researcher and practitioner.

2. Perspective

The miniature was created with diminished perspective, resulting in the buildings decreasing in scale the further they are from the camera. This gives the illusion that the landscape is far greater while using less studio space. The models were constructed with this technique in mind and were tested by looking through the camera's field of view during construction. This mixing of scales is common in stop motion animation and live action miniature visual effects (VFX) work.

A landscape painter knows to add less detail and texture to the deep background of a painting, the pale blue hills, or the distant skyscrapers. These techniques offer cues for our visual system. Objects with less detail and texture we perceive to be further away, a kind of shortcut for understanding depth in the real world. Our eyes perceive a lack of texture gradient to mean objects are far away. For example, as mountains recede into the distance they have less noticeable texture(4).

This cue is used in filmmaking, with objects that are further away from the camera requiring less detail. For miniatures in the background the same 'rule' applies, in that objects further away should be less detailed and lighter in colour. kit models are designed for model making enthusiasts and have an enormous amount of detail, however these models can be too detailed for background miniatures in a diminished perspective mixed scale scene (5). This was a phenomenon I did not consider when first constructing the city scene, wherein the background buildings were very detailed with many 3D printed embellishments. As Raymond Fielding states, 'In real life, full-size objects which are located at progressively greater and greater distances from the viewer are perceived as being less and less finely detailed, this decrease in perceived detail being a function of our eye's limitations'(5).

When I started creating the city, I was not aware of this 'rule', and so the 3D printed buildings in the background have just as much detail as the foreground. 3D printing afforded the ability to simply scale down background models and print them out in high fidelity and therefore continue the level of detail. After looking at behind the scenes images of *Alien* 3 (1992)(6), I soon realised that the furthest background models were 2D cut-outs with block colours. Working with one of my students Natasha Heckenberg, I created simple laser cut building shapes to add to the deep background of the city that could be lit from behind to create a rim light

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distant glow effect. The relationship between miniatures and detail is not one of rationality. A miniature with a lack of detail can easily break the illusion of the scale as our eyes expects a certain level of detail in full scale objects, however too much detail can be a problem over forced perspective due to the limitation of our vision in the real world over distance.

3. Long Exposure and Motion Control

In the case of motion control, an audience is witnessing multiple timelines condensed into one moment in the final sequence. It is also likely that these passes will be shot at different exposure lengths – any sense of 'real time' is ruptured as the different exposure times meld together into one sequence. A 'beauty pass' usually uses long exposures to capture very subtle light like the rim lighting of a model or the scale windows of a spaceship. This could be composited with passes that were shot with shorter exposure times. Not only is the audience seeing multiple exposures, but also multiple timelines and different exposure times mixed together. When all these passes are married into a single shot the concept of 'real time' is completely abstracted.

The viewer will experience a miniature scene as one continuous 'real time' shot over a specific duration, however a miniature will often be captured through a process of long exposure photographed using motion control, and a finished shot may also be a combination of a number of sequential shots that have been merged in compositing. In this respect, live action miniature sequences are closer to animation.

Miniature cinematography is commonly shot with motion control cameras that utilise long exposure photography. This makes it possible for long shutter speeds, not possible in live action film, to be exposed one frame at a time. As the camera and subject is static at the time of taking the frame, this affords an exposure at smallest aperture; for example, at F22 resulting in the deepest depth of field. A deep depth of field is crucial in miniature photography to sell the illusion of scale. A shot with the duration of four seconds, for instance, can be captured one frame at a time over the course of many hours on the motion control stage. The motion control system also affords the filmmaker the ability to shoot multiple passes, repeating the camera movement with different exposures and lighting setups. These passes can then be composited together in post-production to form one shot created from multiple exposures.

Motion control cameras are often used to match live action plates, shot in real time, with miniature sequences shot frame-by-frame over hours. These different time scales can be married up seamlessly during compositing in part due to the mathematics of the motion control system, and thanks to clever alignment and planning by the filmmakers.

For my film I shot multiple long exposure sequences of the city with different lighting setups that I could composit together in Adobe After Effects. I shot a 'beauty' pass with only the internal city lights, a 'fog' pass with haze and a 'world' light pass with studio key and fill lighting. In post-production I was able to dial in the amount of information coming from

each pass in the scene. This affords greater latitude for not only colour grading but also to capture the most dynamic shots possible. Subtleties in the miniature city lighting can be brought out in the mix and are not washed out by the stronger studio lighting.

4. Haze

The phenomenon of seeing less detail in the background is not purely about distance alone, there is also the visual effect of looking through an atmosphere, a body of air and water vapour that washes out and obscures our vision of objects in the distance: between the viewer and the distant hills is a volume of atmosphere. To emulate this effect in miniature and to compensate for the short physical distance in a miniature set between foreground and background, filmmakers not only reduce detail but also use haze and smoke to increase the volumetric atmosphere relative to the scale.

In *The Lord of the Rings* (2001)(1), haze was used for the miniature Rivendell shots to create a scaled atmosphere and add a painterly quality to the scene. Miniatures cinematographer Chuck Schuman was influenced by American painter Maxfield Parrish in creating the romanticised lighting and atmospheres for the Rivendell scene. To create these atmospheric impressions Schuman used a range of different smoke and haze products.

> 'Add a little smoke and it dissipates the light and creates an impression of great depth; the miniature set isn't more than twelve feet deep, but smoke takes on so many layers that the buildings appear to reach away into the distance for half a mile or more.'(7)

Smoke has several material qualities that interact with light and emulate full scale atmospheric lighting. Smoke or haze diffuses the light and helps obscure the scale of light as well as creating depth through added atmosphere.

When I first experimented with using a smoke machine with miniatures, I noticed an enormous difference in the perceived scale and cinematic look of the miniatures: buildings just one metre from the camera looked like they were a great distance away. Shooting quick videos on my iPhone produced very cinematic results once smoke and haze were introduced to the set. An unexpected phenomenon happened, where the lights from the buildings produced glorious and dramatic thin beams through the haze. Tiny holes I had drilled in one of the models created dozens of pin hole light beams that shot off in multiple directions. Playing with a single bright LED, I discovered it appeared like a search light streaking through the sky as it produced a clear thick light beam though the smoke. Distant buildings looked like they were enveloped in smog with a haziness seen only seen when looking to the horizon in cities like Los Angeles or Mexico City. The diffusion of light bouncing off the smoke washes out details and gives the horizon a glary obscurity.

Smoke and haze can be emulated in post-production using several different software tools. I tried tracking a smoke asset onto one of the test shots of the city, and what it lacked was the interaction with the lights – what in practical effects is a delicate dance between obscuring the light too

much and creating voluminous beams. The diffusion of light affects the entire set: bringing up the ambient fill light and replicating the atmospherics of natural light. The light also bounces off the haze and is reflected onto the miniatures to give it a diffused fill. Late one night while driving on the freeway through a low fog, I noticed how the large roadside lights interacted with the fog and created a glow and amplification as they beamed up into the night sky. This blooming characteristic was something I wanted to emulate on the miniature set. It gave a sense of drama and majesty similar to the spaceships in *Close Encounters of the Third Kind* (1977)(8).

The haze became a crucial element I was determined to include in the shots; however, it presented a problem when shooting incrementally in long exposures in that it does not stay still during the exposures and photographing the haze incrementally results in a jumpy movement.

This has been a problem for many filmmakers shooting miniatures. During the miniature photography of Rivendell in *Lord of the Rings* (2001) (1), the crew found it difficult to keep a consistency in the fog over the time the miniature needed to be photographed. This is where the different time scales clash and present a visible rupture in the illusion. An atmospheric measuring device was created by miniature motion control specialist Chris Davidson to keep the smoke consistent. The device nicknamed the 'Smoke Sniffer' used an infra-red beam to detect and regulate the haze. This was also a problem for Doug Trumbull on *Bladerunner* (1982)(2). As Ridley Scott explains in his conversation with Doug Trumbull on the *Bladerunner* Commentary track:

> Doug Trumbull said – the problem is if I am doing one frame every five seconds for the five second exposure or if I have smoke in there that smoke's going to be moving so we will have flutter in other words the image – all that smoke is going to move and it's going to be terrible so we've got to find a way of seamlessly filling a space with smoke that never changes over a shot that might last for 17 hours.(9)

Ridley Scott describes the smoke as 'flutter' whereby it does not look consistent across the long exposures. Smoke is an element that can give away the mismatch between these different time scales as it is never static.

Trumbull invented a system of connected smoke detectors that triggered a system of fans that could move the smoke around. When the smoke detectors sensed the smoke was low, they would trigger linked fans to blow more smoke into the field of view.

With the help of Chris Wedlock we shot some motion control test sequences of the city miniature using the Chauvet 1D hazer machine in my studio. The shots were captured with a Canon 5D Mk4 at one second exposures with an aperture of F22 and an ISO of 1650. The results revealed the flutter Ridley Scott described. In the next tests we tried moving the haze machine away, but we still captured flutter. It looked like a blizzard of fast-moving snow rather than a haze. We then tried increasing the amount of haze, sealing up the studio and shooting longer four second exposures, hoping this would even out the movement of the haze and

result in an averaging of the density of smoke across the longer exposure. There was reduced flutter, however, the fluttering of the haze was still noticeable, and it was impossible to keep the density consistent from frame to frame.

Next, we installed the miniature in the professional studio at the university and sealed the room shut off the air conditioning. From previous tests we discovered that we needed to use a large amount of haze for the small scale of the miniatures. The largest models were only 1:87 scale, which is very small and therefore we needed very dense haze to match the scale. The haze was so dense we could not see more than two meters in front of us at which point we could only see the miniature through the camera feed studio monitor. We set up five haze machines and a system large industrial fan. To prevent haze moving across the set, we allowed the haze to mix in a curtained off-stage area of the studio we designated 'the mixing station', we would then let it naturally settle across the studio before starting the shot. We discovered even in a sealed room, the haze naturally dissipates and we needed to regularly pump more haze into the studio to keep up the density. For this we timed the haze machines to go off every two minutes for three second bursts within the mixing station.

While we did reduce the amount of flutter it was impossible to reduce it completely with models of such small scale. Large big budget film productions can build miniatures at larger scales such as 1:12 and shoot on large studio stages. The haze flutter phenomenon was further exaggerated by the smaller scales which revealed that haze itself has a scale particularly in relation to light.

Fig. 1 Behind the scenes image of myself and Chris Wedlock testing the motion control system in dense haze. Photo credit Liane Audrins.

5. Miniature Light

Some miniature action sequences can be photographed outside in 'real' natural sunlight. Using natural light is very effective for shooting miniatures as a scale model under natural light will look exactly the same as the same object in full scale. Unlike water and fire, sunlight does not have

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a discernible scale, at least not one that we can see with the naked eye. The way sunlight reflects off a miniature texture will look the same as its full-scale counterpart, as long as the texture itself is of a convincing scale. For this reason, many miniature action shots are photographed outside in studio backlots with either large green screen backdrops or lined up with an uninterrupted horizon view on top of a building or hill. Stop motion and live action VFX miniature shots that need motion control with long exposure, however, need to be photographed inside under artificial studio lighting for consistency and to avoid flicker as natural light changes over time. Though live action scenes shot on sound stages are also filmed in artificial light, miniatures present different challenges when filmed under artificial light. To achieve the depth of field required, miniatures often need to be filmed under very bright, and up to recently, hot studio lighting, which can cause delicate miniatures to warp and melt under the intense heat. To achieve a strong key light that emulates the sun, the light source needs to be very bright and at a large distance from the model. Distance and intensity of the key light is crucial when trying to simulate natural sunlight. If the key light is too close it will appear too large relative to the model, too dim and the light's fall off is diffused or weak. Achieving the right amount and diffusion of fill light is also difficult, because fill light is often bounced back onto the miniature from a stronger light source to simulate the ambient atmospheric natural light that is present during day-time. Many science fiction films including 2001: *A Space Odyssey* (1968) (10), *Star Wars* (1977)(11) and *Alien* (1979)(3) have strived to emulate the lighting in outer space by closely examining NASA photographs and foot-age. Outside of the Earth's atmosphere the ratio between fill and key light is completely different: without the atmospheric ambient light there is no fill light, resulting in hard, near-black shadows on a spaceship. Therefore filmmakers have had to take creative licence and add fill light for audi-ences to believe they are looking at real objects – as we are not familiar with looking at objects outside of the Earth's Atmosphere.

These complexities are true for full-scale live action studio lighting, and achieving the scale of light on a miniature set becomes very difficult. The beam and bounce of the light needs to be at a scale relative to the model. Small light heads with precision lenses like the Dedolight have been used for lighting miniatures as they can achieve a narrow-focused beam and be dimmed without being diffused or moved further back.

Lighting a night scene offers more forgiveness as the light can come from several different sources and angles. A night city scene, as I am creating in my film, can have a number of different 'kickers and back-lights'(5) that break up the shapes into a number of different patterns. Rim lighting has been used behind my laser cut 2D city background to create a distant glow and to separate it from the black background. Backlighting and cross-lighting help create depth and highlight small details(5).

One way around these challenges is to include miniature lighting with-in the models themselves. The model makers on *Star Wars* (1977)(11) placed tiny fibre optics inside the spaceships to emulate light from thousands of windows. This is known by cinematographers as practical lighting or 'prac

light'; light that is part of the diegesis of the shot. Using miniature lighting results in miniature light beams, reflections, and a relative brightness to the scale of the model. Internal lights in buildings have been used as far back as *Metropolis* (1927)(12) and *Just Imagine* (1930)(13) to create an impression of a city skyline. The combined use of miniature lighting and haze was used for the spacecraft in *Close Encounters of the Third Kind* (1977)(8) to give the ship a sense of complexity and ambiguity as it emerged from the dark clouds.

Practical lighting was used to illuminate my city scene and create the complexity and scale in the lighting design. These included internal building lights for the windows, miniature work lights and search lights. For the city model we used a combination of LED strip lights and diffusion and single LEDs. The Lighting Engineer, Alec Skinner, designed a system of printed circuit boards (PCBs) that were placed under the city and were capable of providing different voltages to different lighting systems. The PCBs could also be individually controlled via a switchboard to allow more granular control for shooting in the studio. As the miniature needed to be transportable and modular, a 12-volt electrical power system powered by interconnecting PCBs ran underneath, allowing single buildings to be placed anywhere on the layout and swapped around if needed. For the more complete solid buildings we placed the strip lights and wrapped the internal walls in diffusion to illuminate the windows. As we didn't want all the windows to be lit up, we blocked out specific windows from the inside with black tape in an uneven pattern to help break up the uniform nature of the buildings, making the light look more random, sporadic and therefore more realistic. For the industrial buildings and for the more skeletal broken-down buildings without internals, we used single LEDs that emulated spotlights or what we nicknamed 'point lights'. These were extremely bright LEDs that, when illuminated through haze, created miniature light beams. To help control the beams and direct the light in one focused direction, we designed and 3D-printed miniaturised snoots. Chris Wedlock designed a variety of snoots ranging from wide to narrow so we could choose what kind of beam we wanted on different buildings. Wedlock created a diffused cap where we didn't want a beam but a glowing point of diffused light. In a further iteration of the snoot, we used tiny 7mm lenses that Wedlock housed within the 3D printed snoots to further narrow and scale the beam.

These tiny light beams worked well with the scale of the buildings and were made more prominent and dramatic with the increased density of the haze. These small beams, however, did reveal concentrated points of haze flutter. A large light beam does not show this level of flutter in the haze, as I discovered, haze has a scale of particles that form noticeable whisps when miniaturized.

Fig. 2 Still image of the miniature city lighting. This image was taken with a long exposure to test the miniature lighting. The buildings contain LED strips diffused with paper in the windows. Also visible are the single LEDs with the 3D printed miniature light snoots. With the use of haze, narrow beams of light are seen cutting through the sky.

6. Miniature Cameras

Parallel to the timeline of miniatures in VFX and stop motion has been the miniaturisation of technology in general. The paradox is that cinema cameras were once too large and cumbersome to take out on location and much of early cinema needed to be captured within a controlled studio environment. Some of the first examples of miniatures in cinema where naval re-enactments shot in studio backlot tanks, with large sets being built inside large sound stages or studio backlots. Georges Méliès had glass ceiling studios to take advantage of sunlight within a controlled environment. The epics of the Golden Hollywood Age like *Ben-Hur* (1959)(14) were some of the first examples of miniatures used in the big studio Hollywood model due to the complexity and logistics of shooting on location. It was the large scale of early cameras that were partly responsible for the rise of the filmic miniature. With the added complexity of motion control rigs, periscopic mirror attachments needed to be attached to cameras filming miniatures so that they could achieve closer shots without knocking into the miniatures themselves. Movie cameras were too large for miniature tracking shots across the top of a spaceship or along the battements and towers of a castle. Mirror techniques were often used to achieve the close angles.

With the advent of digital cinema, the sheer physicality of the camera changed – it no longer needed to incorporate large magazines of physical celluloid film, and so digital cameras could be miniaturised. The stop motion feature *Corpse Bride* (2005)(15) used DSLR digital still cameras to capture frames, resulting in the use of smaller cheaper cameras that could get in closer to the action on a miniature set. On my earlier film *Journey to the Centre of the Mind* (2010), I found that I could remove the camera from the tripod completely and place it in the set with the character. This meant I could achieve more intimate shots from lower more dramatic and dynamic camera angles.

The filmic miniature came about due to the large size of the cinema camera, however, now that cameras have become miniaturised we have a new perspective of small worlds available to us. A probe lens passing through a lawn makes the blades of grass feel gigantic – like scenes from *Honey I Shrunk the Kids* (1989)(16). The new periscopic probe lens from Laowa allows minimum focal lengths and depth of field to get really close to small objects. The periscope function allows you to move it through a body of liquid and explore tiny worlds.

Once I had wrapped shooting the city miniature, I decided to set up a side experiment and capture the city in 360 degrees with the Zcam 360 camera. This was an opportunity to capture an immersive view of the set from all angles and get the camera in closer. Many of the very small details were lost in the principle shooting of the miniature because the camera needed to be further back from the set. The Zcam 360 is small and compact allowing it to get right up close to the models. We ran the camera through the scene on the motion control track. With the extreme wide angle and field of view, the camera could focus at a shorter distance and resulted in a far more immersive and up close view of the miniature environment. Many of the details in the water and detritus revealed themselves through the close-up shots. This shifts the perspective again as the

viewer can view the 360 video with a virtual reality headset and 'shrink' into the scene. In this respect the viewer is miniaturised.

Fig. 3 Still captured from the Zcam 360 camera. The size of the camera and wide-angle lens allows it to be much closer to the subject and pick up many of the small details missed in the principal shooting. The 360 view allows the viewer to be immersed in the miniature.

7. Conclusion

The construction and motion control photography of the city uncovered many fascinating insights into working with miniatures. When working at small scales, the phenomena of perspective, motion, time, atmosphere, light and camera size all play a crucial role. Not only do these elements play a part in the overall illusion of scale on screen, but the interplay between these elements is more complex and entangled than first thought. All these elements are linked to one another and all form part of what we see and experience in the material world. The results are not always obvious, lack of detail in a miniature can break the illusion of scale, too much detail in the distance can do the same. There is no 'real' time in stop motion animation and long exposure photography, the audience is experiencing a compression of time, not only in duration but a consolidation of different 'times' across separate and discrete motion control passes. Haze emulates atmosphere and distance but cannot be controlled, it moves in its own time and our attempts to capture it result in a flutter. Haze has a scale all its own as it interacts with miniature light. Light does not have a scale that we can perceive but the light source must be bright enough (while small enough) and the shutter speed long enough to expose the model with a deep depth of field. Filmic miniatures were borne out of the necessity to capture large environments on film when the camera was too big to take out of the studio. Now cameras have themselves been miniaturised and can be placed inside miniatures; this in turn miniaturises the viewer.

This creative practice research project demonstrates the material interplay between all of these elements when working with miniatures and can be applied to the cinematic field more broadly and how we, as humans, perceive the world around us.

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Discovering Surrealism in Animation: A Series of Case Studies

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Abstract

Surrealism is a genre of art that has its roots in the early days, from the early days of poetry, through painting, to film and animation. It is the idea of looking at the human subconscious and focusing on the inner thoughts of the human being to get inspiration for creation. From the beginning of the Surrealist movement came Surrealist cinema, which emerged to carry the universal artistic rules and main ideas of Surrealist art. The artistic characteristics of animation as a part of film and television also make it the perfect vehicle for Surrealism. With the rapid development of animation art, audiences are not only satisfied with the visual experience that animation films present to them but also pay more attention to the more profound expression of the human heart in animation art, so Surrealist animation can easily resonate with audiences [1]. This paper aims to explore the expression of Surrealist animation and analyse its characteristics from the perspective of the theoretical foundation of Surrealist art. The paper examines the subconscious, dream world, and space-time relationship in Surrealist animation. Furthermore, it also analyses the successful use of the Surrealist style in animation through several representative films, explores its unique time-space transformation and narrative structure, and further explores the development and artistic value of Surrealist animation.

1.1. Overview of the Surrealist style and the context of the period

Surrealism is a contemporary form of Western art that flourished in Europe during the period between the two World Wars and had a profound impact on the visual arts [2]. The movement's foundation can be traced back to the influential work of Sigmund Freud, a renowned psychoanalyst and physician, whose magnum opus, "The Interpretation of Dreams," played a significant role in the development of Surrealist art. The term "Surrealism" was first introduced in Andrew Breton's 1924 book, "The Surrealist Manifesto," which incorporated Freud's well-known psychoanalytic theory of consciousness as an essential component. This theory illuminates the unconscious or subconscious mind's behavioural activities from a medical standpoint and explains the surreal elements featured in Surrealist paintings and their manifestation in the real world. Consequently, this theory

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clarifies the surreal aspects of Surrealist paintings to some degree and acts as a metaphor for their existence in the real world [3][4].

The Surrealist movement emerged in the early 20th century and was heavily influenced by Sigmund Freud's theory of the subconscious mind [46]. The movement aimed to transcend the limitations of logical reality by merging the concepts of reality, human instincts, the subconscious, and the experience of dreams. Surrealist artists sought to create works that disregarded rational and moral constraints, using various techniques to convey primal impulses and unleash unbridled intentions [5]. The influence of Surrealism extends beyond painting to include photography, sculpture, film, and the visual arts more broadly. This avant-garde movement has had a significant and far-reaching impact on modern art, resulting in a vast and intricate evolutionary field with various derivations [6]. The pervasive nature of the Surrealist aesthetic is evidenced by the fact that any art, literature, or film that deviates from reality or is whimsically fantastic can be categorized as "surreal" to some degree [7]. The advancement of virtual reality technology has allowed artists to create immersive Surrealist experiences for audiences, further expanding the reach of Surrealist expressions. The incorporation of new technologies into the Surrealist tradition highlights the ongoing evolution of this artistic movement and its ability to adapt to new forms of expression [8]. The development of virtual reality technology, for instance, has allowed artists to create immersive Surrealist experiences for audiences, further expanding the reach of Surrealist expressions [9].

2. Literature Review
2.1 Surrealistic Painting

In the aftermath of World War I, Europe's economy suffered greatly, and artists with a keen sense of perception turned to art to comment on, resist, and escape from the harsh realities of the time. Rejecting human rationality, these artists sought to blur the line between reality and dreams and emphasize the value of the human unconscious and subconscious as a more authentic reflection of reality [10]. The resulting Surrealist paintings attempted to present a visual fusion of reality and dreams, creating an artistic style that was grounded yet transcended it [11].

Salvador Dalí, Joan Miró, and René Magritte are among the most well-known representatives of Surrealist painting, all of whom contributed to the development of painting during this period. Their works often featured bizarre, fantastical juxtapositions of everyday objects and unexpected combinations of forms, challenging viewers to question the boundaries of the rational world [Fig. 1]. These artists used their art to reject the status quo and explore the possibilities of the human imagination in ways that were previously unimagined. They sought to reveal the hidden truths of the hu-

Fig. 1 Lobster Telephone (1938), Salvador Dalí. Tate. Available at: https://www.tate.org.uk/art/artworks/dali-lobster-telephone-t03257

man psyche through their works, offering a new perspective on reality and the world around us [12].

It can be argued that Surrealist painting has its roots but ultimately seeks to break away from it and the rational human mind. Instead, Surrealist painters draw upon the dream state and the subconscious as sources of inspiration, emphasising the importance of mental activity beyond conscious awareness. As a result, Surrealist painting moves beyond traditional representation methods and strives to create works of art that transcend reality, both in terms of form and content [4]. Based on this concept, the distinctive pictorial language of Surrealist painting is primarily manifested in breaking the spatial patterns of conventional objects, dismantling their common shapes in everyday life, and then reorganizing these fragments into a completely new artistic image [14]. An example of Dali's Surrealist technique is demonstrated in his masterpiece, "Premonition of Civil War (1936)", Dalí employs his method in the painting by contorting the massive limbs into an outline of a map of Spain [Fig.2]. The painting is of a body tearing itself apart and forming a frame in which the middle is just emptiness set in the backdrop of a clouded sky, suggesting an impending storm. This Surrealistic approach results from the artist's use of Surrealist language to recreate reality [29]. Though Dalí intended this painting to comment on the horrors of the Spanish Civil War, he did not openly stand side with the Republic or the fascist regime [47]. Another notable work of Dali is "The Persistence of Memory (1931)" [Fig. 3], a concatenation of incompatible or unrelated dream-like objects placed in a synthetic landscape and used for symbolic purposes. The painting was shown at his first exhibition in America (1934) and caused an immediate sensation.

Fig. 2 Soft Construction with Boiled Beans (Premonition of Civil War)1936, Salvador Dalí, Philadelphia Museum of Art, Available at: https://philamuseum.org/collection/object/51315

Fig. 3 The Persistence of Memory 1931, Salvador Dalí, Museum of Modern Art, Available at: https://www.moma.org/collection/works/79018

In this painting, as in many others, Dalí's photographic realism is put in the service of a variety of ordinary objects subjected to distortions of scale and physical consistency: the hard is made soft (the infamous melting watches), the soft hard, the person's profile on the ground, softened like a jellyfish thrown up on the shore, shares the scale of the cliffs in the distance[30].

Another representative figure is Reno Magritte, whose painting "The Wrong Mirror 1928" depicts a patch of blue sky containing luminous white clouds. Moreover, it is not clear where this skyscape lies. It seems to be in several places: inside the eye and on its surface as a reflection or as an image affixed to the eye itself [31]. Therefore, this painting is, even more, replacing and blurring the boundary between "reality" and "illusion". In this way, the Surrealist movement extended beyond visual art to influence a broad range of creative endeavours. The movement's impact on various mediums continues today, with Surrealist influences visible in contemporary art.

Fig. 4 The False Mirror (1928), Rene Magritte, Museum of Modern Art, Available at: https://www.moma.org/collection/works/78938

2.2 Surrealist Film

Whether it is reality or surreal, from a visual arts perspective, a place or a space is needed to represent such a situation. Freud saw dreams as the realisation of the human subconscious in the dream world, and whether applied to painting or animation, the dream world is undoubtedly a good bridge between reality and fantasy and its representation [21]. In his book "The Interpretation of Dreams", Freud introduced the concept of psychoanalysis by explaining the 'dream state' in a new light. Since then, many artists have been depicting scenes from artworks about dreams, the unconscious and the subconscious. Freud saw cinema as a cultural form in which the content of the human mind is directly presented in the film. Freud's psychoanalysis delves into the realm of dreams and the subconscious and serves as an "internal mirror" of human beings [22]. Conversely, cinema acts as a "reflective mirror," reflecting people's realities and allowing them to expand their horizons to the outside world. Most films present an entirely fictional story, even if some elements are based on life, which the director often adapts for cinematic effect and dramatic conflict. This fictional world allows individuals to see themselves and all beings from a different perspective, stimulating endless imagination in artistic creation.

Artists, therefore, embarked upon a new realm of creative exploration, leading to the widespread expansion of the surrealist style across various artistic domains. This movement boldly introduced dreams, the unconscious, and the subconscious into the realms of galleries and screens, allowing these previously intangible concepts to manifest in tangible and visually captivating forms [20]. The audience is subjected to visual stimulation through the portrayal of an alienating scenario and the presence of absurdity, which simultaneously prompts a fresh interpretation of aesthetics [33]. The strangeness and absurdity of the imagery in Surrealist visually stimulate the viewer while providing a new understanding of aesthetics, representing a significant advancement in both form and concept. Furthermore, cinema and psychoanalysis emerged almost simultaneously. Early filmmakers utilized editing and special effects to generate surreal imagery. A prime example of such imagery is Luis Bunuel Portoles' cross-collaboration with Dali, "An Andalusia Dog (1929)" and "The Golden Age (1957)", created in twenty centuries, which served as a

prototype of Surrealist imagery. Dali contributed some shots to this film, including cutting the eye beneath a cloud. The film lacks internal logic and instead expresses itself through an irrational dream world, which perhaps reflects the inner worlds of many. Surrealism has contributed various narrative functions and forms to film.

With the advent of the digital age, animation has taken on a new appearance. Certain commercial films exploring the realm of surrealism have succeeded in attracting attention. One such example is the 2010 film "Inception", where dreams and the subconscious are made visual and closer to the audience. And another notable example is Tim Burton's masterpiece, "Alice in Wonderland (2010)", which utilized numerous animated elements to create a scene that is unachievable. The sequel, " Alice in Wonderland 2: Through the Looking Glass (2016)" faithfully maintains the stylistic essence of its predecessor, fostering a continued exploration of rich imagination and audacious creativity. This cinematic endeavour succeeds in constructing a novel and captivating world that emanates an eerie and aesthetically striking sense of wonder [Fig. 5]. It is not arduous to encounter a substantial community of artists who have embarked upon portraying the realm of dreams, surrealism, and the manifestation of the unseen, chaotic, and disordered aspects of the subconscious. This artistic endeavour entails transposing dreams that deviate from reality into visual representations. Surrealism, in essence, operates as a catalyst that obfuscates the demarcation between the dream world and reality [33].

Fig. 5 Alice in Wonderland 2: Through the Looking Glass (2016), James Bobin, Available at: https://www.youtube.com/results?search_query=Alice+in+Wonderland+2%3A+Through+the+Looking+Glass

2.3. Overview of Surrealist animation
2.3.1. The Extension of Surrealist Painting in Animation

Dali once said "The art of animation is an extension of Surrealism" [28]. As an art form, animation possesses a remarkable capacity for expressive storytelling and other artistic expressions [34]. Its inherent Surrealism is derived from the animation creation process, allowing for the development of exaggerated and distorted designs and bold and bizarre story structures that align seamlessly with the tenets of Surrealist painting [15]. Integrating Surrealist concepts into animation art offers a broad range of

creative opportunities and enhances the ability to express oneself artistically. A noteworthy illustration of this is exemplified by the renowned company, Disney. Over the years, Disney has generated a substantial body of exceptional works, starting with the creation of a mouse character. This initial portrayal underwent a gradual evolution, eventually transforming into the iconic, highly stylised design that we recognize today. The progression from its original representation to its current cartoonish form transcends the boundaries of its initial manifestation, signifying a continuous process of creative refinement and condensation.

Paul Wells has asserted that the fantasies of reality depicted in animated art are inherently surreal [16]. In his book, "Understanding Animation," Paul Wells delves into the concept of hyper-reality in animation, specifically examining the animation produced by Disney. Wells contends that Disney's animation can be classified as hyper-real, serving as a benchmark against which other animations can be compared. Wells' research shows that many of Disney's characters are not merely realistic portrayals of the physical world, but products of reflection and artistic manipulation based on reality. Incorporating surreal elements in animation is thus a deliberate creative choice contributes to the medium's unique aesthetic. For example, we are familiar with the animated stars of the Disney Company: Mickey Mouse, Donald Duck, Daisy Duck, Goofy.

Salvador Dali collaborated with the Walt Disney Company as early as 1945, which led to the experimental animation Destiny only coming out in 2003. In fact, the project was dropped in the second year of Dali's collaboration with Disney. The Surrealist style of painting, which inspired the animation's concept, is known for its obscurity, while Disney, as a commercial entity, had to consider audience demographics and revenue generation, which was eventually completed with the help of Disney's nephew [35]. Another notable figure in the realm of surrealism is Jan Svankmajer, who employs grotesque and alienating visuals to convey a surrealist space. Svankmajer uses grotesque and alienating visuals to present a Surrealist space, creating an absurd and humorous atmosphere from the mix of live-action animation and the combination of black and white and colourful colour representation [Fig. 6]. Additionally, Priit Parn has produced numerous animated works that adeptly bring elements of the surreal genre to life. A notable example is his widely acclaimed film, "Time Out 1984", which, despite its brevity, is replete with fantastical imagery. In this film, the boundaries between objects are blurred, as glasses transform into eggs that subsequently hatch from eyes [Fig. 7]; the film also challenges our perception of familiar elements such as the horizon, mountains, and water, presenting them in unconventional ways. Moreover, Parn pushes the boundaries of

Fig. 6 Faust (1994), Jan Svankmajer, Available at: https://www.imdb.com/video/vi3852845337/?ref_=tt_vi_i_2

imagination by portraying the mouth of a crocodile as a tool resembling a saw. Collectively, these elements contribute to an abundance of unexpected and unconventional elements within the film, captivating viewers with its surrealism and imagination. These experimental animations ignited a wave of enthusiasm in the 20th century, drawing the active involvement of numerous contemporary Western artists in their creation. The artistic style of these animations injected new vitality into the field of experimental animation at the time and established the groundwork for its subsequent development [13]. Notably, these works broke free from the traditional narrative conventions of animation in terms of visual style and storytelling, thus giving rise to a novel form of animated art. This integration signifies the successful convergence of surrealism and animation.

3. Findings

3.1. Representations of Surrealist Animation

3.1.1. Interventions Using the Metaphorical Function of the Dream World

Freud saw dreams as the realisation of the human subconscious in the dream world, and whether applied to painting or animation, the dream world is undoubtedly a good bridge between reality and fantasy and its representation [21]. Animation, as a very accessible form of expression, offers a fertile medium for crafting illusions [48]. In contrast to cinematic works in the general sense, animated films, in addition to having the essential property of audition, can establish a space and time based on reality, but with an emphasis on imagination, due to their uniqueness in terms of narrative language. Given that animation allows for the compression and transformation of time and space, it substantially disrupts the confines of rational reality, thereby providing the premise for the accommodation of illusion[49]. Therefore, drawing upon Freud's psychoanalysis as a theoretical foundation, the art of animation thus met this need; this emerging artistic expression provided numerous artists of that era with the fresh subject matter and a new artistic direction. Early animation underwent continuous experimentation and exploration, with many works drawing inspiration from surrealist paintings. This approach not only defied conventional norms but also enabled animation to break free from traditional modes of expression [1]. Many renowned directors and animation masters we are acquainted with today, such as Jan Svankmajer, Priit Parn, and the Quay Brothers, serve as exemplars of surrealist animation. Western experimental animation and Surrealist paintings share a fundamental conceptual commonality - they seek to unveil the world of the human spirit rather than simply portraying tangible reality, they display a keen interest in the subconscious, desires, dreams, and fears of human cognition [17].

In Svankmajer's 1988 animated film "Alice," a unique retelling of the classic Alice in Wonderland story is presented. The main character, also named Alice, is depicted as a girl playing in her room when a rabbit suddenly interrupts her, leading her to quickly change clothes and chase after the creature. Instead of the familiar Wonderland portrayed in traditional fairy tales, Alice follows the peculiar rabbit through a drawer and rapidly enters an alternative world. Through meticulous directorial choreography, Svankmajer completely transforms every aspect of the original narrative. The once charming rabbit takes on a more unsettling role, wielding scissors to cut off heads. Similarly, a sock caterpillar now wears unattractive false teeth and doll-like eyes, while a needle thread sewed eyes [Fig. 8]. This adaptation demonstrates the diverse and transformative effects that the dream world can evoke in cinematic storytelling. Svankmajer fearlessly challenges the conventional expectations of fairy tale adaptations by deviating from a prescribed happy ending and offering a fresh interpretation in line with contemporary sensibilities. Through imaginative endeavours like these, the dream world serves as an extraordinary conduit, connecting disparate realms and enabling novel artistic expressions.

Fig. 8 Alice (1988), Jan Svankmajer. Available at: https://www.youtube.com/watch?v=Bnbd 1exbIco

Another noteworthy director in this context is Satoshi Kon, whose 1997 work "Perfect Blue" deserves special recognition. Satoshi demonstrates remarkable skill in utilizing animation as a medium to portray the interplay between reality, dreams, and the subconscious. Among his limited filmography, it certainly set the tone for his work [37]. The film revolves around the idol Mima Kirigoe, who experiences prolonged periods of anxiety and confusion regarding her fragmented identity. A series of hallucinations, illusions, and imaginative sequences blur the boundaries between her dreams and reality. Under the director's control, the film seamlessly transitions between different temporal and spatial dimensions, expertly disorienting the viewer's sense of time and space, thereby amplifying the overarching themes of "delusion" and "dream." Satoshi utilizes the dream world as a conduit that links the realms of reality and the subconscious, employing audio-visual artistry and editing techniques to traverse the ambiguous border between the two. The film follows three parallel narratives: Mima's unwavering determination to become an actress, her encounters with intimidating threats, and the harassment she endures while working as an actor. A blog serves as a portal to Mima's bewildered and tumultuous mental world, with her room acting as the point of entry. She transitions from one situation to another, awakening in her room only to find herself immersed in a different mental state. Satoshi effectively utilizes the dream world to explore the character's spiritual dimensions and the intricate relationship between dreams and reality.

There are many other films that use dreams as an entry point, but in the context of surrealist themes, the dream world is an essential expression of the work. The director often suggests the division between reality and the dream world through symbols and exaggeration to suggest that it is a dream world. Through a particular space transformation, the film allows reality and dreams to form a cross-narrative structure, thus blurring the border between fantasy and reality and allowing the dream world to shift freely with reality [25].

3.1.2. Strongly conscious subjective Authorship

The fusion of surrealist aesthetics with experimental animation often yields creations characterized by a remarkable artistic style [38]. One such example is the Quay Brothers, celebrated animators who have garnered attention and acclaim since the 1980s. Their works possess an ethereal quality, evoking a sense of unease, enigma, darkness, and avant-garde sensibilities. Through the utilization of fragmented narratives and logical ruptures reminiscent of dreams, the Quay Brothers cultivate a highly distinctive artistic vision. An exemplary illustration of their style is found in "Crocodile Street (1987)" [Fig. 9]. The narrative unfolds with a man spitting on the lens of an antiquated projector, transporting the audience to a dusty alternate realm as the aging contraption springs to life. Screws twist out of objects, taking on an autonomous existence, while peculiar machines engage in repetitious tasks devoid of purpose. Furthermore, a young urchin infuses life into inanimate objects, endowing them with movement. Throughout the film, an abundance of illogical elements prevails, with screws and light bulbs randomly rolling about and puppets devoid of brains and eyes, resulting in an absurd and bizarre visual tapestry. Undoubtedly, the film embodies a pronounced surrealist essence while showcasing a distinct personal style, exemplifying one of the defining characteristics of experimental animation.

Fig. 9 Crocodile Street (1987), Quay Brothers. Available at: https://www.youtube.com/watch?v=nW3dW4yMLfE

Another prominent animator who exhibits a strong personal style is Svankmajer, as seen in his adaptation of Mozart's opera "Don Juan." Employing stop-motion animation featuring unconventional and disconcerting puppets, Svankmajer deviates from traditional notions of cuteness. This deliberate choice accentuates the dark and surrealist elements inherent in his work [Fig.10]. In another production, "Surviving Life," Svankmajer ventures into the exploration of new materials, incorporating plush dolls and leather-made toys alongside puppets. While he has experimented with a diverse array of materials throughout his extensive body of work, puppets consistently reappear as a motif. The presence of puppets contributes to

Svankmajer's unmistakable surrealist style, as these figures carry historical associations with witchcraft and were primarily employed for religious sermons during the medieval period in the Western world. This association undoubtedly imparts Svankmajer's works with a mystical and macabre dimension [39].

Many of Svankmajer's films bear unmistakable personal traits, as exemplified in works like "Faust" and "Punch and Judy."

3.1.3. Interlaced Space and Time

Surrealist animation is closely related to Surrealist painting, yet it has a broader scope of expression due to its ability to encompass dimensions of time and space that painting alone cannot [23]. Firstly, it transcends reality through its story structure, allowing for an expansion of space. For instance, the work of Japanese director Satoshi Kon, "Perfect Blue (1997)", established the eerie style of his work and effectively used animation to express reality, dreams, and the subconscious. The animated film "Paprika" explores the boundaries between dreams and reality, as dream sets switch between hallucination and reality throughout the film. The story delves into the subconscious mind of its characters, such as Konakawa Sheriff's childhood memories and Chiba's journey into someone else's dream world. Meanwhile, beyond the window lies a world created by the delusional old councillor's dreams.

Fig. 10 Don Juan (1970), Jan Svankmajer. Available at: https://www.youtube.com/watch?v=DBWHpY1sXGE

Director Satoshi Kon masterfully combines dreamlike sequences with realistic imagery to express the meaning of the film across time and space. Through his use of surreal elements, Kon challenges the viewer's perception of reality and invites them to explore the depths of the human subconscious. "Paprika (2006)" is a prime example of how the fusion of dreams and reality can be used as a powerful tool for artistic expression, blurring the lines between the two and creating a unique and captivating visual experience.

Secondly, Surrealist animation often includes images rich in metaphors and suggestive qualities. For instance, in "Paprika (2006)", a colourful procession of moving debris (wastes) constantly weaves in and out of the picture, increasing in size as the plot unfolds. The waste in the animation serves as a metaphor for a nightmare, symbolizing the chaotic and disordered subconscious. When one returns to reality, everything becomes grey again, and the colours shift to low saturation, a surreal expression that breaks the bonds of reality and wanders back and forth between dream and reality. The reality and the dream world instead of changing the hues of the environment in the dream world, Satoshi Kon makes the whole dream world colourful, which is like our real world, thus showing that he blurs the border between reality and the dream world, making the whole cinematic space more transcendental to reality [40].

Masaaki Yuasa stands out as another remarkable figure in this domain, as his films brim with fantastical narratives that defy conventional rules of reality, embracing deformations and unattainable worlds [41][42]. An exemplary testament to his distinct style is found within his filmography, where he injects his idiosyncratic fantasies into the diverse array of characters, often depicting direct interactions between human consciousness and unreal realms. The film "The Night Is Short, Walk on Girl (2017)" takes the protagonist on a journey encompassing the four seasons of "spring, summer, autumn, and winter," masterfully condensed into a single night by the director. The narrative employs the stark contrast between day and night to delineate the boundary between reality and dreams. Within this whimsical nocturnal realm, the heroine navigates through bars and parties, where the stage transforms into a realm of revelry and liberation. The director's focus extends beyond mere physical settings, delving into the emancipation of suppressed souls and the stirring of authentic emotions experienced by individuals during these extraordinary events. Through this portrayal, the film reflects the genuine inner sentiments of diverse individuals who rebel against the constraints of reality, grappling with the sorrow of separation and the loss of love through exaggerated dance postures, contorted bodies, outstretched arms, and distortions that serve as cathartic expressions of their negative emotions [Fig. 11][43].

Subsequently, the protagonist attends a festive celebration at a tavern held in honour of her previously unknown grandfather's 60th birthday. Amidst this gathering of the elderly, the narrative delves into the underlying anxieties associated with the passage of time and the inevitability of mortality. The group engages in contemplative discussions concerning the profound meanings of "life," "living," and the "end of life." However, these apprehensions ultimately dissipate amidst the exuberant revelry of the "dance of sophistry." Through this captivating fusion of music and dance, the film delves into the intrinsic human yearning for a purposeful existence, the relentless pursuit of freedom, and the unabashed quest for joy.

Fig. 11 The Night Is Short, Walk on Girl (2017), Masaaki Yuasa. Available at: https://www.youtube.com/watch?v=yVW-3wxNw4c

The work exhibits several notable characteristics. Firstly, it liberates characters from the confines of traditional norms, allowing them to defy societal expectations. Secondly, the characters engage in actions and utterances on stage that depart from their usual behaviour, resulting in comical situations. Language and behavioural norms hold little sway over these characters. Masaaki Yuasa adeptly employs visual distortions and exaggerated performances, effectively constructing a surreal and unreal environment. By skilfully blending elements of reality and illusion, the director provides the audience with a truly unique artistic experience.

3.2. The Artistic Appeal of Surrealism in Animation-- Richer Expression

Animation is a unique medium in that it is not bound by the constraints of reality or the physical world, and offers a wide range of possibilities for ar-

tistic expression. Surrealist animation brings together various disciplines, creating a structure that transcends time and space, and engages viewers' subconscious thoughts with powerful audio-visual experiences [25].

For a long time, animation was predominantly viewed as a form of entertainment, serving as a precursor to film rather than a medium for artists to convey their creative concepts. However, the introduction of Surrealism into animation can be seen as a transformative moment in the medium's history. Experimental Surrealist animation, represented by artists like Svankmajer, challenged the traditional notion of animation as a form of mass entertainment and explored social commentary and the subconscious mind in their works, pushing animation into new artistic realms.

Today, Surrealist animation continues to inspire and influence contemporary animators, offering a unique and powerful means of exploring complex themes and pushing the boundaries of artistic expression. Through its fusion of diverse disciplines and innovative techniques, Surrealist animation has transformed animation from a form of entertainment to a highly respected and influential art form [44]. This has resulted in a diverse range of possibilities for animation, allowing artists to express themselves more freely and without constraints, using the medium to communicate their innermost feelings and ideas. The Surrealist style is adept at conveying irrationality, fantasy, and absurdity [26]. Many Surrealist works prioritize the presentation and exploration of the audio-visual language of animation over plot development and causality. Much like a Surrealist painting, this personal and innovative approach to animation is not intentionally grotesque or obscure. Instead, it represents a departure from the commercial norms of the industry and emphasizes the need for ongoing exploration and innovation, extending the Surrealist ideology. The result is a more introspective and artistic form of animation.

4. Conclusion

Surrealism's fanciful colours and eclecticism significantly impacted 20th-century aesthetics and breathed new life into literature and art. Although Surrealist animation is underrepresented in the current animation field, the energy created by the creators through the unique expression of Surrealism shows different artists' aesthetics and ideas and has high artistic value [27]. They use the Surrealist art concept: starting from the inner spiritual world of human beings and presenting their subconscious in the picture through the intervention of dreams, bringing the audience a new audio-visual experience. Under the influence of Surrealism, it is possible to think outside the standard logic of the narrative structure of traditional animation, which undoubtedly expands the freedom of creation and inspires the creators to come up with more innovative ideas [28]. The animation genre is characterized by its fantastical elements, including incorporating dreams and the subconscious and the ability to transcend time and space. This freedom transforms fantasy and reality seamlessly, creating unique artistic beauty. Furthermore, the success of contemporary films in the surrealist genre suggests that incorporating additional surrealist ideas and elements in films is likely to attract greater attention and viewership [45].

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Practice diary for animation: a reflective tool for the practitioner, researcher, and educator

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Abstract

This article examines the experience and outcomes of conducted research project that employs autoethnographic action research methodology and uses a practice diary as a key method to gather data. Practice diary, as a critical reflection tool, although becoming a widely accepted and used method in various research fields such as humanities, creative arts, education, clinical trials, and healthcare, have yet to find footing in animation studies. Findings suggest that a practice diary helps to conduct more profound, more thoughtful engagement in the research process and, as a result, helps to transform tacit knowledge into explicit form. The article concludes with recommendations on employing a reflective practice diary when conducting an action research project.

1.Introduction

A reflective diary or journal[2] is a flexible method that can be used with qualitative methodologies such as (auto)ethnography, phenomenology, hermeneutics, semiotics, and narrative inquiry and as a research tool to gather quantitative data. Furthermore, Blaikie [1], in his text on research design, identified that in social sciences research alone, there are 12 different designs: experimental, survey, fieldwork/ethnography, comparative/historical, case study, content analysis, observation, simulating and gaming, evaluation research, social impact research and action research. In other words, a diary can easily be moulded to suit different research designs. However, in this paper, I will focus only on the reflective diary method when applied along with the action research methodology.

The action research study is a very organically suited research approach for animation practitioners, researchers, and educators, as its goal is to solve problems and make changes, as opposed to traditional research approaches concerned with creating theories and testing hypotheses [2]. Thus, as Schmuck [3] observes, "Reflection and action research are two sides of the coin of planned change". Yet, the reflective diary is an extremely under-used method among animators. Hence, this article aims to raise awareness of this method by examining the experience and outcome

2 Although, as Bassot [4] argues journal and *diary* can mean slightly different things, in this article they are used interchangeably.

of the conducted research, sharing insights into this research approach, and outlining its potential use in animation.

In this methodological article, I will begin with a general overview of the reflective diary as a qualitative research method. Secondly, the article will demonstrate its application in animation studies through an example of one concrete animation research project (that employs autoethnographic action research methodology). Thirdly, I will examine the experience of the research project and outcomes regarding my animation research, practice, and pedagogic processes. Finally, I discuss the relevance of this method for the animation field and propose practical recommendations on how best to adapt it for animation researchers, practitioners, and educators.

2. Literature review

At its core, a diary is a document created by an individual seeking to maintain a regular, contemporaneous, and personal record [5]. However, Klimova [6] expands the definition of a diary by adding that people can write their thoughts, ideas, feelings, or experiences (interactions) in this document. Thus, based on individual needs, a diary can be shaped and formed into various formats that vary in detail, level of personal commentary and reflection, regularity or even medium used to record entries to suit the researcher's, practitioner's, or educator's needs. Also, a diarist may explicitly write for a specific audience – for personal use, specifically for the scholar, or to be consumed by the public.

Alaszewski [5] argues that the diary method can help overcome the disadvantages of conventional methods (such as interviews) by providing more accurate and thorough data, as the diarist writes his entries shortly after the event or experience transpires. In other words, this method "is designed to minimise recall and memory errors and cognitive strain" [7]. Another important strength of this method is that diarists not only increase their observational skills [8] but also perceive events in a less personal, more objective way [9]. Furthermore, journaling can assist diarists by providing an avenue for addressing the theory/practice gap [10], [11]. Thus, dairy is a vibrant and effective method in its capacity to capture phenomena of interest when it requires regular study in context, depth and over time [12].

But, like any method, it has not only strengths but also weaknesses. First, the quality of the diary's content is directly linked with the diarist's ability to observe, identify patterns and, not least, express them in a constructive, critical, and straightforward manner. As well, journaling requires a considerable amount of dedication [13]. Furthermore, although the diary is usually identified with intimate privacy, in the context of research, it becomes not only a publicly available document but also one where every thought and feeling of the diarist is examined and analysed in detail. That may invoke a strong feeling for the diarist to self-censor and to remove or amend any aspects that may shed light in unfaltering light. Another serious drawback of the method is that people consider completing their professional diaries an effort (and, thus, a task they are unwilling to perform) [14]. And finally, then there are also ethical consid-

erations – how to portray events in an autobiographical study that involves other people without providing them with the opportunity to defend or explain their stand [15], [16], [17], [12].

However, the most significant challenges this method still faces are continuous questions and doubts about the findings' scientific validity [12], [5]. In other words, from the position of the positivist and empiricist, it is improper for the researcher to take the observer's position and observe [12], [16]. And this sentiment has strong roots even among researchers working in social and artistic fields. In addition, in some cultures, the diary is perceived as a highly private activity attributed to specific social roles. For example, in Western cultures keeping a diary can be viewed as somewhat of feminine and juvenile activity [12].

However, researchers extensively used quantitative diaries in medicine and healthcare to record symptoms, prescribe treatments, and identify the realities of treatment in an individual patient's life [19], [20]. Education is another research field where a diary is used extensively and successfully. Studies revealed that by using diaries, students could facilitate the language learning process [21], [6], increase students' understanding and enhance their learning process [22].

The situation in the animation field, however, is quite different. Not only the method of reflective journaling is absent in all key animation literature, but even the thought process of a practitioner is not addressed clearly for the readers [23]. Furthermore, the review of UK doctoral theses in the animation field and the employ of creative practice as research methodology revealed that, although few researchers mentioned in passing that they are taking notes, not even one formally included a diary in their methodology. Interestingly, the most revealing doctoral thesis was written by [23] Lo-Garry, who interviewed animation industry practitioners and identified that the industry does not motivate animators to document their insights about conducted practices and experimentation. Furthermore, the animators feel that documenting their techniques and animation studies would interfere with their primary work – animation content production. Witch is counterintuitive because for the creative practitioner (e.g., animator) to excel in his field (and, thus, move upwards in one's career), he must acquire them through observation, practice, and evaluation (result interpretation) [24].

And lastly, I would like to review recommendations presented in the literature on using various techniques and tools to acquire knowledge through practice. First, diarists should always have a clear understanding of (i) what is the goal of the practice diary and (ii) what aspects of practice should be recorded in the document before even starting the diary [12]. It is important to note that when one employs action research methodology, it is usually to acquire data on how to solve a particular problem or improve the quality of processes and results. In other words, the reflective practice diary approach is used when one's goal is to seek creative ways to improve one's practice and general understanding.

Once the diary's goal is established, the following steps are to identify what kind of format the diary will be in – what medium will be used, how often and detailed entries will be, what is the timeframe that entries will be

recorded, and what aspects of the practice will be reflected. For the format of the entries themselves is helpful to use Gibbs' [25] model that proposes a cycle of six key stages: ((1) describing what happened, (2) an examination of feelings and thoughts related to this, (3) evaluation of the positive and negative aspects, (4) subsequent analysis where sense is made, (5) conclusions drawn regarding what else can be done, and (6) action planning – involving actions that may be applied with future re-occurrence.

For a reflective diary to work, constant inner dialogue must challenge the practitioner's beliefs, underlying assumptions, biases, doubts, and uncertainties [21]. Only then can reflective practitioners become decision-makers who develop thoughtful plans to bring new understanding into action [26]. Finally, there is an aspect of ethics. A reflective diary should not aim to present reflected events or interactions with other people as objective data. Also, a diary should always aim to preserve other people's identities anonymously.

3. The practice diary in use

The author of this article employed the diary method to collect rich data for a qualitative long-term research project that uses autoethnographic action research methodology. The research project aims to explore and gather insights about the phenomenon of erotica (and, to an extent – pornography) in 2D animation with a heavy focus on aesthetics. The reason for choosing the qualitative autoethnographic approach for practice-led research was that early in the research, it was identified that self-censorship plays a vital role in the animation industry. Thus the quantitative approach to understanding the element of aesthetics in animated erotica was not suitable.

The decision to use the diary was made upon completion of the literature reviews. It was identified that by taking an action research approach, the reflective method could help identify the strength of the self-censorship effect when producing erotic animation content. A rationale for using a diary to collect data (rather than other methods such as focus groups, interviews or observation) is that the topic of animated erotica (and pornography) could be uncomfortable for the participants. Also, with the interviews, participants may be unable to recall events or feelings. As the literature suggests, many animation practitioners could have created mental justifications for why they don't need erotic elements to tell their stories. In other words, because of the nature of self-censorship, animators could not perceive the avoidance of erotic themes in their work as something negative or limiting.

It is important to note that I will not present conducted research findings in this article. I will only use the research project as a case study to present insights into the practice diary method and its possible applications to animation practitioners, researchers, and educators. By the point of composing this article, I had used the practice diary for 18 months and produced 90 pages (over 38 thousand words) of content. It is important to note that the research project is still ongoing. And although this is a research project that aims to answer specific research goals, over the 18 months, I started to notice positive outcomes regarding my pedagogical work with animation students and my personal animation practice.

The chosen format of the diary was a digital document in which I would reflect in and on action (during the creative task and after it is finished). At the beginning of the document, I wrote (a) the rules of engagement and (b) the goals of this practice journal. The first page provided six rules for conducting the reflective journaling process. Here are a few examples from the rules set:

1. Write openly and do not hide any thoughts, doubts, or mistakes. The success of this journal depends only on my openness to myself.
2. Describe all events within 24 hours or note that they are written later. However, always aim to write as soon as possible.
3. No content editing after writing. The only exception is grammar error correction and only with priority so that written thought would not change in any way.

The second page describes the research goals I try to achieve with the practice diary. However, as my research project employs action research methodology, the research goal (research questions) changes in reflection on gathered data. In other words, my research goal has shifted a few times based on gathered insights about the phenomenon.

Every single entry in the diary has five data points: (i) date, (ii) task name, (iii) comments before starting, (iv) comments during the task, and (v) comments after finishing. However, because some entries are not about the practice work itself but about the practice reflection process (e.g., meetings, feedback or presentations), these entries, naturally, would not provide comments on the action. It is important to note that "comments before starting" establish my goals with the specific practice task, the challenges, and how I will approach them. Thus, the final segment of the entry is always a critical reflection of how I succeeded in achieving my goals and what worked and what did not. And, if it applies to the task – what would be my approach to a similar task in the future? Finally, during the task, I would document my thought process, creative approach, mind-task results etc. This section is usually the largest text-wise as it functions as the raw data that will help me later to analyse overall creative and thought processes and determine how to improve them.

It is important to note that developing the necessary skills to identify what is worth recording took time. In addition, learning how to present any practical failure without shame or excuse also took time. Thus, with time and continued reflection practice, diary entries became more constructive, objective, and valuable.

4. Results and Discussion

Three qualitative groups of outcomes and insights emerged from the collected data. These groups were: (i) the reflective diary method met all expectations to explore the phenomenon of self-censorship and the exploration of erotic aesthetics in animation media; (ii) the diary provided tools to better identify the correlation between creative decisions and in turn, transform knowledge that would be otherwise implicit into explicit;

and, finally, (iii) reflection on animation practice helped to breach theory and practice gap and look for better practice solutions.

Further in this chapter, I will present the outcomes and insights for each identified group.

4.1. Practice Diary for animation researchers

It is important to honestly admit that I, from the very beginning, did not trust this data-gathering method. It felt that gathered data would be too subjective and unsuitable for constructing any argument acceptable in the academic field. In other words, I was biased towards this method before even learning anything about it. Another vital element was that I felt that a diary is an extraordinarily juvenile and feminine activity. And to be more precise, that diary is suitable for little girls reflecting on their feelings, and not for serious academic study. And although this perception was quickly shattered with a simple literature review, it did stick into my memory of how cultural programming can affect the rationale of choosing research design.

However, once a literature review on the method was conducted, I, per recommendations, established goals for the diary and formatted how and what data I will document in my diary. Although the course of the research did shift a few times, the diary format changed very little and fully met all study needs by employing this method, as it was able to gather rich data and identify essential aspects of the phenomenon. For example:

1. What psychological and physiological sensations are evoked by the desire to produce erotic and pornographic animated content?
2. How long does it take to break away from the shame of producing erotic content?
3. How other animators react to the opportunity to produce erotic content.
4. The difference in an emotional state when conducting (what could be called) academic study and when I am producing an erotic shot.
5. Etc.

It is safe to argue that these insights would not be possible without the reflective practice diary method. And most define tell it is not something that could be gathered with a quantitative research approach. However, this type of research design requires dedication, discipline and embracing vulnerability for the method to gather data that can create new explicit knowledge.

4.2. Practice Diary for animation educators

Surprisingly, in this aspect, the used pf practice diary method produced the most significant and fastest qualitative difference in professional life. And it is important to note, not because of the increase in my technical animating skills but because of better critical understanding and increased communicative abilities. In other words, the practice diary helped me to identify bet-

ter causality of taking creative decisions and helped me to articulate better.

To illustrate this, I will use one of my very first animation practical exercises I recorded in my diary – the walking cycle. And although my goal in doing this exercise was not to learn how to animate a walking cycle but to research and gather data about my feelings toward animating nude characters, I was quickly surprised how taking notes helped me better understand why some of my decisions worked and some did not. But most importantly, how reflection on practice helped me better explain my decisions' causality. And these newfound skills were quickly tested in my classroom, where I could now communicate potential solutions to my students significantly more efficiently.

Thus, by reflecting on my animation practice in the diary, I could transform an implicit type of knowledge into an explicit type of information. Furthermore, because of the need to provide a clear explanation of causality in the diary, I improved my analytical and communication skills. Finally, and arguably the most surprising thing is that the positive effect of the diary appeared very quickly – just in a few weeks.

4.3. Practice Diary for animation practitioners

It is important to point out that for the practice diary method to work for animation practitioners, it has to be used as a rich data-gathering tool to conduct action research. In other words, it is all about the animator's goal to actively and purposefully search for a better way to conduct practice. The diary method simply allows us to take the most out of the process.

The most significant change in my animation practice due to the reflective journaling process was a change in my mindset – because of the diary, I stopped perceiving failure in my practice as an unwelcoming outcome. In other words, once I started to look at creative outcomes that did not meet my aesthetic or quality expectations as just another data set, it helped me establish causality and, in turn, improve my animating skills. Furthermore, I realise that before employing the reflective diary method, I would subconsciously lean towards my creative comfort zone because any unsatisfactory creative decisions would, in my opinion, mean loss of time, money and prestige. Thus, passively impearling my ability to level up, so to speak.

Another meaningful change in my mindset was that I started to construct not only goals for the creative task but also form hypotheses. In other words, I was not only identifying what I wanted to achieve but also constructing a premise that could be tested by the end of the creative task. And at the end of the creative task, I would conduct a small analysis to see how my hypothesis held up and, if it did not – how it should be amended for the next time. In addition, I was astonished at how the reflective process helped to breach the theory and practice gap. This happened because I would form my hypothesis based on some theory, and the results of the creative task would also help me to identify if I had misunderstood or not completely grasped the theoretical approach to animation practice.

The third significant aspect of having a reflective practice diary is having a written document of all gathered insights. Memory is a funny thing

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when it comes to creative practice – if one is not constantly practising, the skills can fade. However, looking over one's notes is an incredible help to at least recapture through the process. However, it is necessary to admit that the reflection process does take a sufficient amount of time. Thus, animation practitioners, by employing this method, must accept that he or they will produce less animated content. However, in the long run, a practice diary does provide a boost to skills and knowledge. Furthermore, it provides communicative skills that are necessary for any supervising position.

4.4. Discussion

Reflective journaling is not a magical pill that will instantly help animators to become better practitioners, researchers and/or educators. A few conditions need to be met if one hopes to achieve a positive effect using this method. But, on the other hand, it is hard to ignore how well-suited and natural this method is for the animation field. Furthermore, the method has quite a few positive byproducts that affect no matter for what purpose it is used– research, educational or practical skill improvement.

Of course, there are a lot of elements that precondition distrust for the method. First, there is a positivist stand that is suspicious of the subjective qualitative research approach in general [12], [16], [5]. And one does not get more subjective in research design than employing the autoethnographic methodology. However, there are research questions that not only is this method the best to gather data, but arguably the only way to acquire answers. Then, there is a misconception that a diary is a feminine and juvenile activity [12]. Finally, practising a diary is time-consuming, requiring critical thought, regularity, and embracing failure. Thus, especially for animation practitioners, it may seem like a very costly method, for benefits that will be evident only further down the road.

However, experience and outcomes from the presented reflective practice diary case showed that this method has great potential in animation. Of course, the substantial lack of animation literature on this topic also means a considerable knowledge gap regarding the procedures, formats, and general research design principles. Only with more animation study cases and, if you will, reflection on reflection will this method be able to form research design paradigms.

The presented study case suggests a diary format tailored explicitly for conducting research in the animation field. This diary format was successfully applied not only to achieve my research goals but also provided a noticeable positive impact towards my animation practice and pedagogical activities. However, it is necessary to point out that there were a lot of important elements at play for the method to provide valuable outcomes – from the ability to construct clear research goals to a willingness to follow its own rules. Even willingness to embrace failure can be vital to the method's success.

Another important aspect regarding the method that needs to be addressed is that the reflective practice diary method may not be for every animator. The conditions that need to be met for this method's benefit may not be acceptable (for whatever reason). Furthermore, this method can not work if it is forced on someone.

I would also like to address one more possible application of a reflective practice diary within animation – students. Literature review revealed that this method has vast success in the context of education [21], [6], [22]. Thus, one can make an educated assumption that this approach could be a valuable educational tool in helping animation students grasp the intricacies of this art medium. Not to mention that journaling can assist students by providing an avenue for addressing the theory/practice gap [10][11]. However, for this method to have any positive effect on the educational process, first, the educators must not only believe in it but also have sufficient experience with it. In any case, this avenue requires empirical testing before forming any conclusions.

Finally, it is worth coming back to the current situation. There could be many possible explanations for why this method is underused in animation. Still, the fact is that the method is exceptionally well suited to study animation, be it for research purposes or to increase one's mastery over the medium. Thus, I would like to encourage other animation researchers, practitioners, and educators to employ this method to increase the understanding of the medium and be able to share that knowledge better.

5. Conclusion

In conclusion, this article has provided insight into using reflective practical diaries in qualitative autoethnographic action research as a data collection method. In addition, this article has provided an overview of how the reflective practice diary method can be a precious approach to conducting qualitative research in the animation field, a tool to improve practical skills effectively, and a device to help develop communicative and pedagogical skills to provide better guidance to animation students. Finally, this article aimed to showcase how the method can provide rich qualitative data to provide solutions for change and improvement.

However, this method must first beat quite a few misconceptions in the animation field in order to be accepted even as an option. Also, it is critical that this method would be tailored to specific research goals. And even then, this method will not be suitable for all animators, as it requires specific personal traits, willingness to accept vulnerability, not to mention dedication to long-term commitment. Finally, more discussion, exploration, experimentation, and research are needed to formulate research paradigms for the animation field. However, the reflective practice diary method exhibits promising applications in animation.

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Stylization as a Tool for Empathy: Diabetes Education Through Gamified Animation in VR

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Abstract

In this paper, we discuss our ongoing project to explore how scholarly research, evidenced-based medicine, and artistic intervention can be combined to develop a heightened educational experience in VR concerned with type 2 diabetes. Specifically, this relates to the potential that dietary change can hold for preventing, managing, or even reversing the development of the disease. We will focus particularly on how our decision to move away from the photorealistic design style taken by many VR experiences towards stylized animation has shaped our approach to delivering factual information alongside creating a visually appealing, enjoyable immersive game experience. We will demonstrate the theory behind our project with reference to three elements of our design process – character, interactive storytelling, and setting – to provide insights into our ongoing game development and approach to animation.

1.Introduction

In 2016, the Singaporean government declared 'War on Diabetes,' rallying the island nation to work together to tackle the rising prevalence of the disease with the help of a series of education and awareness initiatives [1]. It has been calculated that almost 10% of the country's 5.5 million population were affected by the disease in 2020, and as such, reducing the number of cases and associated complications will offer considerable benefits on the level of both public and personal health [2].

Fundamental to attempts to combat the rising incidence of type 2 diabetes is concern with promoting healthy living, specifically encouraging individuals to increase their levels of physical activity and to make informed dietary choices. Central to any attempt to transform dietary habits in Singapore requires engagement with the institution of the hawker centre. Hawker centres are food complexes housing many stalls that sell a range of cuisines at affordable prices. It is estimated that 80% of Singaporeans eat out at hawker centres more than once a week [3]. With analysis showing that people who usually visit hawker centres consume

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around 10% more calories than those who seldom eat out, efforts have been made by the government to introduce healthier food options and highlight that with the right knowledge of nutrition, it is possible to make more informed choices regarding hawker food [4].

It is within this context that we embarked upon the project *A Choice for Life – Education about Diabetes in a Fully Immersive Environment* (VR) which is delivered through a partnership between the School of Art, Design and Media at Nanyang Technological University and the National Healthcare Group, Singapore, and supported by an MOE (Ministry of Education, Singapore) Tier 1 research grant. The interdisciplinary initiative has brought together practicing doctors, medical researchers, game developers, and artists to work towards the production of an experience in Virtual Reality (VR)[3] in which players visit a virtual hawker centre and are tasked with making food choices within an immersive, animated environment. They can choose to visit a range of stalls or a convenience store and select food and drink items to consume, receiving feedback on the consequences of their dietary choices through a series of emoticons which represent different emotional and health states. Whilst the game's central narrative aims to guide players towards making food choices and engaging with the consequences of these decisions, they also have the chance to explore the visually appealing, interactive, environment and engage with a range of NPCs[4] to shape their own in-game experience. Currently, the project is at the prototype development stage.

In the majority of existing VR applications or games, the potential that the medium holds for representing a sensorial perception of the 'real' world results in photorealistic renderings of environments and characters. The belief is that this visual approach supposedly leverages the unique potential of VR storytelling to allow viewers to identify with, and feel empathy towards, the characters and situations on display [5]. We argue, however, that the use of non-photorealistic rendering (NPR)[5] and stylization can in fact better serve the purpose of an empathetic engagement when it comes to educational health topics. Avoiding the effect known as the 'uncanny valley,'[6] our approach removes itself from the divide that exists between striving for full replication of 'reality' and the possible failure to achieve it. Instead, our designs for characters, assets and environment embrace stylization, attempting to not only avoid failed aspirations of realism but also to add an additional level of engagement through taking

3 Virtual Reality provides a computer-generated 3D environment that surrounds a user and responds to their actions, usually through immersive head-mounted displays. Gartner: Virtual Reality (VR), https://www.gartner.com/en/information-technology/glossary/vr-virtual-reality

4 NPCs (non-player/playable characters) are controlled by the game itself. Players may be required to interact with them to advance the storyline, or they may simply be present in the background within the game environment. Rouse, M: Non-Player Character, Techopedia, 2 Nov. 2011, https://www.techopedia.com/definition/1920/non-player-character-npc

5 NPR is defined as 'depiction techniques which do not aim to convey photographic realism' such as 3D rendering with cel shading which simulates cartoon style, simulation of traditional art media and artistic styles, and technical depiction of objects with an emphasis on clarity over realism. Lopez-Moreno, J.: Non-Photorealistic Rendering. In: Luo, R. (ed.) Encyclopedia of Color Science and Technology. Springer, Berlin, Heidelberg (2015)

6 This term, first coined by Japanese robotics professor Masahiro Mori in 1970, posits that the closer an object is to resembling a human, the more positive an emotional response it garners – that is, until a certain point is reached, beyond which the viewer response is more likely to come in the form of discomfort or distrust. Tinwell, A.: The Uncanny Valley in Games and Animation. A K Peters, New York (2014)

a warm and organic quality to the design approach, capable of creating the 'attractive design that includes high-quality graphics, sounds, and animations to more deeply immerse a player into the game' identified as important for a successful health game [6].

The friendly, lightly humorous style of our design fits with the overall tone of our experience, which aims not to create an environment or narrative in which users feel as if they will be punished or negatively impacted by failing to make 'correct' choices. Instead, we wish to establish the sense that our virtual environment allows for enjoyable and 'safe' experimentation and education. Seriousness, as it were, is guaranteed by the accuracy of the medical and nutritional facts our research partners provide – not by suggesting a 'fake reality' that can only remain a misleading mirage in the first place. Our style follows the concept of authentication for VR established elsewhere by the authors in collaboration with Weber, which posits that the use of non-realistic imagery deliberately reveals the artificiality of the environment, thereby enabling the user to critically interrogate the presented content and to autonomously decide about the relevance of the facts that inform the game [7].

1. In the body of this paper, we will more deeply explore our creative process to answer to the following research questions:
2. How can stylization and use of NPR serve to create empathy towards characters and environment in an immersive animated game?
3. What shape should a gamified narrative take to best encourage players towards actively discovering healthy nutrition options within the context of local hawker centers?
4. In what way can medical facts inform a game narrative and artistic creation and work to achieve heightened user engagement and real-life behavioral change?

We will explore three specific elements of our game development – interactive storytelling, setting, and character. As well as outlining the technical and artistic development that has underpinned these case studies, we also hope to draw attention to how artistic research can intersect with ideas drawn from healthcare and technology to create a virtual experience which aims to enact real-world behavioral change. We conclude by outlining the next steps for our project, and offering our reflections on how scholarly research, evidence-based medicine, and artistic intervention can be combined to achieve a positive impact on one of the major health problems in Singaporean society.

Before delving into the specifics of our ongoing research project, a wider overview of preceding theory and practice will provide context as to the potential of VR serious games to engage with diabetes prevention and management, and firm up the research gap we are looking to explore.

2. Literature Review

The potential that VR holds for medical education on the part of both doctors and patients has already been widely explored in theory and practice

[8] [9]. This exploration is based on the argument that head-mounted displays in particular facilitate a higher level of knowledge gain than non-immersive educational approaches [10]. Type 2 diabetes has become a 'study case' in virtual reality research as a result of its prevalence, and the way that it can be controlled through diet and exercise [11]. In their review of existing serious games designed for diabetics, Makhlysheva et al. categorize existing games into three types – physical activity oriented, educational, and nutrition focused [12].

Existing VR experiences which fall into the final category often focus predominantly on rewarding 'correct' choices. One such game asks diabetic players to take on 'The Evil Cake tribe' – unhealthy food such as sweets, cakes and french fries are categorized as 'enemies' for the impact that they have on blood sugar levels and framed as something that must be 'overcome' [13]. Another example of a diet-focused diabetes game is HealthSeeker, developed in partnership between Harvard Medical School and Boehringer Ingelheim Pharmaceuticals, which 'combined a supportive social networking environment with important information on managing diabetes for adults living with diabetes or who are prediabetic' [14]. Players are immediately rewarded with positive feedback for 'successful' behavior, with the game using terms such as 'mission' to create a clear sense of expectations that needed to be met. Other games integrate food choices with data relating to blood glucose readings, which creates a numerical sense of 'good' and 'bad' in absolute terms. One example is Human Games' VR experience Diabetes 360, in which players guide a diabetic patient through their everyday life and view the impact that decisions have on their glucose levels – perhaps therefore better framed as a life simulator rather than an entertaining game experience [15].

In principle, these games offer a commendable approach as they aim to embrace the ability of gamified experience, and VR in particular, to immerse viewers in an alternative reality in which they can engage with diabetes management. However, this logical intent is somewhat let down by its artistic implementation, which in many cases has been judged as 'graphically clunky,' failing to 'fully take advantage of what VR is capable of' [16]. Diabetes 360, for example, is notably 'blockish' in its approach to environment, and its main form of interaction is with a user interface (UI) that consists of simple, flat, 2D icons. A survey of both commercial games and academic research projects indexed with Google Scholar suggests that there is still work to do to create a graphically appealing and narratively engaging combination of characters in environments that realize the full potential of immersive player engagement.

Our project aims to combat this by creating a graphically cohesive universe of relatable and appealing characters that interact with a fully immersive environment. This allows us to highlight the potential that a graphically unified VR world can offer for adults with, or at risk of developing, diabetes. Our overall approach aims to close the identified research gap to create something new, firmly grounded in a consideration of a specifically Singaporean context, with an innovative emphasis on examining the connection between visual storytelling and its educational impact. How this is achieved in visual and narrative terms will be explored in the rest of this paper.

3. Insight into Visual and
Technical Development: Characters

Song et al. have demonstrated how the use of avatars in a virtual experience can affect player behavior and increase levels of enjoyment, particularly for individuals anxious about the limitations of their real-world, physical body [17]. Similarly, Makhlysheva et al. state that 'the use of avatars allows for a combination of individual players' needs as well as the promotion of socialization, networking, and the players' inclusion, which in turn contribute to users' motivation to interact with the game', positing that a successful serious game should include avatar characters which 'reflect the player in the game' through customization [18]. Creating empathy and identification with the avatar is particularly important for our project, in which we aim to provide the participants with knowledge that they could transfer from the virtual world to their lives beyond the game.

With this in mind, we worked to develop a range of avatars to be used within our virtual experience. A process of avatar selection creates a sense that the character which the player is embodying within the VR experience shares qualities with them, specifically relating to their food habits and dietary preferences. Our avatars reflect diversity in race, age, gender, and body shape to reflect the context of contemporary Singapore and the target audience of our experience – Singaporeans between the ages of 21 and 69 years who have been diagnosed with type 2 diabetes or identified by their doctors as being at risk of developing the disease. Our character design approach is firmly rooted in a heightened level of abstraction. Across the broad field of design, the concept of minimalism and 'less is more' is widely accepted as a way to increase attention levels and successfully engage audiences with content being presented [19].

Fig. 1 Selection of character designs for avatars and NPCs

As fig. 1 demonstrates, priority is given to displaying a wide variety of body types, genders and ages that rely primarily on basic geometric shapes instead of providing unnecessary anatomic detail. Computer graphics long strove for 'increasing realism in rendering, surface representation and movement,' however we would argue that the soft painterly quality of our textures emphasizes the deeply universal human concerns that are at the center of our research [20]. Indeed, stylization and abstraction further act as a reminder that the game environment exists as a 'safe' space in which decisions can be made and learning can be carried out without direct real-world health consequences.
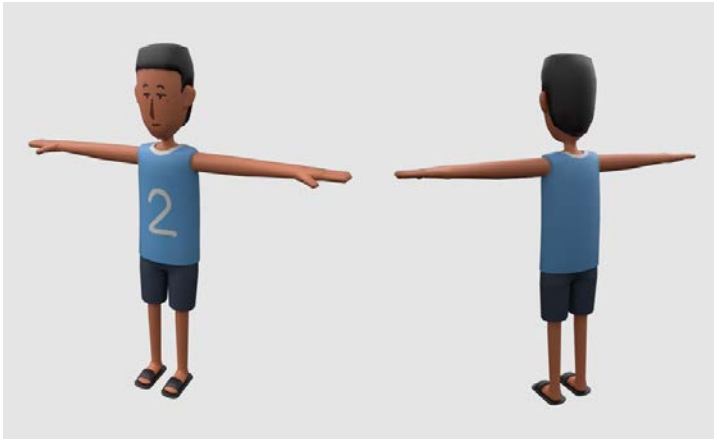
Fig. 2 Modelled character for insertion into VR environment.

The consequential application of these design concepts across all characters also creates cohesion throughout. Our idea was to offer a character cast that would invite any user through its inclusive approach. The presence of diverse NPCs in the environment of the hawker centre will also create a surrounding that is deeply familiar and easily identifiable for Singaporeans.

4. Insight into Visual and Technical Development: Interactive Storytelling

Having assembled our cast of characters, the next logical step was to develop the gameplay for our immersive experience. Our intention was to create an overarching narrative which offers opportunities for players to tailor their experience based upon how they choose to move within the hawker centre, and what food and drink they select. This allows for the overall educational aim of our game – to inform players about the consequences of food choices – to be retained, whilst also creating a sense of world discovery which increases the contribution that can be made by creative visual design.

As outlined above, we wanted to avoid a simple binary of 'good' vs 'bad' food to reflect the complexities of diet management for diabetes and increase the enjoyment level in the game. However, as the aim was to create an experience which provided users with knowledge gain regarding the impact of dietary choices on their health, we needed to incorporate some way of indicating the health consequences of an in-game choice. After much creative discussion and consultation with the medical professionals on our project team, the decision was taken that this could be achieved through the adoption of a series of emoticons. These offered us a visually whimsical yet scientifically informed way of providing feedback on a player's food choices within the game. Using such emoticons supports the view of Makhlysheva et al. that a successful health game must offer 'interactive, visualised game feedback on a player's action in the

game' as it 'contributes to the player's experiential learning with regard to various health behavior models and their projected outcomes as well as the adjustment of game strategy' [21]. Five emoticons were developed, to reflect varying 'health states' which are impacted by dietary choice. Rather than providing a numerical reading or a 'bad' or 'good' outcome, the body's reaction to the chosen food items is instead reflected through playful animation loops (fig. 3).

The emoticons are present in the UI from the moment the player enters the virtual environment, appearing in a neutral state until the player has either walked around the hawker centre for some time without making a choice, or chosen what they would like to eat or drink. Over the course of the in-game experience, players will interact with hawker stalls and the convenience store environment to select and consume food and drink, selecting from a range of objects with differing nutritional contents. When a player selects a food or drink to consume, the emoticons will react accordingly. The emoticon reactions are scientifically grounded – for example, we envisage that if a player eats a slow-release carbohydrate with a lower glycemic index, their hunger and energy icons will retain a positive state for longer than if they consume a high sugar item such as a juice or dessert, which might also reflect a negative effect on their health even if it increases happiness. At the conclusion of the game, the player will receive a summary of the decisions they have made, with some reflections on how this has impacted the various health indicators represented by the emoticons as well as informing them how the choices they have made might relate to the prevention, development, or management of diabetes. This is framed in a way that supports our overall approach to narrative – the purpose of the experience is not to criticize or pass judgement on players' choices, but to show them how adjustments to their decisions in both the virtual and real world can have a significant impact on their overall health risks.

Fig. 3 Designs for health emoticons and their various responses to in-game choices.

5. Insight into Visual and Technical Development: Environment

The setting of the hawker centre was of fundamental importance to creating a distinctly Singaporean experience that would allow local participants to understand the requirements of the experience and translate the lessons learnt to their real life. Our approach to design for the environment and assets placed within it thus needed to evoke the familiar setting of the hawker centre to allow participants to easily and immediately relate to the setting and the experiences that they were having within the virtual world. However, whilst these elements needed to be sufficiently familiar

to ensure that users knew how to act and interact within the experience, they needed to be different enough to guarantee that exploring the game environment remained an attractive and novel experience.

Stalls were designed to represent the typical range of cuisines found within a hawker centre, yet with a playful, stylized approach to logos and names. The layout of the space closely resembles the spatial organization of a real-world centre, however, adjustments needed to be made to suit the requirements of VR. Smaller spaces were left between stalls to limit the requirements for walking, which can be an unnatural and somewhat laborious experience for users unfamiliar with virtual environments. Whilst hawker centres usually have open sides, we chose to enclose our space to prevent players venturing outside the main area and retain overall focus on the central narrative. We also chose to increase the food available beyond what is commonly found at neighborhood hawker centres– for example, the inclusion of a sushi stall and a convenience store– to further increase the educational potential of the experience.

When it came to the design of assets such as food and drinks, we took a similar approach. Color schemes, logos and symbols were chosen for food items which clearly evoked real-world brands, yet also demonstrated a whimsical sense of derivativeness which we hope will amuse the players within the game. However, they also display accurate, scientific nutritional information drawn from their real-life counterparts to facilitate translating the information gained in the game to real life experiences.

Fig. 4 Real-world (L) and in-game (R) chicken rice stalls. Photograph: author's own.

6. Conclusions

Our paper has laid out the interdependency between medical and factual accuracy, narrative gaming approaches and visual development. The research and creative production so far have been guided by a tightly knit conversation between all interdisciplinary stakeholders: we are paying considerable attention to detail, not only in nutritional and medical information but also in integrating accurately observed details of hawker centres to create a strongly localized game experience. We have combined this accuracy with a design that integrates appealing stylized characters within an ac-

Fig. 5 Examples of food items to be placed within in-game convenience store.

curately observed, non-photo-realistically rendered, environment. We posit that this well-established design strategy[7] will increase player engagement and therefore heighten the efficacy of the communication of medical facts.

As our game is currently still at the level of prototype development, our focus is on working towards the creation of an initial playable version which can be experienced by a selected group of patients. Looking to the future, we are making plans to allow a larger group of patients identified by their doctors as having diabetes or being at risk of developing the disease to try out the game, and subsequently evaluate the impact that it has on their real-life behavior. With the help of our medical science collaborators, we have already created specific questionnaires and surveys, which will address two main lines of enquiry: the use of the game itself, its appeal, and its potential for informing players on the nutritional aspects of diabetes prevention and management; and more specific questions that collect information about medical and nutritional details. i.e., influence on dietary regimes that might occur on the basis of engaging with our project.

With further narrative and technical development, we hope that it might be possible that the actual age/weight/race of the player can inform how their avatar reacts to the food within the game. Medical professionals highlighted that it is important to embrace the potential that VR provides for offering more personalized approaches to care [22]. There are different ethnic variations in diabetes prevalence, for example, whilst the food choices required of an elderly person or someone who is pregnant must be adapted to consider their age or condition [23]. It is hoped that in the final version of the game, the participant will be able to select an avatar that even more closely matches their own situation in both their physical appearance and reactions to food, and thus develop informed knowledge of dietary choices and approaches to diabetes prevention/management suited to their specific context.

Our aim was to unpack the interdependencies between communication intent and the iterative design approach for our character and environment designs, whilst also providing insights into our integrated interdisciplinary research approach that connects the requirement of accurate medical information with corresponding decisions in narrative and visual development. By doing so, we not only hope to have offered suggestions towards best practice but also framed this within the larger context of highlighting the potential of expanded animation to enhance medical knowledge and address contemporary global health concerns.

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7 In the world of comics, Belgian artist Hergé (1907-1983) established the use of 'semi-funny' characters combined with stylized yet realistic depicted backgrounds. This style later came to be known as *Ligne Claire* (a term coined by Dutch artist Joost Swarte in the 1980s). The same approach can be seen (in different iterations) in the majority of today's mainstream animation including almost all the modern-day CG Disney and Pixar features (e.g. *Up* (2009) or *Zootopia* (2016)). See Gaumer, P.: Dictionnaire mondial de la BD. Larousse, Paris (2010); Swarte, J., Labé, Y-M.: "*La ligne claire est une technique plus qu'un manifeste,*" Le Monde, 19. Oct. 2010. https://www.lemonde.fr/culture/article/2010/10/19/la-ligne-claire-est-une-technique-plus-qu-un-manifeste_1428243_3246.html.

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Plasticity in Stop Motion Animation: The case study of "Memorable" by Bruno Collet

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Abstract

Stop motion films, in general, challenge in a positive form a peculiar perception of sensing materiality and physical bodies, textures and space in a very different approach. In this paper, we analyze a stop motion film from 2019, with 12 minutes long, called "Mémorable", from the director Bruno Collet, which was nominated for an Oscar in 2020. The film tells the moving love story of a couple whose husband suffers from Alzheimer's and who registers in his paintings his condition and progression of dementia. His paintings become a fractured mirror of forgotten memories and almost not legible representations, while the film itself acquires a sense of evolutionary deconstruction of the stop motion technique into a materiality that resonates the brush of a painting. Content, aesthetics and animation technique are combined in a symbiotic and semiotic approach derived from its theme. In order to better structure our analysis we use a qualitative methodology following the model of analysis created by Peres, C. (2019) [1] to better understand stop motion films. Along with conceptual structures such as story, graphical structures such as materiality, and animation structures such as continuity, our objective is to identify key concepts, patterns of occurrences and exceptions that might originate a research concept or theory on stop motion films. The final objective is to find out what sets it apart from other films by its original approach of transforming the rigid materiality of stop motion into a vivid portrayal of reality.

01. Introduction

"Memorable" is a stop-motion animated short film directed by the French filmmaker Bruno Collet, released in 2019. The film garnered significant attention from film festivals and received several nominations, including the 2020 Academy Award for Best Animated Short Film. It won the Grand Prize at the 2019 Annecy Animation Festival and the César Award for Best Animated Short Film in 2020, as well as other awards at international film festivals such as the Lumière Award, the Annie Award, and the Jury Prize at the 2019 Cannes Film Festival. The film's narrative, visual impact, and emotional depth were widely recognized and celebrated, contributing to its critical acclaim and success.

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The film tells the story of an artist, Louis, afflicted by a neurode-generative disease, Alzheimer, that impairs his memory and distorts his perception of reality. With the companion of a life, his wife Michelle, they are caught in a dance of forgetfulness and remembrance. Each passing moment, Louis loses his grasp of reality, while the world around him transforms in his hands and in front of his eyes. Despite Louis' attempts to cling on to his memories, his notes become a flood of confusion. Michelle watches with sorrow as her beloved's illness even dulls his artistic talent. Yet, even when Louis no longer recognizes Michelle, he still sees her as a fluid, living work of art, dancing with her in a seamless, flowing rhythm until she dissolves into shimmering points on the horizon.

The film, animated in stop motion technique, involves using real objects, which are photographed in small movements, frame by frame, to create the illusion of continuous motion. According to Pilling, 2010 [2] stop motion animation has the ability to evoke a sense of materiality and texture that is challenging to achieve through other animation techniques. This aspect contributes to the dense and tactile atmosphere of the film, making it a unique form of storytelling. According to Wells, in films related to memory, there is an occurrence of emotions, feelings, and states of mind that are particularly difficult to represent through images in live-action. (Wells, 1998, [3]). Thus, stop motion emerges as a possibility to preserve the materiality of reality while also harnessing the potential illusion created by animation films. Moreover, as Wells points out, animation is not necessarily concerned with physical reality, but rather with metaphysics - the meaning that we attribute to our experience of reality. This meaning, however, does not need to be epistemological, as animation can operate in a "primitive mode," which explores the sensory aspect of consciousness. Animation has the potential to highlight pre-linguistic knowledge, rather than reinforcing the Cartesian notion of "seeing is believing." (Wells, 1998, [3]).

During the development of the film, "Memorable" a more playful and poetic perspective of the stop motion technique is applied. Along the film a disintegration is explored, in an extra layer, which is only possible through a specific differentiated stop motion technique. Purves asserts that stop motion animation is remarkable for its non-fluid character and inherent imperfections resulting from manual production, which elicits an emotional response from the audience (Purves, 2018, [4]). Also, values imperfection as an essential element, as handcrafted objects possess textures, imperfections, and flaws that distinguish them from the smooth surfaces of traditional animations. This notion of imperfection parallels the fallibility of memory, which is a pliable field prone to distortions and forgetfulness.

In this paper we overview an analysis on how the plasticity of stop motion is used and its differentiation aspects used in this film.

02. Animation Methodology
analysis and case study

The used methodology is the result of Cátia Pere's Ph.D. thesis, during which the model was developed (Peres, C. (2019) [1] with only a few adaptations on the terms. Overall, the model refers to ground theories and

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concepts in animation analysis that go from Sergei Eisenstein [5], Norman McLaren [6], Hayao Miyazaki [7], Paul Wells [8], Berger [9] and Umberto Eco [10]. Its objective and function is to structure and consolidate information about a key concept, theme, film, author or subject in animation to better analyze a case study through a list of variables. The model can be accessed in Appendix I – Model of analysis [1].

02. 01. About Conceptual Structures

When approaching the film analysis on its concept and theme, the word dementia is one of the most prominent. Dementia is a term used to describe a decline in cognitive functioning that impacts a person's ability to perform daily activities. Alzheimer's disease is the most common type of dementia, accounting for 60-80% of cases (Alzheimer's Association, 2022 [11],). According to the World Health Organization, 2021 [12] there are currently around 50 million people living with dementia worldwide, with approximately 10 million new cases diagnosed each year. The increasing prevalence of dementia highlights the urgent need for effective prevention, treatment, and care strategies.

In recent years, films and other forms of art have been used to depict the experience of dementia and Alzheimer's, with the goal of challenging stereotypes and reducing stigma surrounding these conditions. Baer and colleagues, 2017, p. 91 [13] noted in their study on the representation of dementia in popular films that "the use of film as a tool to create awareness and educate the public about the realities of dementia is an important and necessary component of public health."

"The Father" is a touching and thought-provoking 2020 live-action film directed by Florian Zeller, which delicately portrays the moving story of Anthony, an elderly man struggling with dementia, desperately trying to hold on to his independence and sense of reality, while his daughter searches for a caregiver. Similar to the film "Memorable," "The Father" skillfully explores the emotional and psychological impacts of dementia on individuals and their relationships with loved ones. Overall, both films offer poignant and powerful depictions of dementia and the impact it has on individuals and their families. Another example of addressing the theme through art is the experimental music project "Everywhere at the End of Time," released in 2016 by English artist Leyland Kirby, which explores the progression of dementia through six albums documenting different stages of the disease. Each album presents a blend of samples, noises, and ambient music to portray the deterioration of memory, cognition, and identity that accompany the progression of dementia. The fragmentation seen in the music project "Everywhere at the End of Time" is also reflected in the film under analysis, as the character undergoes a metamorphosis, transitioning from realism to impressionism and ultimately to a state of nothingness.

In the realm of animation, there is a wide array of short films that delve into these profound subjects. Some examples include the 2D film "Late Afternoon" (2018) directed and written by Louise Bagnall, the 2D film "El ladrón de caras" (2013), helmed by Jaime Maestro, and the 2D

film "Life without Gabriella Ferri" (2008), crafted by Priit and Olga Pärn. Additionally, the 3D film "Napo" (2020), under the direction of Gustavo Ribeiro, also delves into similar depths. Furthermore, similar to "Memorable", "La Valigia" (2014), directed by Pier Paolo Paganelli in collaboration with Associazione Evoé and Studio Croma, stands as a testament to how stop-motion animation can be employed to explore intricate and emotionally heavy themes. An example of a feature film is "Arrugas" (2011), directed by Ignacio Ferreras, which serves as a poignant adaptation of the graphic novel "Rugas" by Paco Roca. This cinematic work portrays the intricate nature of dementia and aging. All these references address a contextualization to our subject and animation films which approach the creation of awareness around the topic of dementia.

2.1.1. Origins, Motivations, Inspiration

In the case of "Memorable", the inspiration for the film relates to the true story of the American painter William Utermohlen (1993-2007), who suffered from Alzheimer's condition and whose artistic trajectory left a profound impression on the director, Bruno Collet. Utermohlen's work is mostly known Postmus and mostly by the sequence of self- portraits that accompanied the progression of his Alzheimer disease. The paintings from that late period reveal a disintegration of form changing from more figurative (in early stages of the disease) into more abstract and disform states (in late stages of his disease), which progressively barely capture the elements of the face, and metaphorically his identity and sense of self. The sequential portraits below (fig.2) from the artist register a self-artistic documentary collection of works.

Fig. 1 Self-portraits from the American painter William Uter-mohlen (1993-2007)

In Collet's film we also witness the progression of a deteriorating state of the protagonist's disease, which is demonstrated in the content and story, but as well in form and in the movement in the film. Aesthetically and artistically the film changes its forms, colors, textures and animation technique to become almost a painting canvas to tell the story.

2.1.2. Universe, Context, Vision

The universe of the film is characterized by a discourse that is half-documenting the character's state, and half, which is a creation of art, in what can be characterized as a "dreamlike" world, or as, the inner and subjective world of the character. This world of physicality, materiality and weight is reinforced by the stop motion technique, which progressively starts to disintegrate, from its figurative forms, to acquire a more expressive and artistic state, resembling a impressionist painting and transforming the film into a more abstract, artistic and aesthetically film.

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The loss of consciousness and memory of the protagonist is in this way projected in the technique. The fact that the protagonist is a painter also reinforces the metaphor of his world becoming a sensuous canvas painted by oil brushes with expressive textures. In the artistic universe, the subjective point of view of the character, as well as the paintings developed by Louis throughout the film, expose references of artistic movements from realism to post-impressionism which greatly influence the film aesthetically. The film strongly presents these artistic movements as the narrative progresses from figurative to minimalism and abstraction.

2.1.3. Narrative, Story, Theme

The story revolves around a love story between Louis and his wife Michelle, coping with aging and his advanced state of dementia of memory loss till the point that he doesn't even recognizes his wife, himself in the mirror or cannot even distinguish, if the object next to him in the bathroom is a hair dryer or a gun, leaving him profoundly lost in his mind. Louis in another hand develops a sense of humor and makes jokes around the situations that he gradually doesn't understand, as a defense and a way to escape those unpredictable revelations of reality that his severe state doesn't allow him to recognize anymore. While making humor out of those embarrassing situations he still experiences a sensuous attraction to his "not recognizable" wife which leaves her profoundly sad. Neuroscientist Ivan Izquierdo [15] provides a scientific explanation for sensory activation: "memory stores emotions". Even though a past event may not be clear in our minds, the feelings associated with that event often remain active. Therefore, despite forgetting who his spouse was, the emotion remained active, and he invited her, as a stranger, to dance. Although profoundly sad it is a story of resilience and love till the last moments of his consciousness and her humanity. In their last dance she completely disembodied herself and vanished away into fragments of thin brushes of paint and into balls of laughter in the air, leaving him completely alone in a world of unrecognizable meaning disorder and loneliness. Somehow, as an audience, we too, experience that last moment of evaporation, imagining what life would be after that. The importance of this moment is the creation of awareness and empathy and to seek what could we possibly do to help the way for these people in this world.

2.2. About Graphical Structures

As the protagonist loses his references and sense of reality, he does it to the point that he is disembodied from reality and from his own figure with the objects around him disappearing. This disorder, deterioration of forms and expressiveness construct the metaphoric idea that is losing his identity. The film also acquires this sense of disorder in the structure of elements in the room, by the progressive invasion of the white space and subjective background leaving the character in a new landscape without objects, references and completely alone. Regarding the graphical structures of the film a variety of styles and techniques are integrated in the film. In a generic way the film is represented in physical forms of stop motion technique. This

technique allows physicality, tridimensionality, weight, depth of space, textures, light and materials that are staged in space and which evokes a sense of real space similar to the one we have in theater or in real life. On the other hand, the representation acquires a loose resemblance with reality making the graphical universe both real and sensorial but also both illusive and expressive in textures of plaster and clay that resemble an oil painting, and which becomes less and less figurative. In a more conceptual sense, the film pays homage to the works of sculptor Alberto Giacometti, painter Vincent Van Gogh, and Francis Bacon through direct evocations of their art in various sections. These artists are associated with the Post-Impressionist art movement, and the director seems to be drawing inspiration from their styles in the film. Francis Bacon (1909-1992), one of the most important artists of the 20th century, became known for his paintings that portrayed distorted and anguished human figures. His works were marked by emotional intensity and the dramatic use of color and texture. According to art critic Martin Harrison, "Bacon was one of the few modern artists who really managed to capture the anguish and anxiety of the modern world in his works" (Gale, 2008, p. 12 [16]).

Fig. 2 Left: Self-portrait' by Bacon; Right: "Mémorable" (Dir.: Collet, 2019, 12', 00:07:18:00)

Alberto Giacometti (1901-1966) was a master of emotional intensity and a sense of existential isolation in his artworks. According to art critic Peter Schjeldahl, Giacometti's sculptures were capable of capturing "the sense of human vulnerability and existential angst" like few other artists (Schjeldahl, 2018, p. 10, [17]). The film evokes the figure of the doctor through a sculpture by Giacometti, which seeks to capture Louis' vulnerability. The doctor is the first character that Louis sees altered and becomes unrecognizable.

Fig. 3 Left: Tall thin head by Giacometti; Right: "Memorable" (Dir.: Collet, 2019, 12', 00:03:16:00)

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Both the artist Van Gogh and Bruno Collet's film "Memorable" address the themes of memory and mental deterioration while showcasing a unique and striking visual aesthetic. In his final years, Van Gogh experienced mental deterioration that impacted his artistic output. According to Naifeh and Smith, 2011 [18] his paintings reflected a state of profound mental confusion with strong and expressive brushstrokes that conveyed intense and disturbing emotions. "Memorable" depicts the memory deterioration of an artist and the resulting mental confusion. According to Gombrich, 1999 [14], the use of bright and saturated colors is a distinguishing characteristic of Van Gogh's work, as he used color to express intense emotions.

Fig. 4 Left: The starry night by Van Gogh; Right: "Memorable" (Dir.: Collet, 2019, 12', 00:04:16:00)

A more indirect and loose link can be addressed to the artist Giuseppe Arcimboldo (1526- 1593), whose portraits intentionally depict figures made of objects as an allegory or caricature of the identity of the person. In "The Lawyer" (1556), a jurist figure is composed of meat and fish and his body by legal papers, while in "The librarian" the figure is composed and represented by books. Collets' figure is composed by expressive brushes made of clay as symbolic analogy to his passion about painting and brushes.

2.2.1. Hierarchy of elements: primary, secondary, tertiary

Norman McLaren early in his film notes, collected by McWilliams [6], reflects on what he calls primary, secondary and tertiary elements in animation, as a process to prioritize only certain elements to be animated, being primary objects the most important ones and the ones usually dedicated to the animation of characters. In this case and relatively different from most stop motion films, "Memorable" is also defined by a layer of "brush made of flexible latex" that redefines the whole film. If in the beginning of the film, characters, objects and spaces are graphically characterized by the weight and materiality of solid stop motion materials, addressing to the characters, a physicality within reference and resemblance with reality, but, as the film evolves and the character's dementia evolves, a non-rigid element layer similar to a "brush made of flexible latex" redefines the graphical structures of the film. The surfaces of puppets and spaces, before stiff and articulated and rigid structures, become more malleable and flexible in their exterior to resemble a paintbrush and canvas painted by oil brushes. This "texture brush" made of flexible latex, though, acts in a very powerful way. On one hand establishes a world full of rigidity and allows acting as a thin layer of texture, and one another hand it can change into a material that is more modelative as a layer that allows us to

see from the painter's eyes a new universe where reality is very different, flexible and also constructed into a different world. The "clay brush" acts as a layer or filter of reality and takes advantage of what animation can do frame by frame which is the" ability to change into any form possible" as evoked by Eisenstein [5]. In this film this ability takes a double form, one the layers beneath the surface and another one on the layers above the surface of the elements that distorts them into a painting.

2.2.2. Style, color, forms, stylization, representation

Aside of the references to artists in the film, visually, it fuses the tactility of stop-motion puppets and 3D animated models with a final aesthetic that resembles an oil painting, suggesting that the protagonist's artwork defines the movie's style. Developing characters in stop-motion involves two crucial elements. First, the character's body has an internal, articulable skeleton structure, allowing for precise positioning during the animation process. Second, the face requires careful attention. While a replacement system using 3D- printed masks with magnet systems is often utilized for facial expressions and lipsync, this process was unsuitable for this film. The precise colors and textures required were impossible to achieve with this method, as any deviation could create visual discomfort and give the appearance of the character's skin vibrating. Instead, the director opted for a flexible face, much like that of an animatronic. They meticulously crafted an internal articulation system, and foam and latex were utilized to achieve the desired effect. The resulting surface was then painted, providing the appearance of paint and clay. The contrast between the mouth and eyes lends the characters an added level of realism.

2.2.3. Composition, camera, space, proportions, depth

Also the terms foreground, middle ground, and background are used in animation films to create a priority of importance [8] of the scene and elements and which also creates the illusion of depth of field in a scene. In stop motion animations, the space between foreground and background can be emphasized by the depth of field that can be created through techniques such as perspective manipulation and layering. Additionally, the use of chroma keys allows for the creation of backgrounds and environments that would not be possible in real life, and often these scenarios are added in post-production due to the high cost and labor involved. The combination of these elements can create impressive visual effects in a stop motion animation scene (Bordwell & Thompson, 2010 [19] In the foreground, we always have the primary objects, such as the characters, and but we also have animatable props, to as anything that moves grabs the viewer's focus and attention. In a stop motion animation, texture is essential to characterizing the characters, and therefore, it is common to focus on the foreground and blur the background. In the case of Memorable, there is an emphasis on the deconstruction of props in the foreground, showing the character's difficulty in perceiving the objects around

him. The post-its appear in several scenes, demonstrating the character's attempt to perceive the environment through his own resources, such as drawing. The repetition of elements and their emphasis in the foreground reinforce the viewer's need to remember and interpret this information (CORTÉS, 2012, [20]). The use of detailed and subjective American shots brings the viewer closer to the characters, creating an emotional connection with them. As Bordwell and Thompson, 2010 [19] argue, "camera positioning can provide a subjective view of a character, or even empathy with the character". Thus, the use of these shots contributes to the viewer's immersion in the narrative. Regarding the characters, it is interesting to note that they have realistic proportions despite the presented deformations. As Langer, 2018

[21] highlights, the deformation of characters is a technique used to create a stylized and distorted universe, but one that still has realistic elements. This allows the viewer to identify with the characters, despite not being faithful to standard human anatomy. Finally, the use of empty spaces as compositional elements in some scenes is an interesting technique to emphasize present objects and props, as well as the character's emotional state. As Bordwell, 2018 [22] emphasizes, "composition can suggest a character's emotional state or create a specific atmosphere".

2.3. About Sequential and continuity structures

2.3.1. Behaviors: changes of position, state and form

One of the most notable aspects of "Memorable" is the way the film addresses the issue of memory loss and mental deterioration. Through the stop-motion technique, director Bruno Collet creates a surreal and dreamlike atmosphere, where distorted and disjointed images reflect the character's sense of confusion and alienation. Moreover, the animation is elaborately crafted, with meticulous work on the stop-motion characters and sets. With each frame, Collet manages to convey emotion and the sense that the world is dissolving around Louis. The animation is carefully choreographed to convey the characters' emotions and mental states. The way Louis, the protagonist, moves is altered as the disease progresses, becoming slower and more uncoordinated, while the images around him become increasingly distorted and disjointed. In Jan Svankmajer's works there is a series of disembodiment in movement as a form of portraying an allegory on identity. In both works below, Svankmajer explores the body as a vehicle that redefines the definition of the self. As Paul Wells (1997) [23] describes, "Svankmajer uses the unique vocabulary of animation in expressing these principles and essentially redefines the conditions by which the body might be represented and redefined aesthetically and politically." [23] (1997, pp.177). In the Svankmajer's case, the fragmentation and metamorphoses of the body, as Wells explains convey a sense of criticism or caricature about social and political identity and views about

consumerism, gender, capitalism The body loses its primary function, and it works as a canvas to be redefined [23]. As Foucault recalls [24], "There is little question that one of the primordial forms of class consciousness is the affirmation of the body". The behaviors in Memorable acquire a different semiotic value according to the materials used. The story evolves as the materiality evolves, overcoming the constraints of each material from more solid and heavy to something that is more malleable and flexible and which ultimately evapores, vanishes and disappears. As it happens in the film Chihiro, by Miyazaki also Chihiro fades, when she feels insecure becoming more transparent and starting to lose her soul [7]. The loss of the body creates a metaphor for the state of mind of the character.

2.3.2. Continuity, frame by frame, technique

The animation sequential and continuity structures in stop motion technique are usually, as characterized before, linked to the use of its peculiar materiality and physicality with objects staged in a space as in resemblance with reality but with a different plasticity. As addressed by Buchan [25] and Ward [26] animation takes advantage in exploring interdisciplinary styles, forms and techniques to find new theories and practice. Hybrid techniques allowed a change of paradigm in the industry by combining different techniques. In the case of "Memorable" both traditional stop motion (armature puppets), a more hybrid form of stop motion (flexible latex) and CGI (3D animation) are used in the film to convey different connotations in animation. While rigid puppets convey a sense of an alternative world of plasticity, a layer of texture above the puppets made of latex creates a level of expression equivalent to a paint brush which alternates and redefines the world causing a huge metamorphosis of the whole style during the film. As Eiseintein elaborated in his concepts of plasmaticness [5] the ability to take any form and any body is one of the key concepts in animation. By the end of the film, the world also becomes almost full CGI generated with completely different fluidity aspects. When observing the movement of puppets one can relate to classical works of stop motion such as "Wallace and Gromit" from Aardman or the "Nightmare before Christmas" from Tim Burton, in which characters are stiff and rigid. But as well when the texture on top of the puppets in "Memoráble" changes, we can witness a plasticity that is more flexible similar to the works of Svankamajer or Morph from Peter Lord. As the materials change, the technique and continuity on the frame-by-frame process changes allowing a different perception and fluidity. The world once solid and staged becomes a painting canvas to be painted and redefined. The continuity makes use of explorations of hybrid and combined techniques and makes the film more powerful till the moment that drops of laughter vanish from this world as well as the contact of the protagonist with the world too.

2.3.3. Speech, sound, music

The narration plays a great part of the film as it explains very clearly the Nicolas Martins composed the film's soundtrack, and in an interview (Kob-

elka [27]), he revealed that the director had a specific vision of using string instruments. Martins stressed the importance of having a musician present from the beginning of an animation film, especially in stop-motion animation, to ensure synchronized visuals and sound. Even if the music is not yet finalized, a general sense of it helps the team better understand the characters' body language, facial expressions, rhythms, and movements. The cohesion between the image and the music is crucial to the film's success.

The soundtrack features a string quartet and prominently features a song from the 60s or 70s. This song appears in three key scenes: when the character plays the vinyl record in the early stages of his illness, when he plays the vinyl with more advanced symptoms, and in the scene where he does not recognize himself in the mirror. The song was specially created for the film and performed by soul singer Clarence Stanley Finck.

The use of the string quartet in the soundtrack creates a sense of drama that effectively enhances the progression of the illness and its emotional impact. The music is especially prominent in key moments of the film, reinforcing the story's themes and providing an emotional anchor for the audience.

Another significant impact of the film comes from the portrayal of Louis and Michelle, voiced respectively by André Wilm and Dominique Reymond. Their French accents add a unique quality to the narrative and are exceptionally well-suited to the characters' ages and emotional states. The coherence between the voices and the characters they bring to life is a remarkable achievement and a testament to the film's attention to detail.

3. Conclusions and contributions

In conclusion, the film "Memorable" expresses one of the most important abilities of human beings, as Berger explains, which is to express the inner world to the outside as a way of seeing others and as well to see ourselves [6], no matter the state or condition and which in animation makes so much sense. It arouses profound questions about an aging period and possible dementia conditions and questions till when, are we still in contact or in connection with this world of consciousness. As well it triggers in the audience a sense of empathy and awareness about how to care and include these target groups of people in society without being judgmental and above all with love. The conceptual approach to the disembodiment as a key concept possible in the film, and which can only possible in animation creates a sense of loss of identity, consciousness and semiotic values act as a major differentiation aspect of the theme and also the technique. The process and use of hybrid and combined techniques while contributing to the present change of paradigm in the industry creating different opportunities for aesthetics also contributes to a better understanding of stop motion potential and differentiation aspects of technique in terms of plasticity. By using a new technique that positions itself between the plasticity of clay and rigidity in replacement faces, the film opens up a new path for stop-motion animation construction techniques. This hybrid technique allows for greater flexibility and creativity in the construction process and expands the possibilities for storytelling through stop- motion animation.

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Stop Motion Adventures in Virtual Reality

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Abstract

The intention of this research is to address the symbiotic relationship that exists in Virtual Reality between two juxtaposing energies: the 360 projected spherical digital canvas and the hand-crafted, analogue and authentic puppet animation.

> "If... film is to fulfil itself aesthetically we need to believe in the reality of what is happening while knowing it to be tricked"
> (Bazin, A., et al. 1972.)

01. Introduction

> Virtual reality, as a narrative medium, through its interactivity and other particularities, presents characteristics that none of the previously mentioned narrative forms {traditional art and cinema} usually possess, and should be recognised as such.
> R. Aylett, S. Louchart. 2003

The emergence of content for Virtual Reality (VR) consumption has primarily focused its energy on the digital creation of immersive worlds, which is led by the games engines that dominate the construction of these environments. VR users are therefore offered either a digitally imagined fantasy world in games such as No Mans Sky, or action-based challenge games exemplified in titles such as Beat Sabre. Absent from the digital games content in VR however is a more analogue response to immersive projection.

The visibility of traditional, hand-crafted environments that employ real camera methodology, such as Isle of Dogs or Wallace and Grommit is nearly entirely missing. This gap in VR content denies the fans of stop motion animation their own lovingly material worlds. This may be due to the nascent emergence of the technology or perhaps the complicated method of displaying and creating immersive environments by hand. Of the few existing examples of stop motion animation created for VR, perhaps Gymnasia most closely provides not just puppet animation and set building, but a visual language that speaks to the 170-year history of film. In this paper I will attempt to further identify some of the more successful examples in this genre.

Through reviewing examples of VR animation that demonstrate

these analogue hand-crafted environments, whilst exploring the development of a new film language that allows for storytelling and editing in animated 'virtual' worlds, that absence will be addressed.

By examining the experiences of the few existing Stop-motion artists in this field, this paper will compare my own experiments in spherical environments and 360 equirectangular filming with existing ways to watch VR to create innovative new ways of capturing and presenting Stop-motion animation.

I will go on to examine a selection of consumer solutions to capturing Stopframe animation that allow users to create, edit and present their work in VR.

The recent emergence of media content for VR consumption has, in the last 10 years, primarily been focused on the digital creation of immersive fantasy worlds and the 360 capture of live cinematic spectacle. New innovative software such as AnimVR and Quil have begun to allow for the creation of digital animation directly within VR but perhaps to the exclusion of a physical materiality and somehow removed from the tactility of more traditional techniques of animation such as Drawn 2D and Stop-motion. This has led to an overwhelming supremacy of VR content created by computer generated in CG by the animation and games engines that dominate these immersive environments.

VR animation consumers are often therefore primarily offered a choice, as previously mentioned, between digitally imagined fantasy worlds with little that speaks to the hand-made, organic nature of analogue animation. This lack of an artistic contrast can lead to a visual monoculture, excluding those who prefer to work with a more linear and intuitive method of animation practice.

It becomes all too easy for the traditional animator to assume that VR is just a gaming peripheral or entertainment gimmick, rather than a viable filmic medium ready to be explored for its potential to immerse and transport the viewer beyond the flat representation of projected screen-based media.

02. Background and Appeal

The distant future of 3D cinema will see a leap as great as the one from L'Arrivée d'un train en gare de La Ciotat to the train engine sequence in La Bête humaine. (Bazin, 1952)

It feels that narrative VR production, outside of the gaming world, is still in its infancy in terms of its visual vocabulary; perhaps as Tom Gunning posited the 'Cinema of Attractions' era of filmmaking did, when he refers to the original facets of cinema in the 1900's prior to the establishment of a now cohered convention of framing and editing, asserting that "the cinema of attractions directly solicits spectator attention, inciting visual curiosity, and supplying pleasure through an exciting spectacle – a unique event, whether fictional or documentary, that is of interest in itself. " Gunning, T. (2006).

With over 125 years to refine and distil, the native language of cinema has evolved to project a landscape orientated image onto a flat screen for audiences to consume as passive viewers. This vernacular

has become intrinsically absorbed into the common experience that cinema goers understand, bound with the feel of velour seats and the scent of fresh popcorn.

> Establishing contact with the audience. From comedians smirking at the camera, to the constant bowing and gesturing of the conjurors in magic films, this is a cinema that displays its visibility, willing to rupture a self-enclosed fictional world for a chance to solicit the attention of the spectator. (Gunning, T., 2006)

VR presents a novel opportunity to the film maker, in that the contract between viewer and director is fundamentally changed; the experience is no longer simply passive but rather the visual format is now potentially spherical and allows the participant a choice on where they choose to look at any given moment. One of the few famous Filmmakers to successfully embrace Virtual Reality, Alejandro Inarritu declares "VR is all that cinema is not, and vice versa; the frame is gone and the two-dimensional limits are dissolved" (Iñárritu, A. in Pomeroy, 2017). This celebration of the potential for a new filmic medium, to create innovative and fresh ways of seeing, is behind the research topic of this paper; to find the same excitement and innovation in analogue methods of animation, specifically stop-motion, thereby positioning VR at a junction to established linear narrative film.

Viewer-autonomy creates a tension for the film maker, who now must lead the eye in directing the on-screen narrative and find new ways of presenting the action to progress the timeline. In an interview with Jason Pontin in 2017, Jessica Brillhart, filmmaker at Google, railed against linear storytelling: "Storytelling is the product of film as a medium. In Man with a Movie Camera [1929], Dziga Vertov went out with a camera and filmed everyday... ". She went on to elaborate, "Vertov's idea was that the camera was a disembodied eye: a detached thing that could follow a horse, or be under a train, or throw you over a building. It can show a world previously unknown to you. But it's Vertov's perspective on the world. VR is its own medium." (Pontin, J. 2017, Jessica Brillhart). This poses a translative problem for the language of film and how the director can manipulate the audience; what new visual techniques and editorial methods are available to the filmmaker to encourage audience attention when freedom of movement is given to the viewer in such an unfamiliar projection space? A space that expands our traditional understanding of film and allows for new and innovative developments in the crafting of visual media on a spherical canvas as distinct from the 'Flatties' of Jessica Brillhart, presents itself as an exciting challenge and encourages new definitions in film language; as Aylett and Louchart suggest, "a direct comparison between Aristotelian and Structuralist narrative considerations would find little of use for constructing a narrative theory particular to VR" (Aylett, R., Louchart, S., 2003)

Developing the methodologies of editing for immersive storytelling, storyboarding for a spherical canvas and introducing innovative techniques of direction will help develop a new vocabulary for a new medium and bring an increased understanding of the potential for VR.

02.01. Stimuli and the 4ᵗʰ Wall

With the removal from the film editor of the familiar tools for narrative storytelling new techniques begin to emerge. In the absence of the wide shot, close-up and reverse framings common to most movies, stimuli and interventions can be used as editorial devices to cause the attention to be directed towards moments of importance, interest and movement can attempt to stay the attention of the now no longer passive viewer. Spatial audio and visual effects can play a new role in directing action or viewpoint to attract the viewer to witness or engage in specific areas of the spherical staging. Placing the viewer within the environment as the eye of the camera rather than an observer outside the space allows these techniques greatly more purchase and of these stimuli, one of the most emotionally impactful and effective is the breaking of 'the 4th wall'. As Chris Milk, CEO and founder of Within, says, "the defining characteristic of immersive theater is that it breaks the fourth wall" (Milk, C. in Bucher, J., 2018) which parallels with Gunning's findings on actors speaking directly to their audience in his cinemas of attraction;

> It arouses a curiosity that is satisfied by surprise rather than narrative suspense. This different temporal configuration determines its unique spectatorial address as much as its acknowledgment of the spectator's gaze, and it is the explosive, surprising, and even disorienting temporality of attractions that I want to explore (Gunning, T., 2006)

The use of a strategy that positions the protagonist as if speaking directly to the audience has, since the birth of theatre, been used for punctuation, comedic effect, or to pause the action and engage the viewer directly. As Samuel Weber, while looking at Antonin Artaud in his book "Theatricality as Medium" states:

> as Artaud envisaged eliminating the partition in theaters between the stage and the audience...The audience was to be placed at the center of the theatrical space, but on movable seats, so as to be able to follow a spectacle that was to exploit all the dimensions of space, not just that positioned '' in front '' of the public."(Weber, S., 2004)

Reading this, we can explore the links between the observations on theatre in the round and this new immersive medium; finding the connectivity and intimacy this provides makes for an experience of connection that is amplified and charged with emotion.

In an interview with J Bucher in 'Storytelling for Virtual Reality', Chris Milk Founder and CEO, Within, pointedly states:

> The reason that Virtual Reality is different is because it's out of a completely fundamental technology. All the other previous mediums come out of inventions in the second half of the 1800s, of recording moving image and sound, except for literature.... Virtual Reality is growing out of a new fundamental technology which is the tech—a computer sys-

tem communicating with our human senses in the language that they experience in the world around us. (Milk, C. in Bucher, J., 2018)

What is it about the materiality and ontology of stop-motion objects that exist in front of the camera that suggest its relevance to VR? The possibilities that are offered by this new medium are equally tempting to the analogue artist. Why are we attracted to stop motion animation and what is the benefit to exposing this technique to VR? What is it about the materiality of Stop Motion animation that lends itself to be encountered up close in a virtual situation? "The dream of creating a living human-being, by means other than natural reproduction, has been a preoccupation of man from time immemorial: hence myths as Pygmalion and Galatea" (Bazin, A., 1967).

Taking the argument, posited by Weisha Yang, that VR is an immediate medium, concerned with texture and surface over framing and movement, Stop-motion animation can be a medium with enough practical challenges but without the additional complications of a 360 camera that can see "everything". So, why would you choose to create an analogue physical environment for an intrinsically digital medium? "The potential shock of the cinema of attractions provided a popular form of an alternative temporality based not on the mimesis of memory or other psychological states but on an astonished spectator and the cinematic smack of the instant, the flicker of presence and absence." (Webber, S., 2011). The answer is, perhaps, just because the immersive experience can connect so powerfully with the viewer. The opportunity to place oneself directly into a physically built, lit and filmed tactile environment, to immerse the participant, perhaps into a "lilliputian" world otherwise impossible to physically inhabit. To "be" the puppet protagonist, to see up close the crafted environment it inhabits surely would create a new way to experience the stop-frame medium. As William Paul observes, looking at the power of breaking the 4th wall, "The viewer actively engages the image, responding in a direct and physical manner" (Paul, W., 2004). And perhaps it is in the inherent materiality of the process that the stop motion puppet has its attraction.

Ken Priebe emotes, in The Art of Stop Motion, "There is also something strangely satisfying about seeing a puppet made of clay have its own life on screen, while at the same time seeing the fingerprints of the animator dance around its clay surface. It's much like leaning in close to a painting to see all the brushstrokes and canvas texture leaking through, and then stepping back to see the wonderful illusion it creates" (Priebe, K. A., 2006).

With Suzanne Buchan making the distinction that crafted puppets have their own inner world when she says, "The artists' work with 'infinitely malleable' raw material, and through their own will and intention they create spontaneous generation machines that make manifest matter's will... This is not achieved through anthropomorphic identification, but via the technique of animation. ...I suggest the viewer's reaction to this animated vitalist-cinematic dialectic is a combination of enchantment and of apprehension." (Buchan, S. (2013)

Currently there are notably few professionally captured examples of stop-motion animation available to watch in VR. This may be due to the

nascent emergence and adoption of technology, a resistance to adopt a new and different process, or perhaps the complications and methodologies required in creating, capturing and displaying immersive environments made by hand. The difficulties of creating an adaptable world that the user has control over or agency within have precluded any real efforts for animators to explore this new medium. However, the number of filmmakers experimenting with stop-motion for VR projection is slowly building. Recent titles, such as Wes Anderson's behind the scenes takes for Isle of Dogs, Phil Tippett's experiments in his Mad Dog VR excursion, or Taiwanese artist HUANG Hsin-Chien's new 8K feature, The Sick Rose, prove that this virtual world of audience immersion is a crucially important one that Stop-motion animators feel equally excited to explore.

As Guionne Leroy asserts, "You want to captivate people. It doesn't come with just technique, it's about putting yourself inside that character. It's like slowing down your brain and all of a sudden you are that puppet and you move how that puppet moves." (Leroy, G., from Shaw, S., 2012). But what is it that connects us to the reanimated collections of clay, wood metal and cloth? Aylett and Louchard speak of the balance of two methods of performance, which in concert give us a new experience that becomes more than the sum of its parts.

> We apply the Platonic categories of 'Diegesis' (the poet directly addresses the audience), and 'Mimesis' (the poet addresses the audience through the use of characters), both to the narrative theories under consideration and to the various media, including VR. The visual aspects of VR may suggest that we should give more priority to mimetic considerations as against diegetic ones. However, potentially both can make a positive contribution (Aylett, R., & Louchart, S., 2003)

One of the most effective examples of this diegetic moment of direct eye contact, in the Stop-motion short film Gymnasia directed by Chris Lavis and Maciek Szczerbowski, 2018 at Clyde-Henry, occurs where the boy played by an analogue puppet on stage first appears, apparently from nowhere and then turns to look up into the eyes of the viewer creating a visceral connection that both shocks and engages. Shot with the help of Felix and Paul studios, following their success on Isle of Dogs, Gymnasia is the first VR stop-motion film that had a complete hand-built set, using animated puppets shot in their bespoke environment without the use of green screen or photogrammetry. It generates a wholly unexpected reaction, visceral and uncomfortable, yet personal and with such power that is rarely occasioned in traditional screen -based filmmaking. As noted by Low, "It seems that eye contact is incredibly powerful in VR, something that triggers different instinctual responses depending on the context. A friendly gaze can put you at ease, a stone cold face can make you look away, and a glare can make you flinch." (Low, C., 2019)

This visceral response, or 'gaze-based interaction' as Clyde - Henry have it, making the hairs stand up on your arms and neck, is made more intense by direct visual contact in an intimate immersive space, and seems

to have a much more powerful effect in an enclosed spherical environment than it would on the typical flat screen of a cinema wall. This power and uniqueness, is claimed by Chris Milk as resulting from the fact that,

> All other mediums, all other art forms are representations of human experience. From an abstract painting to an Oscar-winning film, it's an abstraction of human experience. Each one of those has a different language. A Picasso painting looks like a Picasso painting; Scorsese films look like Scorsese films, ... Their externalized human experience is compartmentalized and broadcast to me, the viewer, who witnesses it, interprets it, and internalizes it, but there's a transmission that has to happen. Why Virtual Reality... is so unique is that it's actually capturing or constructing that human experience and broadcasting it to us as first-hand human experience. (Milk, from Bucher, J., 2018)

It is necessary however to make the point that while these instances of Stop Frame animation are intended to be projected into VR headsets or Head Mounted Displays, the films themselves are captured through 360 stills photography and the computer generated element of choice, where the immersed viewer can move around independently and has some agency in choosing options or self directing the story is almost entirely missing. This renders a necessary separation between true interactive VR experiences and immersive 360 captured narratives, that are essentially passive.

0.3. Technical Research

In cinema, the camera is under authorial control, so that the ideal observer it represents is, in some sense, the narrator. In VR, the camera is identified with the user, and removing their control over it directly contradicts the freedom to move and look that is one of the major defining characteristics of the medium. In this sense, VR moves beyond mimesis – 'showing' – with its implication of direction - to 'experiencing'; thus, although both cinema and VR share a synthetic visual aspect, there are fundamental differences between them which make the narrative theory (Aylett, R., & Louchart, S., 2003)

Initiating the research into the techniques with which these films are being created has led me to investigate the range of options for stop frame animation to be captured, including but ultimately dismissing computer generated processes and photogrammetry, a process whereby an object is recorded or scanned through a turnaround of incremental images to provide information that allows said object to be converted into a digital image, which can then viewed in 360 degrees. As successful as this technique can be, the process requires the object to be removed from its located environment before being placed in a digital virtual space to allow the user to fully explore around the object in what is defined as 6 degrees of freedom. Successfully employed in both Phil Tippett's Mad God and Wes Anderson's Isle of Dogs, its limitations include: the vast file sizes created, the need for digital Reprocessing, and the fundamental interruption of the stop-motion process. The focus and limitation of this investigation

is confined to establishing a 'digital-lite' solution that allows the stop-motion animator to retain control of the process, to remove as much of the post-processing requirement as possible and to find a simple plug and play approach to capturing in stopmo footage without the considerable investment required for 6doF. Therefore, this technique is temporarily dismissed for a later analysis and investigation.

Instead I have limited this research to exploring a solution to capture images in 360 degrees that utilize the least equipment and provide a solution that even non- computer literate animators can adopt.

03. 01. 3 or 6 Degrees of Freedom

It's important to acknowledge that for the terms of this investigation, the user ability to move or 'travel' forwards and backwards, or the translational envelope, has been removed. The processes to allow for this are, as yet, beyond the remit of the investigation and therefore will be temporarily ignored. Only the rotational envelopes of tilt and turn will be considered at this time. In terms of a headset, such as the kind used for virtual reality, rotational envelopes can also be thought of in the terms shown below:

1. Pitch: Nodding "yes"
2. Yaw: Shaking "no"
3. Roll: Bobbling from side to side
4. Translational envelopes:
5. Moving forward and backward on the X-axis. (Surge)
6. Moving left and right on the Y-axis. (Sway)
7. Moving up and down on the Z-axis. (Heave)
8. Rotational envelopes:
9. Tilting side to side on the X-axis. (Roll)
10. Tilting forward and backward on the Y-axis. (Pitch)
11. Turning left and right on the Z-axis. (Yaw)

If we take our starting position as one that excludes a purely computer-designed digital workflow, we must look to other methods of film creation and image-capture appropriate to the VR presentation of stop-frame animation. Live action video and photographic 360 capture relies on a complex system of semi-spherical lenses to produce equirectangular images that translate to the necessary spherical canvas, allowing for immersive VR projects to be watched in a stereoscopic headset. However, many of these cameras are too sizeable and cumbersome to be incorporated into a stop motion set. The research intention, to be able to plug in a camera and use existing stop-frame animation software to drive a sequential image sequence in the time-honoured methods familiar to linear animators, has led the investigation to test the following consumer cameras for compatibility and simplicity of use. For my experiments I have focussed on the following three devices: the Insta 360, the GoPro 360 Max and the Ricoh Theta X.

Of these, as only the GoPro Max and the Ricoh Theta X are recognised or 'seen' by the software, allowing image capture to be triggered natively, the Insta 360 is excluded from further testing at this time. Of these

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last two the GoPro does not export a viewable live image leaving only the Ricoh Theta range currently allows a live stream image to be saved to the software and create the required 'old/new' registration that permits editorial decisions to be made between frames. To initiate this the camera is required to be set to 'live stream' mode to access the live view image at a limited resolution of only 4k or 3840 x 1920 pixels. This in turn forces the unit into auto mode and the captured image is not that of the full capacity sensor 11k (11008 x 5504)

      Initial tests with the Ricoh Theta X in Live Stream mode reveal that the camera is also set to auto-exposure and auto-white balance, and therefore the results are limited from a cinematographic point of view, with no ability to control the exposure of the results and fluctuations in balances. Although a successful integration with the software has been made, the lack of exposure control and quality renders the images useful only as a demonstration of potential. To exploit the 360 camera's full sensor capabilities and engage with the shutter and white-balance controls, the next tests required the triggering of the Ricoh via an external trigger source, which in this case was an iPhone and employed a secondary video source image as 'camera assist' for reference. Suspending the camera 'above' the set, rather than the more traditional set up of sitting it on a tripod, allows the camera to be placed 'in' the set, and the image to be captured in a way that most closely resembles the physical position of the viewer. This can then be controlled via a motion control rig to produce sympathetic movement in concert with the story. There are some lighting issues with having the camera on set however, creating shadows from above lighting for example, which poses more restrictions on the process and requires further investigation if a professional outcome is to be achieved. Some thought was required to control the environment where the testing was carried out and led to building a blackout tent, from black drapes, to minimize distracting light and movement in the backgrounds but this will require proper design once testing has been proven successful and a fully-considered setup has been designed (Fig. 1).

      The quality of the visual results are dramatically improved with this setup but again problems arise; the Ricoh X camera unit overheats after around 20 mins of being connected via Bluetooth and requires time to cool off. The resulting file transfer can become damaged as the unit switches itself off and this in turn halts the import process at the editing stage.

03. 01. Test Results
and Further Questions

Working with a 'beauty cam' and separate video-assist brought back memories of my first days as an animator, working on film, when you had to wait for your shots to be developed before you could see the results that had been filmed! However, there remains a dislocation between what each lens can see (the 360 lens is on the set and the assist lens is set some distance away) a compromised solution which, while acceptable, is not ideal.

Released from the tether of the Dragonframe software however, all camera models were able to be employed. The use of a digital SLR provides a connection to Dragonframe and the user therefore has an image to follow via the 'old/new' function of registration needed to create the animation, but the video-assist image differs markedly from that captured by the 360 cameras. Viewing the 360-image via the iPhone app gives some idea of what is being captured but the true final image must wait until after editing to be viewed via playback in the Oculus headset.

Next, I tried a new process to test the immersive nature of identifying as the puppet, by positioning it immediately under the camera. By physically attaching the puppet to the 360-camera body might this imply that we were looking through the eyes of the character? Sadly, the test was a fail; as when animating the puppet, the camera too was constantly nudged, making the captured image wobble and distract on playback. This created too much unwanted camera shake, and was quickly abandoned, as the results were unwatchable. However, it posed new questions: How important is it to show First Person characteristics? Does visual embodiment with the camera enhance experience of immersion? Do I need to show the puppet hands around the camera?

Does moving the camera to 'keep up' with the moving puppet imply head turns, or just make viewer dizzy?

Having identified a host of new test parameters I continued to concentrate on a proof of concept and left them for future exploration At this point the test puppet was changed to allow for quicker testing and a cleaner test image. As I am not currently concerned about the aesthetics of the sets and puppet I will leave these as I know through experience they can be designed and produced later. Of the shots explored I looked at a sequence of walks and visual performances to create connections between puppet and viewer (i.e., camera). Access for the video-assist camera poses some problems, as if it can be seen by the 360 camera it will be 'in shot'. Similarly, lighting may have to be designed to remain within the scene or painted out with plates/mattes?

03. 02. Reflection on
the Cameras Tested

Ricoh Theta X

With the Ricoh Theta X, control is maintained over camera settings giving adjustable shutter speed, ISO and white-balance, and allowing for the full resolution of the chip sensor of 11k to be exploited. This gives vastly superior images as a result. However, issues arose including the unit overheat-

ing, giving only 20mins use before shutdown, I tried removing battery and powering directly, unsuccessfully. I also tried shooting to both SD card and internal memory, but with no improvement. After some online research I concluded that the Theta X needs an API developer app to switch off LCD, which is seen to be the major source of temp leading to the overheating issue. The suggestion to use a remote Bluetooth Trigger to capture images instead of using my iPhone, which, as it connects via WI-FI, is increasing power consumption and therefore heat through Wi-Fi connection. Also, the iPhone connection over Wi-Fi is quite unstable and loses connection regularly (Fig. 2).

GoPro Max

The GoPro offers little-to-zero native control over camera settings and the focus is set too far in front of the lens, making the puppet blurry. I experienced some difficulties in transferring files over to the MacBook but overcame these using the native Quik editing app. Insta 360 gave similar results to the Go-Pro but with less controlling features and less definition in the output video resolution (Fig. 3).
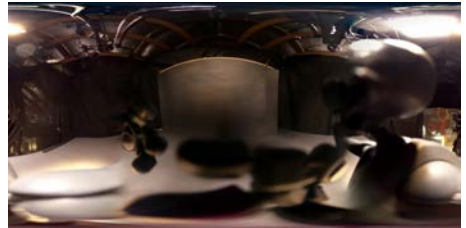
04. Results

Importing to Adobe Premier

It is great to see native VR controls added to the editing software in its most current update (22.5.0), including the ability to reposition the image consistently through control of the PAN, TILT, ROLL controls. However, some of the image sequence imports had issues which turned out to be a consequence of the overheating and corrupting of image files in the Theta Camera when it auto shuts down. This led me to investigate theta.org to find a solution to the overheating problem, which has been documented by many users. It seems this is an ongoing problem for cameras with large sensors. I have contacted the Theta website developers to try to find solutions to the overheating issues!

GoPro Quik, the native editing software for GoPro cameras, allowed me to overcome some of the import issues with this unit but illuminated other limitations, such as the stitching, where the two hemispherical images are joined at the seam, here there were inconsistencies that, while fixable through other programs, were detrimental to the simple user adoption I am searching for. Also, the auto-white balance between two lenses is separated and so causes further detraction from the seamless image I am trying to produce (Fig. 4).
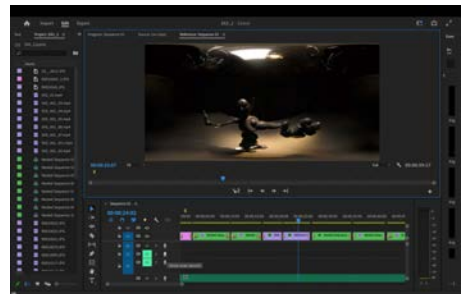
Exporting to Youtube

As YouTube is the predominant host for VR and 360 video content I have chosen to use it to host the outputs of my tests. However, currently it throws up many size issues and file format limitations, despite my capture equipment being able to produce a desired file of 11008 x 5504 pixels. YouTube currently only supports a 4k resolution of 3840 x 2160 which is far below the capabilities of the cameras. In addition, the Oculus headset that I am using can only adopt a maximum resolution of 5760 x 2880 in H.264, which is half of the ideal output from Premier. Therefore, the final equirectangular test results must be resized for export and viewing.

The final export is Available to watch on YouTube in 4K VR here:

SAS SOUND 360
https://youtu.be/yc1uQsuChS8

Software Apllications and Conectivity

It is crucial to be able to find a solution that allows the animator to see what is being filmed; without that connection decisions cannot be made and errors cannot be spotted and removed to create a satisfactory performance. Enabling the animator with user centric tools is the only way to encourage stopframe animation into the VR and 360 degree domain and increasing the exposure of animation in VR will enrich the viewers experience. To that end I have initiated a dialogue with the designers at Dragonframe software to include the cameras in their software support. Although initial requests for closer integration with consumer 360 cameras have met with some resistance, I am hoping my experiments might convince the software engineers that there is a genuine need for this level of adaptive connectivity and that we can discover a working methodology that allows the native exploitation of the 360 camera controls to provide the level of detail that the cameras are capable of.

In the absence of a collaboration with Dragonframe, a workaround can still be employed, where external triggers may be utilised to access the camera's stills function while finding more accurate offset camera solutions to the live view conundrum. This solution has been adopted by Isobel Knowles and Van Sowerwine on their award-winning 360 Stopframe animated short film, Passenger.

Editing for Immersive Storytelling

The next part of my investigation will concentrate on 'what we see' when immersed in a 360 degree Stop-frame animated world. Following the successes of fellow stop-motion artists and their kindness in sharing their results and methodologies, I will be looking at what makes a narrative work in a 360 world, how and what to show and where to manipulate the attention of the viewer to encourage them to follow the narrative path that I am describing, while allowing a degree of freedom and choice in the virtual space. Looking at examples from the likes of TINDRUM in Denmark, I intend to explore ways of editing, physical camera moves, matte

painting and clean plates to remove unwanted capture areas. I also will be designing mounting rigs, for both camera and puppet, to further test and develop the visual embodiment element of performance where the puppet is in view. Finally, I will begin to design an environment and form a directorial narrative that allows for the motivations of the audience to be manipulated to full effect.

05. Conclusion

More attention to creating emotionally engaging and satisfyingly realistic environments in live action 360 capture is beginning to emerge: be it the VR staging of live performances (LIVR), 360 immersive art exhibitions (such as the new touring VR Van Gough exhibition), or group projections in dedicated spaces such as the 12-metre dome at CULTVR venue in Wales.

Cirque du Soleil have successfully created versions of their performances with the help of Felix and Paul, who were also intrinsically involved in Clyde Henry's Gymnasia, crafting a truly immersive experience that recreates the live shows and indeed offers the viewer an even more intimate role in the performance. With Petrichor, London Theatre and Stratford East adapted their 2020 performance in lockdown to become a virtual experience that could be watched via screen or headset expanding the audience potential for live theatre. The National Theatre on London's Southbank has, since 2016, been pioneering theatre in VR blending animation, motion capture and performance with live actors and audience to create new ways of telling stories that connect and engage. Between the immersive documentary experiments of "Carne y Arena" by Alejandro Inaritu, the exploration of the cosmos in "Spheres" from Darren Aronofsky and "Gloomy Eyes" from Fernando Maldonado and Jorge Tereso, there is much to be excited about and to interrogate in further research.

It is among these novel and innovative new techniques that Stop Motion Animation has a crucial role to play in this exploration of film and story making, providing an intrinsic connection with materiality and identity for the viewer.

Building on the existing rules of film vocabulary and exploring the challenges that a frameless VR canvass provides is the next challenge for film makers. Virtual Reality is here to change film language at its core: what is montage, a shot-reverse-shot or a close-up in VR? What is on- and off-screen, when the screen is all-around? B Joret (2019).

To offer a broader and more versatile output of media experiences that truly explore VR's capacity to provide an immersive connection with the audience, we must continue to develop and research ways that bring the full spectrum of experience, knowledge, technique, and history to the future of film making. Stop Frame Animation has its own part to play in this experiment and I hope my research can in some way forward that debate. I intend to compare the various ways in which narrative storytelling differs from traditional film theories when editing for VR in my next paper.

As a snapshot in the rapidly developing technical processes and the adoption of a new film language, I am happy that, barring a few caveats, a

successful proof of concept has been established and I am encouraged to
further my investigations into 360 degree Stop Motion for VR.

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Links to cited examples of Stop Motion VR:

1. Isle of Dogs: https://youtu.be/dt_kig8PVU
2. Passenger: https://www.filmcamp.com.au/passenger
3. The Sick Rose: https://youtu.be/mlcls5iyXRc
4. Gymnasia: https://headspacestudio.com/projects/gymnasia/
5. Isobel Peppard: https://www.isabelpeppard.com/animation/butterflies
6. Cirque du Soliel: https://www.cirquedusoleil.com/other-activities/vr-app
7. National Theatre London: https://www.nationaltheatre.org.uk/about-us/
theatre-makers/immersive/
8. Carne Y Arena: https://www.lacma.org/art/exhibition/alejandro-g-inarri-
tu-carne-y-arena-virtually-present-physically-invisible
9. Gloomy Eyes: https://youtu.be/DzOnGuZorZw
10. Spheres: https://youtu.be/Ipp50yDqzoA

Entretecer a mulher transmontana: os primeiros passos de um documentário animado

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[Animação · Animation]

Abstract

Animated Documentary is the name of an extracurricular unit that has been running since October 2022 at EsACT/IPB — School of Public Management, Communication and Tourism of Polytechnic Institute of Bragança —, integrated into the 10% Up to you! training innovation program, and inserts itself into the fundamental guidelines of the Laboratório de Artes na Montanha – Graça Morais (LAM-GM), which values the programs in which students immerse themselves in artistic research practices.

In this context, an animated documentary project began to be developed whose theme is the woman from Trás-os-Montes, the territory where this Polytechnic Institute is located.

This article frames the preliminary research carried out around the animation documentary and highlights the ongoing pre-production processes of the first animation documentary made in the context of the extracurricular unit. All the creation processes presented here favor co-creation methods and the use of collaborative tools. The article concludes by presenting the next steps of the project.

01. Introdução

Os últimos 30 anos testemunharam o desenvolvimento do documentário animado que, como Paul Wells [1] recorda, só recentemente foi aceite como um meio documental, permitindo mostrar o que é observável do real, de modo não convencional; e dar corpo visual animado a mundos subjetivos e emocionais [2].

Esta abordagem é adotada, maioritariamente, como reconhece Roe [3], por animadores que desejam tratar temáticas não ficcionais, permitindo-lhes a animação ampliar e aprofundar o que se pode dizer através de um documentário e tem a sua raiz histórica no filme *The sinking of Lusitania* (1918) de Winsor McCay [4], considerado o primeiro documentário animado.

Em termos práticos, a utilização animação em documentos não ficcionais permite-nos tratar a realidade de formas específicas [5], ao agir como "instrumento expressivo"[1], o que contribui para revelar, frequentemente, aspetos documentais não representáveis ou acessíveis através de *live-action*. Ainda, inspirada em Wells, sublinha-se, aqui, "que um documentário animado pode revelar mais da 'realidade' de uma situação

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do que qualquer série de documentários de live-action"[6]. A utilização de animação, neste contexto, é ainda reforçada quando se observa que o documentário contemporâneo considera abordagens diversificadas, menos normativas e subjetivas. Veja-se, a propósito desta pluralidade o que nos diz Ward: "o "documentário" deve agora ser visto como um leque de estratégias numa diversidade de media" [6].

No âmbito das linhas orientadoras do LAM-GM prevê-se o desenvolvimento de programas em que os estudantes imergem em práticas de investigação em contexto artístico. Consequentemente, considerando o potencial expressivo da utilização da animação em contextos documentais que abordam criticamente a representação do "real", a autora deste artigo propôs uma unidade extracurricular designada por Documentário Animado, no âmbito do programa de inovação formativa, 10% escolhes tu[2] do IPB[3] que permite aos estudantes desenvolver documentários animados dando-se destaque a temáticas relacionadas com os territórios de montanha de Trás-os-Montes — espaço nos qual a instituição se enquadra geograficamente — e as suas identidades, através de processos de cocriação. Encontra-se, neste momento, a decorrer o primeiro ano desta unidade extracurricular que integra 6 alunos das licenciaturas em Design de Jogos Digitais e Marketing[4] da EsACT.

2. Contextualizar o documentário Animado nas práticas de animação

Annabelle Roe, autora com uma investigação notável na área do documentário animado, assinala que a animação desempenha um papel importante para ilustrar, esclarecer e enfatizar ideias e histórias, em contextos não ficcionais, desde o início do século XX [2]. Filmes informativos, propagandísticos, infografias animadas e anúncios[1] são alguns dos contextos em que a animação aparece como estratégia de representação [2] para informar, comunicar e exprimir ideias.

Para um melhor entendimento, importa aqui aflorar o conceito de representação, cuja compreensão é fundamental neste contexto, constituindo-se como uma estratégia através da qual se estabelece um representante que tomará o lugar do representado[7]. Como é apontado por Rancière [8], o regime representativo "regula as relações entre o dizível e o visível, entre o espraiar dos esquemas de inteligibilidade e o das manifestações sensíveis" (p. 156), salientando, ainda, que a "representação é uma distribuição ordenada de significados, uma relação regulada entre o que é compreendido ou antecipado e o que acontece de surpresa (...)" (p.153).

As diferenças formais, conceituais e técnicas entre as imagens *live-action* e a animação, desencadeiam relações de leitura e interpretação distintas, quando consideram a representação da realidade [2], o que permite afirmar, de acordo com Roe, que a animação "pode apresentar o

2 https://if.ipb.pt/en/

3 Instituto Politécnico de Bragança

4 Os alunos envolvidos são: Alice Gaspar, Duarte Nascimento, Diego Rocha, Ita Pritsch e Victoria Oliveira, da licenciatura em Design de Jogos Digitais; e India Oliveira, da licenciatura em Marketing, todos estudantes da ESACT/IPB.

assunto convencional do documentário (o 'mundo exterior dos eventos observáveis) de modos não convencionais)(...) e transmitir visualmente o 'mundo interior' da experiência subjetiva e consciente - assuntos tradicionalmente fora do alcance do documentário." [2]

Com as primeiras ideias lançadas sobre os papeis que a animação poderá desempenhar, e antes nos dedicarmos a uma reflexão mais aprofundada sobre o conceito de documentário animado, importa consagrar algum tempo à reflexão sobre o documentário, em geral.

O termo documentário foi criado por Grierson [9] que a ele se referiu como "Documentário, ou o tratamento criativo da realidade"[10], nos anos 30 do século XX.

O enquadramento da área de criação deste artefacto audiovisual sempre foi dinâmico e os seus limites flexíveis, tendo o seu conceito sofrido ao longo da sua história, já com mais de 100 anos, múltiplas alterações e diversas propostas de reescrita.

Vários fatores — que contribuem para a definição do conceito — influenciaram, de acordo com o Nichols [11] as modificações sofridas e promovem a transformação contínua do que é considerado um documentário, num momento e lugar específicos. As instituições de apoio à sua criação e distribuição, as abordagens criativas dos realizadores, a influência que algumas obras têm a curto e a longo prazo sobre os autores das diversas gerações, e as expectativas que as audiências têm sobre estas formas específicas de olhar para a realidade, são fatores que o autor considera como cruciais na alteração continua do que é considerado um documentário.

Por considerarmos uma proposta que se enquadra contemporaneamente, trazemos a definição de Bill Nichols [11] que nos diz: "O documentário fala sobre situações e eventos envolvendo pessoas reais (...) que se nos apresentam, como a eles mesmos, em histórias que transmitem uma proposta plausível ou uma perspetiva sobre as vidas, situações e eventos retratados. O ponto de vista distinto do cineasta molda esta história de um modo que permita ver o mundo diretamente, em vez de uma alegoria ficcional" (p.14). Este autor ainda afirma que os documentários diferem das ficções pelas representações que fazem e falam sobre o mundo que todos compartilhamos, com clareza e envolvimento [11].

Reconhecendo as diversas aproximações que esta definição poderá considerar, o mesmo autor [11], no âmbito da realização de documentários, considera diferentes modos de criação cujas aproximações variam de acordo com os realizadores, com o período e os locais em que foram desenvolvidos, configurando, em termos gerais, a maneira como os realizadores se socorrem dos recursos e das técnicas cinematográficas.

O modo expositivo sublinha o comentário verbal e a lógica argumentativa. A ênfase nas associações visuais, de qualidades rítmicas ou tonais, assim como a inserção de segmentos descritivos e o rigor na organização formal, são características do modo poético de documentário [11]. Já o envolvimento com os assuntos do dia-a-dia, através de captações com câmaras que ocupam um espaço que se pretende de invisibilidade e de captação de um tempo real, é nos trazido pelo modo observacional em

que, de acordo com Rabinger [12] "usa-se a câmara como um antropologista" (p.85). O modo participatório sublinha a interação realizador-tema, o que pode acontecer, por exemplo, através de entrevistas e da partilha de pensamentos e assunções do realizador [12] e é frequentemente acompanhado com *footage* de arquivos [11]. O modo reflexivo convoca [11] "os pressupostos e convenções que regem a produção de documentários" (p.31) reforçando o modo como é feita a representação da realidade, pelo realizador, frequentemente através da utilização de (Lefèvre, 2019,) "técnicas cinematográficas anti-realistas" (p.22) que permitem "ver um determinado documentário pelo que ele é — uma construção ou representação" (p.22) [13]. Por último, o modo performativo destaca aspetos subjetivos e expressivos que revelam o envolvimento do realizador com o tema, usando abordagens evocativas e emocionais [11].

Todos os modos acima descritos não são estanques e chegam-nos, frequentemente, articulados entre si, em concordância com os objetivos que o realizador pretende alcançar.

Sendo evidente que o foco deste artigo é o documentário animado porque consideramos importante fazer a identificação dos modos do documentário de Nichols? Formenti diz-nos que " os documentários animados foram classificados academicamente como filmes documentários, pois usam a animação para narrar fragmentos do mundo real, em vez de um mundo imaginário"[14] e as reflexões sobre o documentário, em geral, permitem-nos compreender esta área de produção de documentos audiovisuais com maior profundidade.

Mesmo assim, como é sublinhado por Lefevre [13], aliar as tipologias apontadas por Nichols ao documentário animado pode levantar algumas reservas. Um dos exemplos mais eloquentes que Lefevre aponta é o do modo observacional que, *stricto senso*, é incompatível com a utilização de animação pela proposta que faz de utilização da câmara.

Ainda, segundo o mesmo autor, os outros modos, se devidamente dissecados, apresentam-se não como tipologias, mas como estratégias narrativas. O modo reflexivo, por exemplo, apresenta algumas questões dado que as suas particularidades podem identificar-se noutros modos e, como é referido por Decker [13], é por vezes mais uma estratégia de *storytelling* visual do que um padrão formal distinto.

A discussão da utilização das tipologias de Nichols para aplicar ao documentário animado é também levantada por Roe [2] que assinala as tipologias de Paul Wells e de Eric Patrick como mais elucidativas sobre os modos de categorizar os documentários animados salientando que estas podem, por vezes, relacionar-se com os modos de Nichols.

Paul Wells, na sua obra *Understanding Animation*, enfatiza que "a animação (...) funciona de maneira totalmente diferente do cinema live-action e que, consequentemente, o que se mostra o melhor critério para isolar a não ficcionalidade deste último, pode não ser adequado no caso do primeiro"[15][2][16]. Este autor estabeleceu uma taxonomia para o documentário animado na qual distinguiu quatro categorias, salientando as relações que os artefactos estabelecem com a realidade através do tom geral do *storytelling*, os assuntos abordados, a estrutura e o estilo visual.

Apresenta como primeira categoria o modo imitativo que "ecoa direta-
mente as convenções genéricas dominantes do documentário *live-action*"
[2]. Em seguida, o modo subjetivo reconhece a utilização da animação
como um modo de representar a subjetividade do sujeito criando, como
Widdowson refere, afinidades com o modo performativo de Nichols[16].
Quanto ao modo fantástico, este expande o modo anterior desafiando os
modos de representação dos documentários ao propor uma abordagem
desconectada do mundo e das representações naturalistas do real [2][17].
Para concluir, o modo pós-moderno adota conceitos pós-modernistas e
questiona a possibilidade do conhecimento em si mesmo, assumindo o
real como fragmentado e incoerente [2][17].

Ainda, para estabelecer tipologias para o documentário animado Eric
Patrick não utiliza como método de criação de uma taxonomia a relação
dos documentários animados com a realidade. Destaca, sim, o *storytelling*
[2], adotando, deste modo, o conceito de estrutura como o esqueleto que
serve de suporte aos conteúdos. Cria, por este motivo, três categorias
principais que designa, sucessivamente, por estrutura ilustrativa, estru-
tura narrada e estrutura baseada em som. A primeira refere-se à repre-
sentação de eventos baseados em testemunhos históricos ou pessoais. A
estrutura narrada utiliza um guião e locução para criar o storytelling em
redor dos eventos representados. Por último, o autor propõe uma catego-
ria constituída por uma estrutura baseada em sons que depende de uma
ligação com a realidade representada que não parte de sons criados, mas
sim de sons encontrados ou não editados como base para a representação.
Criou ainda uma quarta estrutura — a estrutura estendida — que enfatiza
a utilização da subjetividade, da metáfora e dos símbolos, tendo como
objetivo fundamental considerar criativamente técnicas tradicionais de
storytelling para produzir documentários animados. Esta estrutura funcio-
na como uma extensão do modo fantástico de Wells [2].

Anabelle Roe [18] propõe, por sua vez, um conjunto de critérios aos quais
o documentário animado deverá responder para ser entendido como tal.

Em primeiro lugar, deverá ser criado *frame-a-frame*. Sendo um crité-
rio utilizado frequentemente para distinguir a animação de outros media,
é na nossa opinião um dos fatores distintivos destes artefactos, mesmo
que o documentário seja apenas parcialmente animado, ou seja, o resulta-
do de uma combinação entre imagem animada e *live-action*.

Ser sobre o mundo e não sobre um mundo criado pelo seu autor é o
segundo critério que aproxima a reflexão da autora da proposta de Nichols
e que permite distinguir o documentário da ficção.

O modo como os produtores apresentam o documentário animado
à audiência e a maneira como é distribuído pelas audiências, festivais e
críticos, é o terceiro critério para este seja entendido como tal. A estes
três critérios a autora acrescenta uma ideia fundamental com a qual
concordamos: o documentário animado constitui um todo coeso que
ficará incoerente se a animação não estiver presente, mesmo que esta seja
combinada com *live-action* [18], critério que constitui, de acordo com a
nossa visão, fundamental para o enquadramento do que se entende como
documentário animado.

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De acordo com Roe a animação pode assumir diferentes papeis nos documentários e distingue, para esta, três funções [2]. Caracteriza a primeira como um funcionamento por mimese ou substituição. Neste caso a animação ilustra algo difícil ou impossível de representar em *live--action,* mas que pode assumir-se como uma substituição deste género de captações do real. Como segunda função da animação, a autora assinala o modo não-mimético que é utilizado na criação de situações únicas, não se apresentando nem como um substituto do real, nem como ligação a situações reais. Por último, a função evocativa permite representar "conceitos, emoções e estados mentais particularmente difíceis de representar através de imagética real" (p.25)[2]

Em síntese, a animação tanto permite apresentar o assunto convencional do documentário, de maneiras não convencionais [2]; como mostrar o que pode estar desligado temporal, espacial e psicologicamente do real, dado o seu potencial de representação, distinto da *live-action* [18]. Liberta--se, assim, o documentário animado da representação da ligação indexical do documentário, mencionada por Nichols em 1991, o que lhe permite elaborar em redor de aspetos distanciados do real, "transcender a geografia e dar uma visão sobre os estados mentais do outro" [2] (p.2), ao permitir a representação dos mundos internos e subjetividades, assim como, de eventos passados. A representação não-indexical permite fazer aproximações visuais às observações qualitativas que o assunto pressupõe e encoraja o envolvimento com a forma e com o tema, como nos refere Widdowson ao refletir sobre o seu documentário animado *Music & Clowns* [16].

Concorda-se aqui com Roscoe & Hight, citados em Lefèvre [13]: "nenhum documentário existente fornece uma visão não mediada do mundo", ponto de vista que fundamenta o valor da representação de factos através de técnicas de animação, como assinalado em Lefèvre (2019). Ainda, Paul Wells recorda-nos que "a animação é uma forma distinta que funciona de maneira totalmente diferente do cinema live-action e que, consequentemente, o que se apresenta como o melhor critério para isolar a não ficcionalidade deste último pode não ser adequado no caso do primeiro"[15].

Nesta mesma linha de reflexão enfatizamos que a animação disponibiliza múltiplos estilos e abordagens que permitem diversificar os modos como algo é narrado e permite a expressão de pensamentos e emoções específicas[15]. Wells refere-nos, ainda, alguns dispositivos específicos da forma animada, apresentando a metamorfose como um dos mais importantes. A metamorfose consiste na capacidade de uma imagem mudar para outra imagem completamente diferente através dos seus componentes formais como a linha, a mancha ou os próprios objetos e ambientes [15]. Alguns autores defendem esta estratégia visual e narrativa como o cerne da própria animação, ideia que aqui destacamos.

Esta aproximação detalhada às diversas taxonomias para o documentário animado serve tanto para reconhecer a diversidade de aproximações existentes neste âmbito, como para identificar as relações que se estabelecem com a área global do documentário, num momento em que a animação, como menciona Ehrlich [5], ocupa cada vez mais um espaço importante para apresentar eventos reais através de representa-

ções visuais que permitem simplificar informação e processos. Por outro lado, a mesma autora sublinha que, na contemporaneidade, a animação apresenta uma complexidade e uma multiplicidade de contextos de utilização que nos levam a tentar compreender o documentário animado "em proximidade com outras disciplinas" (p.6) [5] com a convicção que os espectadores já estão, neste momento, acostumados à animação em contextos informativos e documentais.

Contextualizando brevemente algumas das ideias que consideramos até aqui fundamentais para o documentário animado analisamos, em primeiro lugar, Flee (2021)[19], o documentário animado de Jonas Poher Rasmussen que nos conta a jornada de um jovem afegão que chega à Dinamarca nos anos 80, sem a família, em fuga da guerra. Este documentário conjuga processos técnicos de animação de rotoscopia, com animação *frame-a-frame* e imagens reais.

A sua estrutura narrativa constrói-se a partir do relato das memórias de um homem jovem, na primeira pessoa, numa entrevista gravada por alguém que se adivinha próximo. Muitos dos momentos que são narrados nunca poderiam ser representados visualmente com imagens reais, que são inexistentes. Acresce a importância de manter o anonimato dos intervenientes, durante a animação realizada através de rotoscopia, dado o receio de represálias, quer para a pessoa que conta a história, quer para a sua família, o que requereu a criação de um equilíbrio de representação entre os referentes visuais utilizados para criar a animação e o seu resultado. A abordagem mais expressiva da animação apresenta-se como uma estratégia evocativa de momentos de grande intensidade dramática, vividos pelo entrevistado. Interessa, ainda, aqui referir a utilização de imagens reais de época que nos permitem vislumbrar a sociedade do Afeganistão durante os anos 80 e alguns momentos de guerra posteriores. Mesmo utilizando técnicas tão diversas como as que são atrás relatadas, os resultados visuais são coesos e a sua diversidade técnica permite introduzir os diversos tons narrativos indispensáveis à história real narrada.

Um segundo documentário animado que nos chamou a atenção foi *Carne*, de Camila Kater [20] no qual "através de histórias íntimas e pessoais, cinco mulheres compartilham as suas experiências em relação ao corpo, desde a infância até à velhice" [21]. *Carne* é um documentário totalmente animado em que a narrativa na primeira pessoa é construída através de paralelos entre histórias pessoais reais, etapas da vida humana e pontos de cozedura da carne. A autora utiliza diferentes técnicas de animação para abordar cada história, tentando enfatizar através de metáforas visuais o que está a ser contado. A primeira história, narrada por uma menina com obesidade, fala-nos da dualidade entre a forma como a educadora física valoriza a sua capacidade de correr e o modo como a sua mãe, nutricionista, vê o seu corpo como transitório, como algo a mudar. Kater cria um fundo, com padrões de panos de cozinha que sofrem alterações ao longo da animação, no qual se sobrepõe um prato de almoço onde se conta a história que é, por sua vez, animada. Funciona como uma representação evocativa do território de casa, espaço onde o corpo com obesidade é posto em causa. A animação por desenho da personagem me-

nina a correr e a forma correta de dividir a comida numa refeição, anima-
da através de stop-motion, são dois momentos narrativos com diferentes
abordagens técnicas de animação que permitem, apesar das diferenças
formais, representar de um modo coeso as histórias contadas.

Camouflage [22] é um documentário animado dirigido por Jonathan
Hodgson que nos traz, através de diversos testemunhos verbais, fragmentos
de vidas pontuadas pela experiência de viver com uma mãe esquizofréni-
ca. A ideia principal deste documentário é nos apresentada nos primeiros
segundos "As mães da maioria das pessoas são loucas. A minha tinha
esquizofrenia" [22]. Este documentário conjuga imagens reais, que ence-
nam memórias vividas do autor, com animação por rotoscopia, momentos
que animam expressivamente os testemunhos das situações psicóticas das
mães dos entrevistados. Estas memórias são representadas com grande ex-
pressividade, assumindo, aqui, as metáforas e a metamorfose um papel fun-
damental na criação de ideias visuais fortes, com grande poder evocativo.

Todos os documentários que trouxemos para este contexto permitem-
-nos defender que os documentários animados são, utilizando uma expressão
de Widdowson, "um medley complexo de interações modais" (p.59)[16].

3. A pré-produção do documentário animado

3.1. Com a cocriação em mente

O reconhecimento que os artefactos audiovisuais resultam, na maior par-
te dos casos, de uma equipa que desempenha papeis diversificados e cuja
contribuição dos seus membros é fundamental para o resultado, leva a
que o conceito de autoria, centralizado apenas numa figura, seja afastado
nas abordagens de cocriação. Interessam, aqui, as pessoas envolvidas e os
processos que estas desempenham, num espírito colaborativo.

A cocriação entende-se, pois, como uma alternativa a uma visão de
autoria única e pode enquadrar múltiplos métodos e estruturas, emergin-
do os projetos dos processos internos realizados pelas comunidades e/ou
grupos que deles se apropriam [23][24]. A cocriação "reformula etica-
mente quem cria, como e porquê"[23].

Não consideramos que a cocriação substituiu a prática da figura do
autor, entendido como tal. Mas, dado o número de projetos em cocriação
ser cada vez maior na área de audiovisual, concordamos com Auguiste
[24] ao afirmar que esta já não é uma ideia utópica, "mas sim um fenó-
meno sociológico incontestável" (p.38) reconhecido pelo seu potencial
como uma forma de fazer.

A possibilidade de utilizar plataformas digitais que potenciam práti-
cas colaborativas tem também contribuído para o desenvolvimento das
práticas de cocriação que permitem a um número crescente de criadores
serem "mais inclusivos, democráticos e dialógicos; e menos hierárquicos
(...) em suas práticas."[24].

Tendo em vista a criação de documentários animados ancorados
em processos de coautoria, enquadrados pelas temáticas dos territórios
de montanha destacadas pelo LAM-GM, iniciou em outubro de 2022

uma unidade extracurricular (UEC), integrada no projeto de inovação formativa do IPB que tem como um dos objetivos realizar documentários animados através de processos de cocriação.

3.2. Em busca de um tema

Numa primeira fase desenvolvemos um processo através do qual procuramos um tema, enquadrado pela temática geral da UEC. AO considerarmos como muito abrangente o eixo temático desenvolveu-se, na primeira sessão, um processo coletivo de pesquisa de ideias que nos permitisse abraçar um tema que emergisse dos interesses do grupo.

Partimos da análise dos textos de um projeto designado por *The universe in verse* [25], considerando o seu carácter poético e evocativo. Cada um escolheu um tema deste projeto, a partir dos qual, após análise aprofundada, propôs cinco (5) temas relacionados com o tema geral da UEC, que se aproximassem dos interesses de cada um/uma dos/das participantes.

Numa segunda etapa, estas ideias foram registadas em *post-its* que foram passados ao membro da equipa sentado à direita. A pessoa que recebeu os *post-its* desenvolveu as ideias do outro membro da equipa, acrescentando subtópicos ou estratégias narrativas de desenvolvimento que derivaram da interpretação das ideias lidas. Este passo repetiu-se até o processo ser concluído por todos os membros.

Tendo em vista a discussão e a escolha da ideia final organizaram-se os post-its por agrupamentos, de acordo com afinidades temáticas, numa parede que nos permitia de um modo dinâmico analisar os conteúdos globais.

Detetamos, nesta fase, que havia grupos de ideias similares. Deixamos, destes grupos, a ideia que melhor os representava, retirando todas as que se consideraram repetidas.

Quando se concluiu a organização de ideias fez-se uma seleção que passou pela escolha de 3 ideias, por pessoa. Desta votação resultou o tema *A mulher transmontana*, com alguns desenvolvimentos breves, mas ainda sem enquadramentos fechados sobre o modo de o abordar (Fig. 1).

Fig. 1 Visualização de uma parte do Processo de criação do tema para o documentário animado sobre a mulher em Trás-os-Montes.

[Animação · Animation] ▪ analucia.pinto@ipb.pt

3.2. Métodos e processos de investigação sobre o tema escolhido

Na segunda sessão iniciamos a investigação sobre o tema que fomos partilhando através de um servidor Discord[5] criado para o grupo de trabalho. Neste espaço criamos diversos canais temáticos que nos permitem, desde o início dos trabalhos, comunicar e partilhar ideias.

Fizemos uma pesquisa exaustiva, vimos e analisamos documentários sobre Trás-os-Montes, reportagens de diversas épocas sobre locais, costumes e eventos enquadrados nesta zona geográfica. Lemos documentos de texto, notícias de jornais, locais e nacionais, assim como vimos documentos fotográficos, teses e dissertações sobre temas que se conectavam, de algum modo, com o tema escolhido.

Após esta investigação inicial refletiu-se sobre o modo como se iria falar sobre a mulher de Trás-os-Montes. Foi tomada uma primeira decisão, adequada aos nossos objetivos e inspirada por outras abordagens documentais das quais trazemos acima exemplos de alguns estudos de caso analisados nas sessões da UEC.

Assim, decidimos entrevistar estudantes e funcionários da nossa instituição. Estabelecemos como critérios de seleção terem nascido e sempre terem vivido em Trás-os-Montes.

Para encontrarmos potenciais interessados em participar, enviámos um formulário de participação para os emails gerais da instituição ao qual responderam 24 pessoas.

3.3. Entrevistas e reconhecimento da riqueza cultural do território

Durante a investigação inicial sobre o tema recolheram-se frases ditas por mulheres que nos permitiram enquadrar melhor o tema e que nos serviram de mote para a elaboração posterior das perguntas. Esta informação foi organizada, em diversas etapas, num mapa mental temático criado na ferramenta digital colaborativa Miro[6].

Fizeram-se 4 sessões de gravação e entrevistas a 9 pessoas: um docente e 8 estudantes que se disponibilizaram para as entrevistas, após a convocatória que se seguiu à manifestação de interesse inicial (Fig. 2).

Houve o cuidado de preparar tecnicamente este material para que tanto as imagens como o som pudessem ser posteriormente utilizados e todo o material foi transcrito em seguida.

Após a gravação das entrevistas, para se aprofundar o conhecimento sobre a zona, fez-se ainda uma visita de estudo aos museus de Bragança. Visitámos o museu Ibérico da Máscara e do Traje, com o seu acervo de máscaras, trajes, adereços e objetos utilizados nas *Festas de Inverno* em Trás-os-Montes e Alto Douro e nas *Las Mascaradas de Invierno* da região de Zamora; as exposições *Trás-os-Montes*, de Orlando Ribeiro; e *À Força do Arado, Trás-os-Montes*

Fig. 2 Reenquadramentos de alguns fotogramas retirados das entrevistas.

5 https://discord.com/
6 https://miro.com/

Fig. 3 Registo fotográfico dos alunos da UEC — Ita Pritsch, Victoria Oliveira, India Oliveira, Diego Rocha e Duarte Nascimento — durante a visita ao Centro de fotografia Georges Dussaud, em Bragança.

na década de 1980, de Georges Dussaud e Eduardo Perez Sanchez, no centro de fotografia Georges Dussaud; e no Centro de Arte Contemporânea, as exposições *Graça Morais* e os *Rituais do Silêncio e Homenagem d António Mega Ferreira, Linhas da Terra / Os olhos Azuis do mar.* (Fig. 3).

3.4. Transcrições e Construção do Guião

Com o material já gravado fez-se a transcrição e a classificação temática do material. Após um processo intensivo de análise deste mesmo material iniciou-se a elaboração do guião, processo que se revelou como o mais difícil de todas as etapas realizadas até então. Decidimos, refletindo as gravações, assumir uma estrutura que é, sobretudo ilustrativa opção que já nos acompanhava desde a decisão de entrevistar pessoas de Trás-os-Montes e que evidencia a representação de eventos e situações baseados em testemunhos pessoais.

O modo participatório que sublinha a interação do realizador com o tema pode ser também aqui considerado dado que a abordagem feita através das entrevistas será pontuada por reflexões da equipa, integrando, deste modo, uma estrutura estendida, trabalhada sobre o que foi nos contado pelos entrevistados e que contribui para a criação de uma linha de *storytelling* reforçada por metáforas e símbolos que povoam os imaginários destas terras e as histórias relatadas. Para a criação colaborativa deste guião foi utilizada a ferramenta Arcstudio Pro[7] que permite, desde o primeiro momento, assimilar a colaboração de todos os membros da equipa, adotando o formato canónico de um guião.

4. Considerações Finais

O documentário animado é, na atualidade, um artefacto que oferece múltiplos dispositivos que permitem relatar o real. Neste artigo trazemos, para além de um mapeamento breve sobre a evolução das suas taxonomias, propostas por diferentes autores, o relato do nascimento de um projeto de cocriação de um documentário.

Como foi referido, o processo encontra-se em fase de pré-produção, considerando-se este artigo a contextualização inicial do programa em que este se insere; e o relato da sua primeira etapa de desenvolvimento — a pré-produção. Neste momento está já em desenvolvimento, pela equipa, o storyboard e espera-se que, após a realização do animatic, a produção seja iniciada no próximo trimestre.

Está nos nossos planos continuar a refletir futuramente sobre este projeto, dando a conhecer aspetos tanto da sua produção como da sua linha narrativa.

Agradecimentos

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O desenho infantil e a colaboração com a criança como ponto de partida para o desenvolvimento de uma curta-metragem de animação

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Abstract

Preceding verbal and written communication, children's drawings are used by children as a primordial form of expression, containing a great ideographic and symbolic value. Through them, children apprehend the world, discovering what's real and transforming it through their imagination, in what is their unique view of reality. Drawing is playing, and young children often create disconnected from any predetermined purposes, for the mere enjoyment the act of scratching, stamping, cutting and tearing paper brings them [1]. This said, "São "só" rabiscos" (meaning "They're "only" scribbles") appears as an animation project about imagination and creative processes, created from the graphic and narrative exploration of children's drawings. As such, with this project, we intend not only to give life to kid's drawings and stories, but to intervene on them, developing them by giving them new forms and meanings, visually more concrete and conceptually more mature. All drawings and other verbal records were obtained through a set of practical workshops developed with a group of 60 children, aged between 3 and 10 years old, belonging to four schools and kindergartens in the district of Viseu. With this article, we intend to reflect on the potential of adult-child collaboration in the graphic and narrative development of an animated short film, promoting a greater understanding of the specificities of this type of collaboration, and the path we've been taking to achieve the transmediation of static elements to animation.

01. Introdução

Desenvolvido no âmbito do Mestrado em Ilustração e Animação, no Instituto Politécnico do Cávado e do Ave, o projeto "São "só" Rabiscos" compreende a concretização de uma curta-metragem de animação, elaborada a partir da colaboração com a criança e da exploração gráfica e narrativa do desenho infantil. Através do vigente projeto procuraremos dar destaque à expressividade da produção visual da criança e às múltiplas leituras

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que constituem o desenho infantil, explorando a forma como este tipo de desenho pode, quer através do seu vocabulário gráfico, quer através da experimentação lúdica inerente à condição da infância, inspirar o trabalho do artista adulto. Como tal, foram realizadas um conjunto de 8 oficinas práticas de expressão livre com um público pré-escolar e do primeiro ciclo do ensino básico, tendo em vista a recolha de material gráfico e narrativo para a estruturação de micronarrativas. Após animadas – através do recurso a diferentes técnicas de animação como *frame-a-frame*, *stop motion* e *motion graphics* –pretende-se que o conjunto de micronarrativas integre a curta-metragem final, dando forma não só às histórias verbalizadas pelas crianças, mas a novas narrativas inspiradas nas sensações e ideias que os seus grafismos suscitam em nós, artistas adultos.

Sendo o mundo da criação infantil marcado por uma grande espontaneidade e irreverência – por um aparente libertar da convencionalidade e do medo de errar – definiu-se como tema da curta-metragem os processos criativos e a criatividade. Neste sentido, e como ponto de partida, estipulou-se que os excertos criados com base nos desenhos da criança seriam utilizados para representar o mergulhar de um artista no universo da criatividade e da imaginação, onde os mais simples rabiscos dão vida a inúmeras ideias.

Neste artigo, procuraremos descrever e refletir acerca das especificidades deste processo de colaboração, promovendo um maior entendimento acerca das implicações que este envolve: desde o planeamento das oficinas, à sua implementação, a todo o trabalho de categorização de elementos, definição da estética e exploração gráfica que antecede o processo de transmediação dos elementos estáticos para animação. Procuraremos também analisar alguns exemplos de colaboração adulto-criança, de modo a compreender o conceito de produção other than [2], criação esta onde é possível captar e preservar tanto a essência do gesto, traço e manualidade da produção infantil, como também a racionalidade e linguagem estética específica que caracteriza o trabalho do artista-adulto.

02. Desenho Infantil

O desenho enquanto atividade criadora ocupa um lugar privilegiado na vida da criança, representando não só uma brincadeira promotora de momentos de ludicidade e de fruição, mas também a primordial forma de expressão e de comunicação da mesma [1]. Precedente à comunicação verbal e escrita, através do desenho a criança conversa consigo e com os outros, construindo e reconstruindo as suas noções da realidade, por meio de uma linguagem gráfica própria da fase de desenvolvimento em que se encontra. Entende-se, assim, o desenho como um meio de exploração dos limites da linguagem simbólica na infância, representando "não apenas um modo de inscrição do mundo na superfície do papel, mas o momento da sua inteligibilidade" [3, p.10]. Por outras palavras, ao desenhar a criança observa e conceptualiza o mundo, formulando pensamentos, à medida que encontra lógicas e padrões que lhe permitem decifrar as várias realidades com que se confronta no seu dia-a-dia. Como tal, é inevitável considerar o desenho realizado por crianças como uma importante ferramenta na exploração do real, essencial à compreensão do mundo e consequente construção de conhecimento sobre o mesmo [1][3].

Essencialmente ideográfico, o desenho infantil representa mais do que a criança vê, aquilo que ela sabe e a ideia que vai fazendo das coisas [4]. Como tal, e dependendo da fase de desenvolvimento em que a criança se encontra, é usual que a mesma recorra a técnicas como a transparência ou o rebatimento, de modo a extrapolar a mera representação de uma realidade exterior [3]. A representação do não visível surge associada a uma forte componente imaginativa. Assim, de acordo com Manuel Sarmento, a produção da criança tende a misturar o real com o fantasioso - não por uma incapacidade em distinguir o que é (ou não) fictício, mas antes por uma vontade maior de imaginar todas as "possibilidades imaginárias de existência" [3, p.17], acedendo a mundos distantes e desconhecidos, não condicionados pelo espaço e tempo presentes. Talvez por isso, seja tão frequente observar a humanização de elementos variados, desde os animais, às casas, às árvores e até o sol, por exemplo [5].

Embora a evolução dos grafismos esteja relacionada com o ritmo pessoal de cada um, é-nos possível identificar características comuns à representação de todas as crianças. Neste sentido, vários estudiosos, tais como Lowenfeld (1903-1960), Luquet (1876-1965) e Piaget (1896-1980), procuraram definir um conjunto de estágios de desenvolvimento do desenho infantil, estabelecendo ligações entre a complexidade dos grafismos e a evolução etária. Ostentando nomenclaturas diferentes, estas teorias partilham as mesmas ideias de que toda a criança começa por traçar garatujas – traços ao acaso resultantes "do prolongamento do braço através de um objeto riscador" [4, p.6] – que deverão acompanhar o seu registo até aos 3-4 anos. Por esta idade, a criança será capaz não só de fazer movimentos mais controlados, mas de reconhecer figuras nos seus traçados. Consequentemente, do fazer involuntário, o gesto adquire intencionalidade e a criança vai criando e modificando os seus desenhos para se aproximar do real – ainda que limitada pelas dificuldades psíquicas e gráfico-motoras que leva à produção de imagens desproporcionais. Por volta dos 7 anos, o seu desenho torna-se cada vez mais descritivo, adotando técnicas como as transparências e o rebatimento para comunicar o que a criança sabe que existe, mas que não vê. Também as cores, anteriormente selecionadas conforme o estado emocional, passam a aproximar-se do real.

À medida que cresce, a criança ambiciona a representação realista das coisas, sendo usual que aos 12 anos – com o aperfeiçoar da sua capacidade de síntese – abandone os detalhes extra para se focar na opacidade e na perspectiva das coisas. Assim, "o desenho infantil chega ao fim, ocorrendo o empobrecimento e o enxugamento do grafismo" [6, p.184].

2.1 Colaborações Adulto-criança

A colaboração enquanto meio para a criação artística não é uma ideia de agora. De facto, como Holly Crawford defende na introdução do livro *Artistic Bedfellows* (2008), esta é tão antiga como a existência de *ateliers*, estúdios e grupos de artistas com manifestos, sendo a única novidade a própria conceção do conceito "colaboração". Entende-se assim, a colaboração artística como um processo de troca de ideias, de experiências e de conhecimentos entre duas ou mais pessoas, pressupondo o alcance con-

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junto de uma finalidade comum [7]. Tal finalidade tanto pode representar a criação de um objeto artístico único, como a experiência do processo de colaboração em si – o que faz sentido quando tomamos a colaboração "como um processo de transformação mútua, em que os colaboradores, e, portanto, o seu trabalho comum, é de alguma forma mudado"[4] [2, p.9]. Consequentemente, este processo caracteriza-se por um inevitável abdicar da individualidade – pelo menos, parcial – em prol do coletivo [2].

Mas as colaborações não são todas iguais. De facto, como o professor e investigador Brent Wilson (2007) aponta, estas caracterizam-se por diferentes dinâmicas de poder, divisão de trabalho e de conflito, podendo oscilar entre a *coerção extrema* – em que uma parte exerce total poder sobre a outra – e a *negociação equiparável*, em que as decisões são tomadas de uma forma democrática. Naturalmente, o alcance de equidade torna-se mais difícil quando há uma discrepância acentuada de idades, de conhecimentos e de experiências tão notável como se sucede na colaboração adulto-criança. Neste sentido, o autor apela à necessidade de o adulto moderar a sua participação, envolvendo-se nas dinâmicas de uma forma calma e equilibrada que não constranja a expressão da criança [2].

Neste âmbito, Brent Wilson (2007) cunha o termo "produções *other than*" para se referir às produções de natureza híbrida resultantes do processo de colaboração, caracterizadas pela mistura de linguagens e de experiências dos diferentes intervenientes. No contexto desta investigação, toma-se a produção other than como algo que "vai além da cultura visual infantil, assim como além da cultura visual adulta"[5] [2, p. 9].

Ainda que passivas – na medida, em que assentavam numa mera apropriação[6] e inspiração nos grafismos da criança - as primeiras colaborações adulto-criança podem ser datadas ao final do século XIX, em que a complexa e variada imagética da altura "had come to strain mind's power of visual discrimination and organization to the limit" [8, p.15]. Como tal, e de modo a inovar num contexto de saturação e a romper com a tradição, muitos artistas viram-se obrigados a procurar novos modelos e inspirações, voltando-se para o desenho infantil. No livro *The Innocent Eye* (1997), Jonathan Fineberg aprofunda este fascínio, promovendo uma reflexão acerca dos diferentes motivos que levaram artistas como Matisse (1869-1954), Picasso (1881-1973) e Pollock (1912-1956) a interessarem-se pela produção infantil, assim como das diferentes influências e apropriações que cada um fez da mesma.

A primeira colaboração adulto-criança só terá sido publicamente assumida anos depois pelo coletivo de artistas vanguardistas *CoBrA*, focado na criação de peças colaborativas, assentes na espontaneidade e na experimentação. Através das suas obras, o coletivo procurava aproximar-se do inconsciente, desconstruindo as convenções transmitidas pela academia

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4 Tradução livre (inglês): "Collaboration is a process of mutual transformation in which the collaborators, and thus their common work, are in some way changed" (Kelly, 1995, p. 140 as cited in Wilson, 2007, p. 9).

5 Tradução livre (inglês): "it would be other than child visual culture and other than adult visual culture" [2: p.9].

6 Tome-se a apropriação como um acrescento da contribuição de um artista atual, sobre o material precedente existente, produzido por outros artistas (Midlej). Esta investigação segue o pensamento de Midlej (2018), considerando a apropriação de imagética como um exercício colaborativo entre artistas, desde que haja o devido reconhecimento da autoria da obra base.

de modo a evocar a sua criança interior [9]. Como tal, estes apropriaram-se da linguagem primitiva da arte infantil, misturando-a com elementos de arte tribal e da *folk art*. Para além disso, o coletivo ficou conhecido por pintar com crianças sobre uma mesma tela, de uma forma em que produções infantis e adultas partilhavam o mesmo *status* [2].

Já dentro do campo da animação, as colaborações adulto-criança identificadas tendem a ser integralmente constituídas pelos grafismos das crianças. De facto, como podemos observar em filmes de projetos como a *Camera etc.* ou o *Crianças Pr1meir⁰*, o papel do adulto tende a limitar-se à função de orientador técnico e de facilitador de aprendizagens, sendo o seu contributo gráfico reduzido ou até nulo. Naturalmente, tal decisão encontra-se em muito ligada aos objetivos e visões dos próprios projetos, neste caso, focados em promover a realização de aprendizagens mais significativas através do uso da didática animada [10]. As técnicas de *stop motion* de recortes e de *pixilização*[7] adquirem aqui um lugar privilegiado pela praticidade e facilidade de envolvência que promovem quando comparadas com meios tradicionais de animação. Ainda assim, existem casos de colaboração como a curta-metragem *Metamorfosis* (2015), de Concha Garcia, em que uma turma de crianças do 5º ano é orientada na realização de pequenas animações *frame a frame* para ilustrar um conjunto de metamorfoses e, consequentemente, explorar o conceito de identidade.

Noutro exemplo de colaboração, destacamos o trabalho da *Pinac (Pinacoteca Internazionale dell'età evolutiva Aldo CIbaldi)* – um museu dedicado a colecionar, estudar e promover a expressividade da criança - e mais especificamente o seu projeto "Disegni Animati", como um bom exemplo daquilo que pode ser a transmediação do desenho infantil para animação. Ao recorrer aos *motion graphics*, a animadora Irene Tedeschi foi capaz não só de dar vida às representações da criança, como de construir todo um universo e uma narrativa à volta das mesmas. Ficamos assim mais elucidados sobre a forma como o artista adulto pode apropriar-se do trabalho da criança, validando os registos, expandindo-os e transformando-os pela adição de novos significados sem, porém, pôr em causa a linguagem e expressividade presentes na sua origem.

A partir destes exemplos, podemos afirmar que com o projeto "São "só" Rabiscos" não procuramos a homogeneidade visual mas antes o alcance de composições harmoniosas caracterizadas pela diversidade de expressões e pela mistura de estéticas adultas e infantis. Reiteramos também a decisão de não envolver as crianças no moroso processo de animação, como uma oportunidade de criar animações mais complexas, capazes de tirar um maior partido daquilo que é a voz e contributos das mesmas. Por outro lado, e dadas as limitações de tempo subjacentes ao trabalho com públicos escolares, esta opção permite-nos explorar o desenho e a expressão mais calmamente no contexto de sala de aula.

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7 Tome-se a pixilação como uma técnica do cinema de animação que utiliza a captação sequencial de fotografias de uma pessoa em diferentes posições para criar a ilusão de movimento.

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3. As Oficinas
3.1. Caracterização do Grupo

O vigente projeto está a ser desenvolvido com quatro turmas de três escolas diferentes do distrito de Viseu: uma turma do Jardim de Infância de Cruz, uma turma do Jardim de Infância de Pedrosas e duas turmas mistas (1º/2ª ano e 3º/4ª ano) da Escola Básica de 1º Ciclo de Tondelinha. No total, conta com as pinturas e desenhos de 60 crianças: 23 delas entre os 3-5 anos, 18 entre os 6-7 anos, 19 entre os 8-9 anos. A escolha deste público-alvo adveio de uma vontade em trabalhar a partir de desenhos mais espontâneos e abstratos, menos condicionados pelas convenções da representação e pelo receio de desenhar mal. Já a escolha da região, deveu-se à naturalidade geográfica da investigadora.

3.2. Descrição das Oficinas

Muito variadas não só em idade, mas em dimensão das turmas, a seleção deste conjunto exigiu um planeamento cuidado das atividades, tendo em conta as diferentes capacidades e necessidades de cada grupo. Especialmente, nos grupos do pré-escolar - em que as produções gráficas variam entre garatujas não figurativas e os primeiros desenhos ideográficos- foi importante pensar em atividades capazes não só de dar espaço à voz e expressão de cada um, mas de garantir a mínima autonomia de todos os participantes. Neste sentido, procuraram-se definir diferentes objetivos para cada grupo e sessão, tendo em vista uma primeira recolha de grafismos, histórias e personagens. Como tal, as oficinas dos mais novos possuíam um carácter mais livre e experimental – assentes na exploração de diferentes materiais e técnicas, de modo a obter manchas e texturas – enquanto as sessões do primeiro ciclo incidiam na construção de personagens e narrativas, fazendo um maior recurso a materiais riscadores, pela precisão do traço que estes promovem. De modo a obter material facilmente conjugado, as crianças foram incentivadas a pensar e desenhar coisas pertencentes a universos imaginários.

De duração de 1h/1h30, as sessões dividiram-se em dois momentos: um jogo de aquecimento e uma atividade principal. O jogo de aquecimento, caracterizava-se por uma atividade simples, individual ou em grupo, através da qual se procurou estabelecer um ambiente confortável, marcado pela partilha e descontração. Os resultados gráficos, aqui, eram secundários. Já a atividade principal, caracterizava-se por uma atividade mais estruturada, geralmente desenvolvida em grupo, marcada por uma maior interação e diálogo entre as crianças e a investigadora. O resultado final surge, assim, como algo minimamente orientado, tendo havido uma preocupação em mediar a ocupação do espaço e a evitar sobreposições gráficas dos desenhos. A atividade era interrompida, antes da tela ficar cheia demais.

A preferência pelas atividades em grupo e pelos desenhos colaborativos, derivou de um desejo de potenciar a comunicação entre pares e o envolvimento em pedagógicas e enriquecedoras dinâmicas de *graphic play*[8].

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8 Tome-se o *graphic play* como um igualitário e democrático jogo de improviso gráfico, em que "os jogadores respondem espontaneamente às situações e sugestões dos outros, assim como às suas próprias. Se houver regras, elas tendem a ser formadas no local e mudam continuamente." [2,p. 15]

Dado que "os níveis mais altos de comunicação ocorrem quando a narrativa é construída com base na criatividade colaborativa e no pensamento narrativo partilhado" [11, p.41], acreditamos que o recurso a estes jogos possa enriquecer os processos de criação, resultando em produtos finais mais inventivos do que aqueles provenientes de uma autoria individual. Como Wilson reitera,

> "Innovation abounds because individuals in their responses to others' graphic situations, cues, and challenges produce things that they would not have produced by themselves. (...)the more skilled drawers present graphic models for the less skilled to emulate. Just as importantly, the more imaginative players stimulate the less imaginative ones" [2, p.15]

Tal decisão vem a ser reforçada quando consideramos a interatividade e a autoria coletiva como características fulcrais da cultura de infância e, consequentemente, do desenho infantil. Afinal de contas, "a criação plástica infantil vive da transação das formas, o plágio não é proibido, antes tolerado e cultivado (...) e a criação colectiva (...) muito comum." [3, p.16].

Por fim, e tendo em conta os contributos de Wilson (2007) anteriormente referidos, como investigadores procurámos adotar uma postura de observadores participantes, interagindo e desenhando moderadamente com as crianças, instigando a criação sem, porém, condicionar/ influenciar o potencial de cada um.

3.3. Resultados e Observações

A primeira sessão de cada turma contou com uma breve introdução do projeto e da sua metodologia de trabalho, acompanhado de alguns exemplos de desenhos infantis animados, previamente desenvolvidos para o efeito. Com esta exposição, pretendia-se enfatizar a forma como, através desta colaboração, os seus desenhos e histórias poderiam entrar em movimento – o que gerou entusiasmo entre as crianças. Por conseguinte, todos os grupos se revelaram bastante empenhados nas atividades pedidas.

Como já foi referido, os momentos de oficina foram pensados de modo a potenciar a criação colaborativa e a envolvência em dinâmicas de *graphic play*. Neste sentido, foi interessante perceber como face a um mesmo exercício coletivo, observámos dinâmicas de trabalho tão diferentes dentro de uma mesma turma. Especialmente no caso da turma do 1º/2º ano, foi curioso observar como num exercício em que os grupos eram desafiados a encontrar imagens num conjunto de manchas coloridas, tanto tivemos abordagens mais partilhadas – em que a folha rodava pelos membros de uma forma calma e ordeira, sendo cada representação pensada e discutida – como abordagens assentes na lei do "este canto é meu", que contribuíram para que a folha ficasse rapidamente seccionada em diferentes zonas temáticas. Ou seja, apesar da evidente cumplicidade e interesse pelo trabalho do outro, grande parte das crianças do primeiro ciclo preferiu focar-se na criação própria, não tirando verdadeiro proveito da possibilidade de cocriação.

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Por conseguinte, em atividades de aquecimento mais específicas, em que tinham de desenhar obrigatoriamente sobre o desenho do outro, foi-nos possível observar uma certa reticência da parte de alguns alunos em envolverem-se em processos de partilha e de cessão da sua criação, ora com medo de que os outros a julgassem, ora com medo que a estragassem. Este último ponto foi especialmente notável num dos grupos em que o mergulhar descontrolado de uma da criança em processos individuais de *graphic play*, fez com que os seus contributos se tornassem cada vez mais evasivos para os outros, desmotivando-os a desenhar por se sentirem desrespeitados. Em oposição, os grupos do pré-escolar – pouco ou nada preocupados com a obtenção de um resultado final – demonstraram-se bastante descomplexados em ceder as suas criações pessoais, tendo-se envolvido frequentemente em dinâmicas de *graphic play* para criar novos universos e partilhar ideias de histórias. "O vulcão explodiu e atingiu o teu dinossauro!", verbalizou uma criança de quatro anos enquanto riscava a vermelho todos os desenhos nas imediações do vulcão do amigo (Fig.1). Entendemos assim como o desenho colaborativo, ainda que pertencente a todos, possui uma componente inerentemente individual: um legado que deve ser continuado e respeitado. Consequentemente, a mesma dinâmica de grupo que potenciou a criatividade de uns, veio a limitar a expressão, a criatividade e o desempenho de outros.

Fig. 1 O "explodir do vulcão" durante o *graphic play*

A diversidade de idades também nos permitiu observar diferentes respostas e atitudes às imposições de um dado exercício. Retomando à atividade das manchas, por exemplo, enquanto as crianças mais velhas (5, 6 e 7 anos) foram capazes de aceitar o desafio de tornar as manchas em algo concreto - muitas vezes através do contorno da figura ou da sua humanização, por via de um acrescento de um sorriso e olhos - as mais novas (3, 4 anos) mostraram-se "resistentes", refugiando-se nos espaços vazios nas bordas das folhas para desenhar o que lhes apetecesse: a família, animais, corações, casas ou só linhas e pontos. A nosso ver, esta reação deveu-se à dificuldade da criança pequena em pensar, desde logo, no concreto. Como tal, tomámos esta "resistência" como um sinal de que a nossa proposta era inadequada à faixa etária. Também a forma como as crianças partiam da mancha para a imagem era muito distinta de acordo com as idades, sendo que só os mais velhos foram capazes de fazer uma extrapolação da mancha, partindo da mesma para pensar num todo na qual ela fazia uma pequena parte. "Podia ser um olho estranho, mas acho que é a carapaça de um caracol", afirmou uma criança, enquanto desenhava o resto do animal. Torna-se, desta forma, evidente o pensamento de Susan Wright quando esta defende que a riqueza narrativa dos desenhos da criança só pode ser captada na totalidade se houver uma observação sobre os processos de criação e verbalizações feitas no momento. Por outras palavras,

"Synopsis versions of children's drawing – stories are what many adults hear when they ask children to talk about their work. Such post-doc

tellings generally do not contain the richness of content nor capture the depth and type of participation that actually occurs during the child's enactment" [12, p.10]

No seu artigo, Kangas, Kultima e Ruokano (2011), referem a forma como vários estudiosos estabeleceram uma ligação entre a brincadeira e a criatividade, defendendo a primeira como um meio para estabelecer um ambiente de criação descontraído, onde as crianças se sintam à vontade para refletir e criar sem amarras ou contenções [13]. Tal conceito, foi especialmente visível numa das atividades em que foi proposto que os participantes – neste caso, as duas turmas do pré-escolar – desenhassem com giz e outros materiais riscadores sobre uma tela preta. Enquanto num dos grupos se apresentou este exercício de uma forma mais direta, mostrando às crianças como ao riscar, estas estariam a "fazer luz no escuro", no outro optou-se por uma estratégia mais *playful*, apresentando o negro do papel de cenário como o escuro interior de uma caverna. "E o que é que vamos encontrar lá?" perguntámos. Entusiasmadas, as crianças começaram a enumerar variadas coisas, de ursos e leões, a monstros e pedras preciosas. Compreende-se assim como uma simples alteração no discurso, ajudou as crianças a entrar na atividade, criando um conjunto de desenhos mais direcionados para a temática pretendida.

Para terminar, é de referir a forma como, ao dirigir um conjunto de oficinas de natureza livre, é importante que nós, como mediadores adultos, estejamos abertos à mudança e à imprevisibilidade, não só sendo capazes de adaptar o planeado se o ritmo do grupo assim o exigir, mas de seguir as dicas e os contributos dados pelos mesmos. Num dos grupos, por exemplo, o cansaço da turma fez com que fosse necessário encurtar um dos desafios colocados, substituindo-se o último desafio planeado pela realização de desenhos livres. Esta opção veio a satisfazê-los muito mais, e no fim do dia, a revelar um pouco mais da sua expressão, gostos e interesses temáticos – coisa que não se obteria se tivéssemos continuado com o guião. Já noutro grupo, a dificuldade em controlar tintas mais aguadas, exigiu uma transição para a utilização de materiais riscadores e posterior exploração do desenho sobre superfícies de cartão – uma atividade que muitos nunca tinham experimentado. As atividades adquirem assim um carácter flexível, devendo ser moldadas às especificidades de cada grupo.

04. Do coletivo para a montagem: Da imagem para a animação

Realizadas as primeiras sessões, procurámos debruçar-nos sobre o material obtido de modo a não só encontrar possíveis ligações gráficas e temáticas, mas a fazer um primeiro levantamento do material a utilizar. Sendo este um trabalho autoral, o critério de seleção foi assumidamente subjetivo, encontrando-se em muito ligado não só à riqueza gráfica ou narrativa dos desenhos, mas às preferências estéticas da investigadora. Regra geral, selecionaram-se aquelas produções que despertavam interesse, organizando-as num *moodboard* (Fig.2). Esta tarefa foi especialmente desafiante no caso dos desenhos colaborativos em grande formato que, ao serem criados simultaneamente a partir de diferentes pontos em redor

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da folha, possuíam variadas direções de leitura. Com efeito, uma mesma figura pode revelar inúmeras leituras, dependendo da perspectiva eleita.

Fig. 2 *Moodboard* com uma seleção dos produtos das oficinas

Através do material gráfico recolhido temos acesso aos temas de interesse da criança, aos elementos que estas imaginam e inventam, mas também às tendências estéticas que definem os seus trabalhos: desde as pinturas rabiscadas, aos pesados contorno a marcador, ao recorrente aparecimento de símbolos como corações, pontos e espirais (em muito ligados à ânsia da criança em preencher a folha). Genericamente, encontramos o desenho infantil nas formas minimais, na simplificação das perspetivas, nas representações distorcidas e desproporcionais, mas também nas cores vibrantes e não opacas e na exploração e mistura de materiais,tanto nos detalhes excessivos, como no esquecimento e omissão. Identificamos, assim, a essência e a espontaneidade da infância no abraçar da imperfeição.

De modo a incluir de uma forma coerente estas variações gráficas e até a dar-lhes sentido, definiu-se desde início que a curta-metragem seria uma representação fantasiosa do que acontece na nossa cabeça à data dos processos criativos: ilustrando como as ideias nascem, evoluem, se constroem e, por vezes, se descartam através de um trabalho de imersão da parte do artista. Pretendemos assim, explorar os contrastes expressivos existentes entre a representação da criança pequena, da criança mais velha e de uma pessoa adulta, para representar as diferentes fases do processo criativo. Dito isto, contemplamos que as produções gráficas dos mais velhos, já empenhados na busca do realismo, nos ajudam a representar o início do processo criativo: a fase em que as ideias estão lá, mas a rigidez com que saem, fruto da atenção ao detalhe e ao perfeccionismo, nos impedem de crescer artisticamente e de ver além do óbvio. Daí partiremos para um momento de desconstrução, e de um retornar às origens, sustentado pelos grafismos das crianças mais pequenas, para construir um momento de explosão e de efervescência, marcado pela intensa evolução e transformação dos elementos. Afinal de contas, o processo das crianças era muito assim: num momento estavam orgulhosas da sua figura, no momento seguinte, riscavam-na,

criando outra coisa. Já numa fase final, intenta-se que os grafismos ganhem formas mais concretas, refletindo o estilo gráfico pessoal da investigadora.

Ainda que os poucos exemplos encontrados a nível de animação se cinjam à animação das construções gráficas da criança por via das técnicas de *stop motion* ou *motion graphics*, os exemplos de colaboração identificados a nível da imagem estática vêm despoletar um novo olhar sobre a possibilidade de colaboração com crianças em animação. Neste sentido, não só podemos animar os desenhos como são, como, por exemplo, adicionar novos grafismos que contextualizam e completem a imagem. No caso dos desenhos mais abstratos, em que não há registos da sua interpretação, esta apropriação e inspiração pode consistir numa construção de novos significados- dando-lhes forma, de acordo com o que suscitam. Caso se tenha acesso à interpretação da criança, pode-se ainda explorar a metamorfose entre o grafismo obtido e uma representação mais identificável do mesmo. De modo a tornar estas noções mais claras, recomendamos a visualização dos testes experimentais criados pela investigadora para introduzir o projeto às crianças e professoras[9].

Fig. 3 & **4** Processos de um jogo de desenho colaborativo

Para além das imagens estáticas, consideramos a observação dos processos de *graphic play* como um elemento que, por si só, irá inspirar a construção de narrativas animadas pela descomplexada forma com que as crianças transformavam imagens e re-construiam significados (Fig. 3 e 4). Este processo revelou-se especialmente dinâmico em atividades em que fizemos o uso de tintas, permitindo às crianças facilmente cobrir o desenho do outro, e começar do zero, se assim o desejassem.

À data da escrita deste artigo, e tendo um conjunto tão variado de grafismos e expressões, encontramo-nos na fase de experimentações gráficas para a definição de uma estética transversal às diferentes narrativas da curta de metragem de animação, procurando perceber como podemos alternar/conjugar elementos da linguagem adulta e infantil de uma forma equilibrada e visualmente interessantes. A partir daí, intenta-se definir

9 Playlist disponível em : https://youtube.com/playlist?list=PLMOkvdhwpROP8GKYRtN7EDDKmpNlsFotT

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aquilo que será o seguimento da ação, construindo um *storyboard* para cada micronarrativa de modo a dar início ao processo de transmediação.

04. Considerações Finais

Ainda numa fase primária do seu desenvolvimento estético, o projeto "São "só" rabiscos" tem-nos permitido refletir acerca da complexidade gráfica e ideográfica do desenho infantil, desafiando-nos a questionar as convencionalidades da representação, e a descobrir universos e intencionalidades por trás de aglomerados de rabiscos. Conscientes da possibilidade de desenvolver este projeto unicamente a partir de arquivos de desenho infantil, com este artigo pretendemos apresentar o contacto e o diálogo com a criança como uma parte imprescindível deste processo de colaboração. Mais que um mero recolher de desenhos e interpretações, as oficinas possibilitaram a troca de ideias e grafismos e posterior co-construção de narrativas gráficas. Noutra nota, e ainda que desafiante pelo planeamento que implicou - acreditamos que a diversidade etária do grupo selecionado se tenha revelado uma mais valia para o projeto, pela forma como potenciou a exploração de diferentes complexidades de exercícios de desbloqueio gráfico, assim como uma observação comparativa mais rica daquilo que são os processos criativos nas diferentes fases de desenvolvimento do desenho infantil.

Em suma, consideramos o trabalho realizado nestas sessões como uma experiência benéfica para ambas as partes, tendo oferecido às crianças o acesso a momentos de expressão livre e de experimentação gráfica - muitas vezes desvalorizados no contexto escolar - ao mesmo tempo que nos permitiu obter o material gráfico, narrativo e epistemológico necessário à realização deste projeto. Com isto, iremos continuar o processo de exploração gráfica e narrativa essencial à preparação da transmediação para, posteriormente, devolver as narrativas animadas às crianças e proceder a alterações com base no seu *feedback*.

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Encenação e Meta-Narrativa no Cinema de Animação

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[Animação · Animation]

Abstract

Tendo como objetivo a compreensão dos desdobramentos metalinguísticos da curta-metragem Betty (2020), de Will Anderson, consideramos neste artigo o modo como o cinema de animação representa os seus processos de criação e de que maneira a sua linguagem pode ultrapassar os seus próprios limites. A utilização de metalinguagem no cinema de animação remonta ao seu início: tanto em *Humorous Phases of Funny Faces* (1906), de Blackton, e em *Fantasmagorie* (1908), de Émile Cohl – considerados os primeiros filmes de animação – existe uma encenação do processo de criação. Este recurso, a que Donald Crafton chamou "the hand of the artist", foi muito utilizado nos primórdios do cinema de animação como meio de destacar o papel do realizador enquanto mágico/técnico. Com o tempo, este recurso acabou por cair em desuso para que as personagens animadas alcançassem a *ilusão de vida*. No filme Betty, este recurso retorna com uma maior complexidade diante do contexto contemporâneo do cinema de animação

1. Introdução

Neste trabalho questionaremos de que modo o cinema de animação se autorrepresenta através do recurso a meta-animações. Para tal, dividiremos o trabalho em duas partes distintas: a primeira parte contextualiza historicamente a utilização de autorreferências no cinema de animação e a segunda parte concentra-se na análise do filme Betty, de Will Anderson. Num primeiro momento, abordaremos os primórdios do cinema de animação através do artifício "hand of the artist", o desaparecimento deste tema e a consequente ocultação da figura do animador para privilegiar a ilusão de vida autónoma das personagens animadas. Consequentemente, a posição ambivalente da figura do animador será problematizada, uma vez que o animador passa a ser considerado como um criador "todo-poderoso" e, ao mesmo tempo, é ocultado perante a técnica da animação. Na segunda parte do artigo, analisaremos a curta-metragem Betty, com o intuito de interrogar as maneiras pelas quais o autor rompe com as convenções anteriores de autorrepresentação e quais possibilidades surgem através de uma nova compreensão da ideia de meta-animação.

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O cinema de animação permite uma grande liberdade na sua expressão, como afirma Pierre Hébert, a animação é a "coreografia de todos os corpos, de todas as coisas, de todo o espaço, fora de qualquer constrangimento"²[1]. Da infinitude de possibilidades que se abrem a esta arte, não é de estranhar que existam obras como *Duck Amuck* (1953), de Chuck Jones, *La Linea* (1971), de Osvaldo Cavandoli, ou mais recentemente, *Eizōken ni wa Te o Dasu na!* (2020), de Masaaki Yuasa, que se debruçam sobre o próprio processo de criação da animação. Este género de obras, a que podemos designar por meta-animações – do prefixo meta- "atividade que se centra sobre si mesma" [2] –, dão-nos a conhecer um parecer dos animadores, realizadores e argumentistas sobre o próprio meio no qual trabalham, permitindo-nos conhecer o estatuto do realizador ao longo dos tempos.

2. Meta-Animação e Hand of the Artist

A *metalinguagem* é uma noção frequentemente associada ao cinema contemporâneo. No âmbito específico do cinema de animação, este é um recurso tão antigo quanto o meio em si. Em *Humorous Phases of Funny Faces* (1906), de James Stuart Blackton, a primeira animação gravada em suporte fotográfico, e em *Fantasmagorie* (1908), de Émile Cohl, o primeiro filme de animação projetado, os filmes iniciam com os realizadores-animadores a darem vida aos seus personagens. Este tipo de dispositivo narrativo, a que Donald Crafton[3] nomeia "Hand of the artist", marcou o período inicial do cinema de animação e teve uma grande expressividade nos *lightning sketches* dos espetáculos de Vaudeville: um género de espetáculo que agrupava, sem relação entre si, atos de variadas artes, desde o circo, à música, ao cinema[4]. No filme realizado por Walter Booth (1906), *The Hand of the artist,* o realizador dá vida a uma pintura com duas personagens que, após um curto período, são destruídas pelo seu criador, que amassa o papel onde as havia desenhado. Crafton reconhece neste filme um modelo com três características principais que serão transversais à maioria das animações no seu período inicial:

> 1. Um Artista. Ele é o protagonista ostensivo do filme e pode ser apresentado de corpo inteiro, em close-up ou representado sinedoquecamente apenas pela sua mão ou por um pincel em movimento.
> 2. Uma superfície de desenho. Independente do que seja, um quadro negro, um bloco de desenho ou uma tela, aparece sempre inicialmente em branco.
> 3. Os desenhos. Podemos vê-los a tornarem-se visíveis (rendered) com os utensílios adequados, tais como canetas, pincéis e giz [5]

Crafton defende que esta fórmula apresenta o artista como um ser privilegiado, capaz de dar vida aos seus desenhos, um mediador entre o mundo dos humanos e o mundo da animação. Este tipo de representação do animador está de acordo com a lógica dos "espetáculos de Vaudeville": o animador, à imagem dos acrobatas, músicos e atletas, é apresentado

2 A tradução dos textos originalmente escritos em francês e inglês é da responsabilidade do autor.

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como alguém diferenciado por possuir uma habilidade incomum. Apesar do lugar de destaque do animador permanecer em todos os espetáculos de Vaudeville, o papel que este desempenha muda ao longo do tempo, sendo apresentado inicialmente como um mágico, e posteriormente, como um técnico, capaz de executar um processo imensamente complicado[6]. Uma das animações mais icónicas presentes num ato de Vaudeville é a animação *Gertie the Dinosaur* (1914). Neste ato, Winsor McCay, vestido de smoking e de chicote na mão, interagia em palco, através de uma sincronização de movimentos coreografados com a projeção da animação (este espetáculo antecipa, de certo modo, a animação expandida contemporânea). Esta ilusão de interação entre o animado e o animador tinha o seu ponto mais alto quando Winsor McCay após sair do palco aparecia na projeção de vídeo. Depois de ser elevado no ar pelo dinossauro Gertie, partia para um passeio, saindo os dois em conjunto do ecrã.

Com a mudança da lógica da exibição dos filmes (deixando de fazer parte dos atos de Vaudeville, para passar a integrar sessões de cinema), McCay adaptou a obra e acrescentou ao filme um prefácio em imagem real. O filme começa com a visita forçada de um grupo de pessoas, devido a um furo no pneu de um carro, ao Museu de História Natural de Nova York. Após verem o esqueleto de um dinossauro, McCay aposta um jantar com os demais membros do grupo que consegue dar vida a um dinossauro. Na cena seguinte, seis meses depois, vemos McCay a acabar o último desenho da animação, rodeado de pilhas de papéis. Um ajudante deixa cair uma resma de desenhos no chão e McCay explica o processo de criação da animação ao cartunista McManus, afirmando que a animação é composta por 10.000 desenhos: cada um ligeiramente diferente do anterior. Na última cena do filme, Winsor McCay apresenta a sua criação com todos os recursos indicados pela "hand of artist", começando por desenhar rapidamente num bloco branco e posteriormente num cenário, culminando na animação do dinossauro a ganhar vida.

2.1. Dissolução e Desaparecimento

Após um curto período inicial o recurso à "hand of the artist" cai em desuso. As curtas-metragens passam a focar-se mais na presença da "criação" do que na figura do "criador". Era necessário que a animação se libertasse da sua relação com o animador para alcançar a ilusão de vida, a personagem precisava parecer ser capaz de tomar as suas decisões: "A magia já não era o ilusionismo do palco, mas a da câmara de filmar"[7]. Ao desaparecer o palco, o ecrã torna-se uma janela para uma outra realidade, sem a partilha e a coexistência espaciotemporal com a audiência.

Uma das principais características do cinema de animação (e de outras artes como marionetas e máscaras) é de representar o corpo humano através de uma outra coisa. Pierre Hébert chama a este tipo de recurso de *dramaturgie simulacre*: "a questão 'porquê criar esta ou aquela representação gráfica do corpo?' sofre um deslizamento em direção ao porquê representar corpos em movimento por outra coisa que não corpos, ou seja, por objetos ou desenhos inertes, postos em movimento com a ajuda de técnicas apropriadas, objetos inertes a que eu chamo simulacros. Eu chamo de

dramaturgia dos simulacros a esse género de representação dramática."[8].
Esta procura pela ocultação da figura do criador não é uma característica
exclusiva do cinema de animação e das tecnologias modernas.

Este processo pode ser igualmente relacionado ao teatro de marionetas,
e de certo modo, às máscaras ritualísticas. Há uma partilha intensa entre
animação e as marionetas que nos pode ajudar a clarificar a questão da
dissimulação no cinema de animação. Tanto a animação como o teatro de
marionetas são dramaturgias-simulacros, ambas representam o movimento
do corpo humano através de um outro corpo. Ambas manipulam objetos ani-
mados escondidos da audiência e ambas sofrem com o mesmo equivocado
pressuposto: de serem artes para crianças. Todavia, é através das diferenças
entre as duas formas artísticas que podemos ter uma visão mais clara do ci-
nema de animação. No teatro de marionetas existe um esforço para esconder
o manipulador que não se verifica no cinema de animação. A relação entre
os dois modos artísticos encontra ainda uma outra diferença: apesar da exi-
gência em manter o ator oculto, a relação entre a marioneta e o marionetista
mudou no teatro contemporâneo, é agora comum manipular a marioneta em
palco à vista, o marionetista contracena com a marioneta como um duplo,
criando um contraste entre a qualidade de ambos os movimentos.[9]

A dificuldade em realizar algo semelhante no cinema de animação
torna óbvia a dissimulação do animador que a técnica implica O apaga-
mento da presença do animador é próprio do aparato técnico da animação
e esta é uma das definições fundamentais do cinema de animação:

> (...) a interferência, o apagamento, o extravio do corpo provocado
> pelas tecnologias modernas - daí o cinema de animação - é irredu-
> tível, não apenas devido a um dispositivo técnico particular, mas
> igualmente devido a uma vontade de dissimulação, procurada todo o
> tempo com o objetivo de provocar uma aparição "mágica" da vida e
> do movimento. Foi e será uma parte do braço de ferro entre o artista
> como corpo/sujeito e a tecnologia com todos os seus condicionamen-
> tos (estéticos, técnicos, industriais, comerciais, financeiros) [10].

Será possível ultrapassar estas imposições? Neste sentido, Hébert ques-
tiona: "Como direcionar a dramaturgia fundada sobre a dissimulação do
corpo em benefício de um sujeito corpo/espírito que procura falar no lugar
do seu próprio desaparecimento? [11], ou ainda: "A questão 'O que é o ci-
nema de animação?' 'O que é o cinema?' surgiu apenas com o nascimento
das condições técnicas do cinema e do aparelho industrial que o sustenta
e irá desaparecer com elas"[12]. As consequências da dissimulação man-
têm-se até hoje, basta notar a falta de reconhecimento dos animadores 3D
durante o processo de *motion-capture*[13], ou mesmo, a atenção despro-
porcional que é dada aos atores de vozes face aos animadores.

2.2. A Encenação da Omnipotência do Animador

A relação entre o "animador" e o "animado" está envolta numa certa
tensão. Apesar do animador ter uma possibilidade criativa quase ilimitada

é, como já vimos, condenado pela especificidade técnica da animação à sua própria ocultação. A conceção do ato de animar como dar vida a algo parece considerar a animação como um processo unidirecional, no qual o animador dá a vida e o animado recebe-a, ignorando a relação complexa entre os intervenientes.

No início da animação *Duck Amuck* (1953), de Chuck Jones, Duffy Duck vestido de mosqueteiro avança com a espada em riste até chegar a um cenário vazio (em branco). Ao aperceber-se da falta de elementos cenográficos, Duffy Duck quebra a "quarta parede", a separação entre o público e o espectador, ao questionar: "quem quer que esteja no comando aqui, um cenário, onde está o cenário?". Com esta fala, Chuck Jones estabelece que o lugar de poder pertence ao animador. Logo a seguir, vemos uma sequência de intervenções do animador para dificultar a vida da personagem Duffy Duck, a recriação do seu corpo, a troca de um para-quedas por um peso, entre outras. Nesta curta-metragem, à semelhança dos filmes do período inicial do cinema de animação, o lugar de poder e de destaque é o do animador. A figura do animador é apresentada como um deus enganador, um trickster, que utiliza o seu poder de um modo sádico para fazer sofrer as personagens.

Em The Writer's Journey, Christopher Vogler descreve o arquétipo Trickster como "o arquétipo dá corpo às energias da confusão e desejo de mudança (...) A versão moderna do coelho trickster é obviamente o Bugs Bunny. Os animadores da Warner Brothers utilizaram os contos populares para opor o Bugs contra caçadores e predadores que não tinham chance contra a sua astúcia" [14]. No final da curta-metragem Duck Amuck, quando a personagem Duffy Duck se rebela contra o animador, ao dizer: "Tudo bem, já chega. Esta é a última gota! Quem é o responsável por isto? Eu ordeno que apareças! Quem és tu?", Jones faz uma última gag ao revelar que o animador era o Bugs Bunny, e este afirma: "Sou horrível, não?". Há neste tipo de narrativa uma importante diferença face às primeiras animações. Apesar da aparente omnipotência do animador, a personagem ganha vida própria, consegue pensar autonomamente, rebelar-se contra o animador e torna-se, de certa maneira, o próprio criador.

3. Betty: Outros desdobramentos da meta-animação

A curta-metragem Betty (2020), de Will Anderson, destaca-se na categoria das meta-animações por apresentar uma complexa rede de desdobramentos concetuais. Nesta animação, o realizador Will Anderson (responsável pela animação e também pela voz das personagens) inicia o filme com a sua apresentação: "Olá a todos! Eu sou o Will, sou o realizador. Este é o comentário do realizador. Eu não sei se já viram isto, se quiserem podem desligar-me". A partir desta afirmação, introduz-se a possibilidade de estarmos a assistir o cometário do realizador ao invés do próprio filme.

Ao afirmar que o espectador pode desligar o comentário, Anderson reenvia-nos a um tipo de possibilidade associada aos filmes exibidos num suporte digital específico, como um vídeo de internet, um *Dvd* ou *Bluray*, por exemplo. No caso de o filme estar a ser assistido num dispositivo

eletrónico, podemos considerar que ocorreu um erro por parte de quem o escolheu. A reação do espetador ao comentário sobre a interrupção do filme fica condicionada ao tipo de suporte no qual a animação está a ser visionada. Se o filme estiver a ser assistido no cinema, o espectador não tem o controlo sobre a projeção e o erro teria sido criado por uma terceira pessoa (ao projetar o comentário do filme e não o filme em si), e nós enquanto público, somos alertados para a nossa falta de possibilidade de ação. Mas se não é este o caso (e não houve engano na projeção ou na escolha do material), estamos perante um filme que quebra a "quarta parede" e nos mente deliberadamente.

Contudo, o que ocorre na curta-metragem Betty não se trata de um engano na projeção do filme, nem na escolha do suporte de exibição, este é de facto o filme, estamos diante de um jogo de encenação no qual é dada uma falsa possibilidade de ação ao espectador. Desta maneira, Anderson introduz a possibilidade de erro como parte integrante do filme e cria uma fissura na linguagem comum do cinema de animação.

Apesar de todo processo de criação implicar erros e mudanças face ao planeado ou imaginado inicialmente, o tempo da criação é sempre diferente do tempo da exibição. Existe uma forma de segurança no cinema, na medida em que não existe uma performance diferente daquela que foi dada como finalizada pelo animador, os erros presentes num filme de animação são erros que foram aceites e enquadrados numa obra finalizada. O erro não participa da linguagem do cinema de animação, uma vez que o processo de criação de uma animação é, por norma, de natureza determinista. A imprevisibilidade enquanto recurso estilístico, a que Pedro Barbosa chama "erro estético", participa da linguagem de artes com abertura ao futuro, como a dança e o teatro: "De facto, a assunção do 'erro' como potencialidade estilística é recurso específico do teatro que diretamente se enraíza na sua abertura ao imprevisto: qualquer erro no cinema surge sempre como falso, ou como artifício gratuito, pois o realizador poderia tê-lo evitado, cortando a cena e rondando-a de novo"[15].

A curta-metragem Betty não remete o erro para a criação (da qual o realizador teria o controlo e poderia evitá-lo), tão pouco para o momento de exibição (no qual o espectador participa), a única possibilidade que nos surge enquanto assistimos as primeiras cenas é para um erro ocorrido num momento intermédio, ou seja, se ocorreu hipoteticamente um erro, este estaria localizado entre a distribuição e a seleção do filme. Não existe como é óbvio qualquer erro. Estamos perante um "comentário de realizador" encenado que assume, à semelhança da curta-metragem Duck Amuck, o papel de *trickster* e mente deliberadamente, com uma diferença fundamental, o realizador não está a enganar e a controlar uma personagem, mas a própria audiência.

Se, como nos diz Pedro Barbosa, a diferença da experiência teatral e da experiência cinematográfica é baseada na imprevisibilidade, esta especificidade é problematizada a partir do artifício de Anderson. Por um lado, assistimos ao questionamento: "Porventura todos teremos conhecido a emoção peculiar que de nós se apodera quando nos sentamos numa sala de teatro antes do começo do espetáculo. E o mesmo tipo de emoção

não nos invade quando vamos ao cinema. Porquê? Precisamente porque o espetáculo de teatro se abre perante o imprevisto: antes de começar, o espectador nunca sabe aquilo que poderá acontecer"[16]. Por outro, ao introduzir a dúvida, a insegurança e a possibilidade de erro no cinema, Anderson quebra um dos limites da linguagem cinematográfica. O espectador fica, à semelhança da experiência teatral, num território inseguro, frente a um possível imprevisto ou a um jogo de controlo do realizador.

Apesar do filme não manter a dúvida inicial por muito tempo e assumir a sua dissimulação, a sensação de insegurança mantém-se até ao final do filme. Anderson cria empatia com o espectador ao dizer: "Eu não gosto destas coisas. Acho sempre que são autoindulgentes", demonstrando partilhar com a audiência o sentimento de desconforto. Na cena seguinte, após o surgimento do título do filme, a linguagem cinematográfica muda e aproxima-se do que seria o esperado, não um comentário de realizador, mas um making of ao vivo. A linguagem do filme imita a navegabilidade de um programa de animação: a câmara utiliza pans e zooms rápidos como se estivessem a ser controlados pelo scroll do rato, em termos sonoros ouvimos sons dos clicks do teclado ou do rato. Apesar de parecer que estamos diante de um software de animação, toda esta interface é uma encenação. Como Anderson expõe num webinar realizado para o software *Moho* [17] a curta foi feita através do software *Adobe's Illustrator* para a criação das personagens e para animação do software de animação por recortes *Moho*.

Os controladores da personagem (rig) que vemos na curta-metragem não são os do Moho, mas um objeto animado que representa a interface. Esta escolha criativa aproxima-se do teatro de marionetas contemporâneo, ao mostrar algo que é normalmente escondido, com a diferença que em Betty tudo é encenado. Nos planos seguintes, somos introduzidos às personagens do filme – Bobby e Betty, e a animação desdobra-se em duas narrativas simultâneas. A primeira é o início da relação de Bobby e de Betty e a segunda é o comentário e *making of* no qual Anderson mostra os controladores das personagens (Rig), enquanto explica o processo da curta-metragem e faz alguns ajustes na animação: "Estes são os *rigs*, são uma espécie de controladores, é como fazemos mover as personagens." Ao mesmo tempo que nos é dado a ver uma narrativa emocional, são-nos apresentados os controladores que supostamente determinam as ações das personagens.
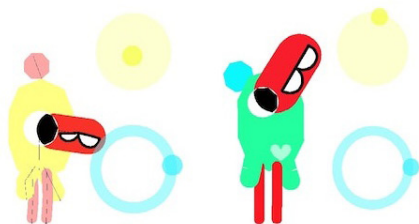
Fig. 1 Frame do filme Betty de Will Anderson onde podemos ver os controladores das personagens.

Após nove meses, Bobby, ao procurar a manteiga apercebe-se que Betty desapareceu. Durante o filme Bobby repete várias vezes "Onde está a manteiga, Betty?" alterando depois para "Onde está a Betty, Manteiga?". A manteiga é o duplo de Betty, assim como o Bobby é o duplo do narrador, assim como este é o duplo de Will Anderson. Neste momento, compreendemos como a curta-metragem assinala um jogo de duplos e de meta-narrativa. Este simulacro dramatúrgico está presente na curta-metragem nas personagens de Betty e de Bobby, contudo, quando Anderson encena o processo de animação, encena também a dissimulação do animador. Podemos ouvir a sua voz e ver a sua manifestação através da criação da animação de Bobby, mas o seu corpo permanece oculto. A presença de Anderson dá-se através da figura de narrador, do lugar da própria ocultação, fazendo com que possamos intuir a sua presença através do seu desaparecimento.

As duas narrativas juntam-se quando Anderson interrompe a animação e revela que o seu objetivo era ultrapassar o final de uma relação: "Não, nope. Eu não consigo fazer isto. Não consigo fazer mais esta coisa patética, manipulativa e sem sentido. Crias uma historinha estúpida para sair de uma relação sem sentido, porque sou um *control freak*." A representação do realizador transforma-se, o animador deixa de estar na posição de controlo. Esta passagem é pontuada pelo *sound design* com o início de alguns problemas no som, com a sobreposição das personagens e com a perda de controlo do narrador. A empatia que tínhamos pela tristeza de Bobby passa para Anderson nas suas três dimensões: Bobby, Narrador e Realizador.

Anderson prossegue com uma aproximação destas três dimensões ao afirmar "eles parecem palhaços, era suposto serem pombos. Eles parecem palhaços, como eu. Um palhaço estúpido.". Depois de exposto todo o processo criativo e a manipulação através da animação, a constatação de Anderson "Esta coisa toda não é real, é como olhar para algo que não está realmente ali" é tida como um desdobramento, como uma dupla negação. Este estado é consolidado quando o narrador diz "é obvio que qualquer ilusão que tenha existido foi estilhaçada", a dor da separação aparece como real.

O final da curta-metagem volta à narrativa da história de Bobby e Betty através da narração de Anderson: "A Betty está numa festa e repara que a manteiga desaparece, ela fica a pensar nisso. Depois cortamos para a cozinha Iluminada pela luz do frigorifico onde o Bobby se apercebe que a manteiga aparece, ele aproxima-se, leva-a lentamente para o frigorifico aberto e fecha a porta e pela primeira vez diz: adeus Betty". O artifício meta-narrativo não fica condicionado nas visualizações posteriores do filme, pois sabermo-nos manipulados desde o início e mantem-se o sentimento de honestidade ao ser revelado que o filme é intensionalmente controlador. Ao expor o carácter manipulativo do processo de criação, o filme consegue criar empatia e encerra como uma confidência forte e emotiva, conferindo uma maior complexidade e novos desdobramentos ao conceito de meta-animação.

4. Conclusão

A metalinguagem coexistiu desde início com o cinema de animação. Através da encenação do processo criativo é possível acompanhar o modo

como eram vistos e apresentados os realizadores e animadores. Numa fase inicial eram vistos como tendo habilidades especiais, como mágicos ou como técnicos capazes de realizar tarefas extremamente complexas. Posteriormente, verificámos uma ocultação da sua presença para que o objeto animado alcançasse a plena ilusão de vida. Mantiveram-se algumas representações esporádicas dos animadores que face às suas criações se assemelhavam a deuses enganadores ou *tricksters*, ao importunar a vida das suas criações. No entanto, a animação Betty convoca um outro modo de compreensão da meta-animação como uma ferramenta que permite ultrapassar o que é tido como limite do cinema de animação. A encenação do processo de animação cria um jogo de espelhos no qual o que vemos é uma visão singular dos papéis desempenhados pelo realizador-animador e do próprio processo de animação, há uma multiplicação e uma confluência destes papéis, criando um alargamento dos limites dos elementos narrativos e cinematográficos do cinema de animação.

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Secondary action and motion for hybrid animation

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[Animação · Animation]

Abstract

Hybrid animations are on the rise in the animation industry. There are many new projects made using two techniques, such as "Spider-Man: Into the Spider-Verse" (2018) in which combined traditional hand-drawn animation techniques with computer-generated animation, or "Arcane" (2021) TV series that combines computer-generated 3D animation with hand-drawn and other techniques, such as motion capture and VFX. The benefits of using both mediums are lucrative, however, to use both techniques, especially if one is analogical and the other digital, the results can feel a bit off. The following paper investigates the benefits of using secondary action and motion to bring both techniques together more seamlessly and the ways of producing more coherent hybrid animation. Furthermore, to speed up the process using different plugins and programs that are already developed and can give the production a more realistic feel. When combining a 2D character with a 3D stop-motion set into hybrid animation, there are many creative ways to incorporate secondary action and motion to enhance the overall look and feel of the animation. Moreover, it can be considered as "a glue" between the two techniques to tie both styles together more seamlessly.

01. Hybrid Animation

Hybrid animation is the combination of two-dimensional (2D) and three-dimensional (3D) animation media [1]. In the case of combining a 2D character with a 3D stop-motion set, the result can be a visually stunning and creative animation that blends the best of both worlds. There are many reasons to use both mediums instead of only one.

> "If all you know is 2D, you are missing out on the efficiencies that can be won by incorporating 3D into your pipeline. If all you know is 3D, you miss out on great traditional animation style and the speed that can come from 2D animation." [1]

However, to use the two methods, the animator needs to be knowledgeable in both, otherwise, the whole production falls short. Using a stop-motion analogical set can give wider diversity in textures and materials,

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moreover, it is also considered a traditional animation technique as is 2D frame-by-frame character animation, which leaves a lot of space for the animator to experiment and create more imaginative visuals. As noted by Fleming: "The problem with technology is it can greatly simplify some tasks while greatly complicating others. In 2D, the animator simply draws the body perfectly and doesn't have to worry about the technology getting in the way of falling short. Being a digital animator means also being a technical engineer and in many cases a programmer" [2].

To create a hybrid animation the animator would start by choosing which technique to start with. Depending on which element "leads the movement" in each shot, the 3D element will have to be drawn first or the 2D element will have to be drawn first [1]. If hybrid animation is completely digital the options to choose from are bigger, however, with the analogical stop-motion set, there are limitations. The set must be built around the figures.. [3]. It is difficult to imagine all the possibilities of character interaction with an analogical set when it has not been pre-produced, built, and shot beforehand. Moreover, it is beneficial to constantly test, after animating the rough construction of a character and comparing it inside the stop-motion set. It is more time-consuming to make changes in stop-motion animation compared with digital frame-by-frame animation. Therefore, the animator would firstly create a 3D stop-motion set using materials such as clay, paper, felt, or other physical objects. This set would be carefully crafted and designed to fit the world of the 2D character, with attention paid to the lighting, perspective, and overall atmosphere of the scene. By carefully following the animatic, the moving objects on the set need to be animated in stop-motion. Next, the character would be designed and animated in a traditional 2D style, with all of its movements and expressions carefully crafted to fit the intended narrative in 2D animation software, such as Procreate or Photoshop. Finally, the animator would combine the 2D character with the 3D stop-motion set using compositing software such as After Effects. If the character's rough construction matches the already shot set animation the animator can finalize the poses visually. The result is a hybrid animation that combines the charm and expressiveness of 2D animation with the tactile and immersive qualities of 3D stop-motion.

On the other hand, we would now have an animation that is clearly and visually made using two different techniques, for example, the lighting in a 3D stop-motion set does not match the 2D character, or perhaps the object interaction does not deliver the plot in the best possible way. To combine both worlds into fully functioning coherent animation we should now put a big emphasis on secondary action and motion in both techniques.

2. Secondary Action vs. Motion

From 12 principles of animation by Thomas and Johnston (1995), the number eight is secondary action.

> "When this extra business supports the main action, it is called a Secondary Action and is always kept subordinate to the primary action. If

it conflicts or becomes more interesting or dominating in any way, it is either the wrong choice or is staged improperly." [4]

More specifically, in the field of animation, a secondary action is an additional movement that occurs simultaneously with the primary action of a character or set. For example, if a character is walking, a secondary action could be the swinging of their arms or dragging a feet to show tired or a sad character. These secondary actions help to make the movement look more natural, dramatic and add to the overall believability of the animation. Secondary actions can also be used to convey emotion or personality traits of a character.

Secondary action should be specific to that particular character, in that particular context. It's hard to design good secondary action into your shots if you're vague about who your character is, or what situation and context they're in, and how they're feeling about what is happening around them [5]. For instance, a character who is nervous might fidget with their hands as a secondary action, while a confident character might stand with their hands on their hips. Props are great shortcuts, but you can add secondary action just by having your character tug nervously at an ear, touch their lip, bite a nail, scratch an itch, and so on [5].

Lim (2019) argues that Secondary Action is closer to a narrative expression rather than a technical method [11]. I find that it can be considered both, especially if the animation is hybrid. In general, secondary actions are a key component of creating dynamic and engaging animations. Below are some examples to consider when creating secondary action for a hybrid animation:

1. Exaggeration: To create a more dramatic effect on character or objects in set design. For example exaggerated face and body expressions or bouncy movements of objects. If a character was to be sad, make him sadder; bright, make him brighter; worried, more worried; wild, make him wilder [4].

2. Building block technique: First he animated the most important move, making sure that it worked the way he wanted, communicating his thoughts in the strongest way. Then he went through the scene a second time animating the Secondary Action, and even once more if necessary, to make the rest of the drawing relate to those two actions [4].

3. Set dressing: Adding props to the set design to create more depth and make the set feel more lived-in with its characteristic important to the storytelling.

4. Moving background: For example clouds, rivers, birds flying by, to add more variety of movement in the background.

5. Secondary arc: Follow a curved or arcing path, rather than a straight line, to add more dynamic and unexpected movement for the character and set. Drawings made as straight inbetweens completely kill the essence of the action [4].

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6. Object Interaction: Adding objects for the character to interact with can make the scene more immersive. "Secondary action is not "secondary animation" or "secondary motion". The latter two terms are synonyms and have no connection to secondary action [5].

Secondary motion is a term used in animation and computer graphics to describe the additional movement that occurs as a result of the primary motion of an object or character. It refers to the natural and realistic movements that occur in response to the primary motion. Secondary animation/motion is a movement that is dependent upon some other, active movement [5]. A powerful way to give more movement, depth and realism to the whole production making it more believable and engaging. In particular, a critical aspect of creating expressive animated characters is the presence of *secondary motion*, the small movements of parts like hair, clothing, tails, and fur that complement and emphasize the primary motion of the character [6]. One must keep in mind the external forces, such as wind, elasticity, particles and gravity. For example, when animating a character walking, the primary motion would be the movement of their legs and feet, while the secondary motion could be the movement of their hair and clothing. Secondary motion can also be used to emphasize the weight and physics of an object. Below are some examples to consider when creating a hybrid animation with secondary motion:

1. Lights and shadow: Since stop-motion sets are physical and often have real-life lighting, adding lighting and shadow effects to the 2D character can make it look more integrated into the scene.
2. Depth of field: Using depth of field can help create a sense of depth and focus within the scene. This can be done by blurring the background and foreground elements, while keeping the main character in focus.
3. Drag: This involves adding a secondary motion that lags behind the primary motion, such as a character's clothing or hair following behind them as they walk.
4. Particles: Adding particle effects like smoke, dust, or other atmospheric elements can make the scene look more dynamic and alive.
5. Wind and weather: Making objects in the set move around dynamically in the same direction as characters' hair for example. Making the scene look coherent in terms of nature.
6. Weight and gravity: This involves adding a secondary motion that lags behind the primary motion, also can be achieved by using follow-through and overlapping action where certain objects bounce differently according to their weight.

Overall, secondary motion and action are important tools in the animator's toolkit, helping to enhance the realism and depth of an animation, creating a more dynamic, lifelike and engaging visual experience for the viewer. Especially if working with two different techniques to create visually coherent scenes.

03. Programs and Plug-ins

Adding secondary motion or action can be a time-consuming process when doing everything frame-by-frame. There are thankfully many programs and plug-ins an animator can benefit from to make this process faster and results can be visually more realistic. Although, the charm of hand drawn will be then sacrificed. In the case of light and shadow, After Effects has 3D light with many different properties to choose from, such as Parallel, Spot, Point, and Ambient.

> "After Effects version of 3D is not really 3D as you might think of it in the terms of a Pixar movie or a video game. It's really 2.5D — made up of objects that have height and width but not any depth although you can stack them on top of each other and create an illusion of depth." [7]

After Effects also has presets for many particle systems, including "CC particle world" - in a 3D system and can be used together with the camera, "CC particle system II" - same as previous, except it's not in 3D, "Particle playground" - in 2D but allows animator to control how particles react to one another [7]. Using these systems, animator can create effects such as snow or rainfall, or create a new particle effect from scratch. Apart from the After Effects, there are a number of pug-ins that also generate a variety of effects needed for believable secondary motion or action. For fire, dust, smoke, sand, magic, energy, etc. there is a free plug-in for After Effects called "Particle Builder" that lets animators choose from their library of effects a suitable one and then also control the color, amount, direction, and speed [8]. "Newton 3" is a plug-in used to create realistic physics simulations, such as objects that bounce, collide, and deform realistically. It can be used to generate secondary motion effects for objects that are affected by the physics simulation [9].

These are just a few examples of the many secondary motion plug-ins that are available for various animation software. They can save animators a lot of time by automating some of the more complex aspects of animation. To create secondary action or motion in analogical stop-motion space, the animator still needs to spend a lot of time creating any of these effects mentioned above frame-by-frame. One technique that is commonly used to create secondary motion in stop motion animation is called "replacement animation". This technique has been around since the very beginning of the stop-motion medium..[10]. This technique involves creating multiple versions of a character or object, each with small variations in their shape or position, and then swapping them out frame-by-frame to create the illusion of movement. Another technique used to create secondary motion in stop motion animation is called "staggering". This involves slightly offsetting the timing of movements of different parts of the character or object to create a more natural and fluid motion. Overall, creating convincing secondary motion in stop motion animation requires a lot of attention to detail, careful planning, and patience. Animators need to carefully consider how different parts of the character or environment will move and interact with each other, and use various techniques to bring those movements to life.

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However, there are some more simple and faster ways in analogical 3D stop-motion space that an animator can use. For example depth of field that is established with creative camera use, to blur out things either in the foreground or background. Also set dressing and moving backgrounds are simple ways to create dynamic secondary action in stop-motion.

04. Case-study's: "Island" (2017) and "Lucy & the Limbs" (2014)

Island (2017), by Max Mörtl and Robert Löbel, is an interesting example of secondary motion and action in an animated short. It's an animated hybrid about different creatures who live together on an island. Animated in both 3D stop-motion and 2D. Most of the moving objects and characters have both stop-motion and frame-by-frame techniques used simultaneously, depending on which method delivers the story more beneficially. Moreover, the use of different materials in stop-motion plays with 3D and 2D within the set design. In the examples below the bushes are made with paper that allows to create a deeper bend when animating wind movement interaction within the set. For the volcano eruption the technique of "replacement animation" is used in stop-motion for the mountain, while the lava is animated in the 2D frame-by-frame technique.

In terms of character animation, both techniques are used as well. Exagger-

Fig. 1 Set design from "Island" (2017). Credits: Max Mörtl and Robert Löbel.

ation for the sheep in "replacement animation" of a soft material to represent the fur mixed with 2D for mouth, eyes, and legs. Same for the tiny blue ball character, except its primary action is used as claymation. For the horse on the image on the right side, the movement of legs and ears is created in 2D, while the body is animated in claymation. Using parts of the body in 2D to create more imaginative and expressive movements that perhaps can not be done in stop-motion adds much more characteristics to each character. Moreover, there are also 2D elements used in the set dressing together with physical objects for a more coherent set design.

While the 3D and 2D animation is not completely seamless, which might be stylistically the goal, this adds much more visual interest to the whole production. The whole animation feels coherent, because of the creative use of different materials, and secondary action and motion created with both 3D and 2D techniques.

In comparison with "Lucy & the Limbs" (2014) by Edlyn Capulong, which is also a hybrid animation of 3D stop motion physical set design and

Fig. 2 Frames from "Island" (2017). Credits: Max Mörtl and Robert Löbel.

2D character animation. It is an animated short about a girl who becomes a friend with limbs and in the end helps a fellow person in his loneliness. Capulong has animated only 2D characters and elements. There is a clear separation between 3D and 2D in terms of motion. For example, on the set only moving objects are some plants and water movements in 2D, while all the characters are solely in 2D. There are creative solutions for secondary motion in terms of shadows that blend in both worlds together and water movements around the character. The protagonist bouncy hair movements are adding more believability in terms of gravity and influences of external forces. Moreover, depth of field and creative camera angles make the space where the action happens more immersive. Secondary action in terms of all the characters is well made and adds characteristics and believability to each. For example, the continuous liquid effects of limbs in constant motion and the facial expressions of the protagonist are visually appealing. However, it is lacking the mixture of both styles simultaneously like in "Island" (2017) and therefore it can be said, we see a hybrid animation, that has clear style and technique differences in terms of set and characters, one is 3D and the other 2D. The production is still hybrid, but the separation of these two techniques makes the viewing experience not coherent.

Fig. 3 Frames from "Lucy & the Limbs" (2014). Credits: Edlyn Capulong.
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When comparing the abovementioned two animations to each other, the common positive traits are the visual opportunities the 3D physical set gives in terms of textures, lighting, and camera angles. 2D animation can be blended into this world of 3D with the use of common color, light, and shadow. In terms of "Island" (2017) the secondary action and motion used in both techniques give the hybrid a bigger effect of coherency that "Lucy & the Limbs" (2014) did not achieve, because of the decision to animate only in one technique.

5. Conclusion

In conclusion, hybrid animation gives a great opportunity for animators to experiment and use the skills of both 3D and 2D techniques to bring out the most important parts of the narrative in a visually interesting way. Moreover, careful planning in the pre-production phase is a must in any hybrid project and sometimes requires adjustments and revisions along the way to ensure seamless integration of primary and secondary motion and action. This involves meticulous consideration of the intended motions, timing, exaggeration, or subtlety. Additionally, adjustments throughout the production process are necessary to ensure a harmonious integration of both techniques, one should not overtake the other. The number of plug-ins and programs available in the animator tool kit help to make the process easier and save time in production and post-production.

Adapting into the pipeline of production secondary action and motion gives a wide range of possibilities to create a more coherent animation to draw the audience's attention to certain parts of the storyline and unite the two styles together into a more seamless animation. Secondary action and motion play a crucial role in the success of any animation, and when it comes to hybrid animation, they work as a "glue" the best when used in both techniques simultaneously. One can add more believability and cohesiveness to the entire hybrid production. This integration effectively blurs the lines between the various animation techniques employed, resulting in a more seamless and immersive animation. The inclusion of secondary action and motion in hybrid animation adds an extra layer of realism and contributes to the overall authenticity of the characters, objects, and backgrounds, ultimately enchanting the overall quality and impact of the hybrid animation.

To sum up, hybrid animation is best executed when both 3D and 2D motion is represented throughout the whole production with the additional secondary action and motion as well in both techniques intertwined.

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Heinrich Hoffmann's *Der Struwwelpeter*: an analysis of the morbid in children's illustration.

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Abstract

The aim of this article is to address issues related to the use and representation of morbid in literature and, consequently, in children's illustration, having as object of study the children's book *Der Struwwelpeter*, written and illustrated by Heinrich Hoffmann. The main objective is to raise questions related to the use of frightening images, as a form of teaching, and its relationship with children's perception when confronted with records of this kind, always having the aforementioned book as a basis, in an attempt to establish a deeper notion of its function and respective meaning. This article emerged as a starting point for the master's project, which aims to contemplate a deeper study on the theme of the morbid present in children's illustration and picturebooks on the market.

Keywords

Der Struwwelpeter, Morbid, Children's illustration, Picturebook, Fairy Tales.

1. Introduction

It is necessary, before anything else, to understand the definition of what morbid is, properly speaking. According to the dictionary we then have the following explanation:

Morbid

Adjective

> 1. pertaining to disease, pathological; unhealthy
> 2. languid
> 3. that shows interest in subjects generally considered macabre or horrific
> 4. (arts) is said of a delicate painting or sculpture
> (from Latin morbĭdu-, "idem")

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We can then say that morbid is everything that escapes in some way from what we consider to be normal/natural, it has a negative connotation, something with which we do not want to have contact.

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The morbid appears, in this article, as a way of portraying and defining picturebooks that deal with themes that are difficult to process, that are not usual, considering the fact that we are talking about books for a children's audience. The themes that can be included are death, abuse (psychological and/or physical), pain, illness or even physical punishment as a consequence of disobedience.

In the context of the master's project, we intend to search for, consult and analyse the range of picturebooks on the market that fit into the aforementioned theme. The aim of this survey and study is to try to understand how they appear and how they are presented to children, more specifically in terms of images, graphic representation, colours, among others.

When we think of children's illustration, and picturebooks themselves, we immediately imagine a universe filled with colourful, eye-catching, pleasing and above all innocent drawings.

We all grew up listening to the most fantastical stories and fairy tales, either through reading a book or directly from the memory of the person who was telling them. Fairy tales are part of our childhood and we believe that stories and picturebooks contribute to a good development of children's imagination, as illustration is the oldest way to represent and explain something to the reader/observer.

But not all books, or fairy tales, were pleasant and visually innocent, some carry with them a set of texts and illustrations capable of terrifying little readers (or listeners).

The doubts about what is correct or not for children change with the times; what is considered inadequate today was once considered normal. We can detect the morbid, in a more marked and systematic way, in the well-known fairy tales (in their original versions), which first circulated by word of mouth as a way to entertain children and adults alike.

These tales, which were passed down from generation to generation, were eventually immortalised on paper by Giambattista Basile (1566-1632), Charles Perrault (1628-1703), the Brothers Jacob and Wilhelm Grimm (1785-1863 and 1786-1859, respectively) and lastly by Hans Christian Andersen (1805-1875). Each of the aforementioned writers was a collector of tales, they collected the stories from village to village, altered them to taste and passed them on to paper. This phenomenon was one of the main vehicles for the emergence (and todays recognition) of the morbid thematic present in each of the tales.

These fairy tales were very unsuitable for children, as they portrayed very aggressive and violent stories, where brutality and abuse were constant situations.

Der Struwwelpeter, a work created by Heinrich Hoffmann, appeared many years after the Brothers Grimm and is certainly not the first book with morbid characteristics to appear on the market, but according to Martin Salisbury it is considered by several authors to be a milestone and a direct influence on the new era of modern books for children.

2. Heinrich Hoffmann and his Work

Dr. Heinrich Hoffmann was born in 1809 in Frankfurt am Main, the city

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which welcomed him until his death in 1894. Hoffmann worked for many years as a general practitioner, eventually becoming interested in the field of psychiatry when he took up a position as director of the city's asylum. In his spare time, he enjoyed writing poems and short stories, *Der Struwwelpeter* being his best known work to this day.

Although he is especially known for this specific work, Heinrich Hoffmann used, according to himself, to write and illustrate short verses for his younger, hospitalised patients. Hoffmann and his family lived and dealt daily with the patients of the asylum, most of them diagnosed with schizophrenia. The doctor was known to be a very patient person, with a big heart for his patients and he managed the recovery of many over the years.

Hoffmann wrote and illustrated the book *Der Struwwelpeter, oder lustige Geschichten und drollige Bilder* (in English: *Der Struwwelpeter - Merry Stories and Funny Pictures)* in 1844, as a Christmas present for his 3-year-old son Carl, as he considered that there were no interesting and adequate books for children on the market at the time. For him the existing books were too moralistic and didactic, and the illustrations too realistic and not interesting for small children.

Der Struwwelpeter is one of the first examples of an illustrated album of this kind in Germany, with a format and purpose similar to that which currently exists for this type of book. Up to this point there was not yet much relation between the text and the illustration itself, much due to technical difficulties at the printing level, but according to Sophie Van der Linden, in her book *To read the illustrated book,* "(...) Heinrich Hoffmann promoted an admirable dialogue between the verbal narrative and the drawings".

First published in 1845, it consists of ten stories in verse about children, with a strong moral inherent in the consequences associated with bad behaviour in children and using strong, frightening and even grotesque illustrations, but with a very satirical and ironic intent. The target audience for the book was between the ages of three and six.

Der Struwwelpeter has become a classic of children's literature in Germany, with over 600 editions, multiple parodies and tributes. It is the second most translated book in German of all time, second only to the fairy tales of the Brothers Grimm.

Fig. 1. Main illustration of "Der Struwwelpeter", used on the cover and the inside of the book. On the left - original illustration from the first edition; On the right – illustration in later editions.

The interest in the book arose and was maintained very much by the combination of unusual image and text, more specifically short horror stories with morbid illustrations. This combination generated doubt as to whether the book was a twisted and repressive pedagogical way of teaching and educating children or a very alternative format of satire.

We can say with certainty that it was thanks to this combination that

Der Struwwelpeter gained its reputation and outlived many other children's books of the 19th century.

3. Historical and Cultural Involvement

Before we attempt to understand, in a more in-depth way, Heinrich Hoffmann's book, or raise questions about it, it is necessary to try to establish a contextualisation of the century in which it appeared.

In concrete and historical terms, we can say that the structural formation of Germany, as we know it today, began a few years before the creation of *Der Struwwelpeter*. After the fall of Napoleon Bonaparte and the meeting of the Congress of Vienna (in 1814) the German Confederation was founded, i.e., the union of sovereign states.

During this time, many Germans were stirred by the ideals of the French Revolution and nationalism became more significant, especially among young intellectuals. For the first time, black, red and gold were chosen to represent the movement, later becoming the colours of the German flag. In other words, despite having a country undergoing renewal, the ideals of the general population were still backward, especially when it came to children. Children were a duty of marriage and their main role was to be successors to the family and there was no possibility of them being children, in the true meaning of the word, but rather small adults.

This thinking was reflected in the children's books of the time (not only in Germany), where the main purpose of these was to educate children, usually on the basis of fear and repression.

In this historical framework we must also include as a reference the Romantic period, the artistic, political and philosophical movement that emerged in the last decades of the 18th century in Europe and that was marked by a great intellectual rebellion, where artists completely rejected rules and portrayed the human drama and engaged in escapism as a way of breaking free from the unpleasant aspects of daily life. Romanticism is the art of dreams and fantasy.

4. Morbid Precedents

The allusion to the macabre, the frightening and the morbid in children's stories is not, as noted above, a recent development, on the contrary, before Heinrich Hoffmann and other authors of the genre, the Brothers Grimm also did so in all their tales.

In the old days fairy tales had very extreme narratives and endings, which depicted cannibalism, murder, torture and sex. Nowadays the opposite happens, children's tales end in "they lived happily ever after", endings that are considered more appropriate for children's audiences. This change was owed much to Disney, who realised that it was necessary to create versions that were more adjusted and softer for the target audience in question.

It is necessary to understand the motives and origins of these ancient stories, which derive from traditional tales, told by word of mouth, from village to village, mainly in the areas of Germany and France. The moral of these stories derives from the tellers' desire to instil education, and

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above all obedience, in the little ones and still entertain the adults.

Besides these factors, it is also necessary to bear in mind that children in the past were exposed to much more real and macabre dangers than those of today, which is why it is so normal, for example, for stories to talk about wild animals eating children (as in the story of Little Red Riding Hood), because they were plausible situations that could happen, in order to scare the little ones and protect them from possible risks.

Nowadays this type of logic would no longer influence children in the same way, because they are more educated and have more real notions of what surrounds them. The environment in which they live today makes the initial intention of most of these stories obsolete.

As Bergson says in his book *Matter and memory: essay on the relation between body and spirit*: "(…) the totality of the images of the material world together with the totality of its inner elements.", that is to say, perception itself is influenced by our memories and that they always depend on past experiences and knowledge, displacing our real and current perception. Children's own perception has become more refined and trained, thanks to everything that surrounds them, especially security, in comparison with past centuries.

But how do we know whether it is inappropriate or not? Martin Salisbury tells us that the perception of what is appropriate or not has varied greatly over recent years and that the acceptance of these types of books varies from culture to culture. Salisbury goes on to say that:

" While difficult subjects, such as death, illness, abuse and racism have been tackled in children' s literature over the past 50 years, many commentators - particularly in the West - have increasingly come to believe that young children must be protected from all things unpleasant and dangerous, in both life and literature."

5. Der Struwwelpeter

Heinrich Hoffmann's book could be considered another one of those books, which tries to impose obedience by fear, but won't it have something special?

Elisabeth Wesseling, researcher and scholar of *Der Struwwelpeter*, tells us that the book is much more than a twisted way of teaching children. Wesseling says that throughout her research she has come to the conclusion that the combination of text and images is a way of evoking the importance of children, of showing that often the fault for their mistakes lies with their parents, that animals are more important than human beings and that children have to be a little rebellious.

Wesseling's conclusions are related to the elaborate study between text and images, where children, even badly behaved ones, appear represented on pedestals as heroes, the visual metaphors transcend the logical, thus showing the impossible, i.e., that the mentioned punishments do not happen, and that the representation of good and evil can be misunderstood at first sight.

But regardless of these conclusions, the author also mentions that the first impression of the book is true and should not be dismissed completely, i.e.: bad behaviour is punished and reproved:

"At first glance, the subsequent stories seem to meet these expectations. They all demonstrate how childish peccadilloes such as sucking one's thumb, playing with matches, or refusing nourishment have grave consequences that seriously endanger, mutilate and sometimes even kill the youthful transgressor.".

Elizabeth Wesseling also tells us that one of the most important theories of the book is that wickedness punishes itself through cause-effect, that is, wickedness is punished by something bad as well.

So, at this point we can say that Hoffmann's book is, on first analysis, a macabre and frightening book, but on second sight it has a lot of morals and a huge recourse to irony and sarcasm.

Fig. 2. Part of the illustration of the story "Die Geschichte vom Daumenlutscher" (in English "The Story of Little Suck-a-Thumb").

Fig. 3. Illustration of the story "Die gar traurige Geschichte mit dem Feuerzeug" (in English: "The Dreadful Story About Harriet And The Matches").

According to Wesseling, Heinrich Hoffmann did not draw elements or stories from reality, but from the world of art, and everything was invented and exaggerated for the purpose. This conclusion was derived from the fact that most of the illustrations are surrounded by artistic frames and that many of them have triptych and stained-glass compositions:

"Thus, the framing of the page may open our eyes to another type of recurrent motif in *Der Struwwelpeter,* namely the metafictional or 'metapictorial' allusions to its own status as an artifact.".

Furthermore, it is important to mention the exaggerations of the stories themselves, as for example in "The Story of Augustus Who Would Not Have Any Soup", which portrays the refusal to eat, and where Augustus goes from a plump child to skin and bone in only 4 days without eating soup and dies as a result of this very short time without vegetables.

Or in the tale "The Story of Flying Robert", which portrays the punishment the child received for not staying at home during a storm. In the gale Robert was blown up into the sky, with no way back. The event itself is illustrated through framed paintings.

Thus, we can conclude that at first sight Der Struwwelpeter seems to be a book filled with aggressive pedagogy, where children are instilled to be educated through fear and punishment. But according to Wesseling, the book seeks exactly the opposite, that is, the main role of the book is to show children's mischief, something natural in their existence. Furthermore, the author says that the book is much more than a typical children's book, that it has a didactic purpose and that it teaches children the power of imagination.

Wesseling also mentions that Hoffmann intends to teach certain life lessons to young readers, as he tells us in the conclusion of his article:

"If one tried to paraphrase the 'moral' of these stories, one could come up with lessons such as the following: 'Growing up involves many risks, but it is possible to escape unscathed'; 'Don't take the verbal Threats of adult authorities too literally'; 'Try to transform your fears through your imagination: give them form, exaggerate them, blow them out of proportion, laugh at them'; 'It is possible to transcend the daily grind through the

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power of art'. In other words, one could regard *Der Struwwelpeter* as a form of aesthetic education, which gives children an idea of sublimation, which is something entirely different from repression. It is pedagogical, for, sure, but its pedagogy is of the 'white' rather than the 'black' variety."

The author places great importance on the fact that Hoffmann encouraged art and on the fact that his illustrations have a very rich and pedagogical component, full of second meanings and visual metaphors. Juan Musquera tells us that "Art offers the possibility of transcending the limits of everyday events, allowing the individual an extension of their experience in real life and opening new visions towards fantasy and creativity." We can then also say that art opens doors to children's perception and imagination, increasing their evolution and autonomy.

Fig. 4 and 5. (top) illustration of the story "Die Geschichte vom Suppen-Kaspar". (bottom) Illustration of the story "Die Geschichte vom fliegenden Robert" (in English: "The Story Of Augustus Who Would Not Have Any Soup" and "The Story Of Flying Robert", respectively).

6. Conclusion

In conclusion we can say that *Der Struwwelpeter* is a book with a much deeper meaning and intention than what it appears to be at first analysis and that Heinrich Hoffmann had the intention of creating an educational book, but with a very satirical and ironic tone and not a book about child submission.

Hoffmann made an almost theatrical representation of his characters and stories, as if there were several acts, where each child performed his mischief and was punished in some way. Besides this, he has placed the children on pedestals and the adults appear little or not at all (and when they are present, their role is reduced), as if he wanted to give all the prominence and value to his younger characters. The animals themselves are given a higher prominence than the adults.

It is essential to mention that it is important to see beyond the first idea, as Berger says in his book *Ways of Seeing*: "Looking is an act of choice. What we see is brought within the scope of our reach", because often the true intention is covered up by appearance, by what we know or what we believe we know about that certain thing and we tend to only see what we want to see. Furthermore, we must also remember that we never look at a thing just for the sake of seeing it, for we are always looking for relations between things and ourselves.

Despite everything it should be noted that at a visual level there is indeed a recourse to morbid, where children die and are mutilated, but instead of having a negative context it is intended to broaden children's horizons and show that there are difficulties in life that can be overcome and that good behaviour pays off in a big way.

This kind of approach is no longer common nowadays, but for the target audience of the time they were meaningful illustrations, which fitted in with the thoughts of the time.

Bruno Bettelheim, tells us in the book *Psychoanalysis of Fairy Tales,* that fairy tales (because it is the type of literature in which this type of subject arises most) are the best way of teaching children to understand the world, to understand that there are good and bad things, and that with courage we can solve all our problems:

"This is exactly the message that fairy tales convey to the child in multiple ways: that a struggle against serious difficulties in life is inevitable, it is an intrinsic part of human existence - but that if one does not shy away but stands firmly against unexpected and often unjust oppressions, one will master all obstacles and, in the end, emerge victorious."

Bettelheim also believes that modern stories hide the problems of life from children, that is, they are not honest about basic human behaviour. In other words, it is not easy to understand whether this kind of literature, and its illustration, is adequate or not, but it exists and continues to be published by publishers all over the world.

Fig. 6. Images of the museum dedicated solely to the work "*Der Struwwelpeter*" in Frankfurt am Main.

Today Heinrich Hoffmann's *Der Struwwelpeter* is a cult book, especially in Germany, where it is part of the cultural tradition and lives on the shelves of bookstores, in children's libraries and in the museum solely dedicated to the author and this very distinctive work.

It was also, without a doubt, an excellent book to start the study of the morbid and as future objectives, for the master's project, it is intended, after all the survey and respective theoretical research, to be able to draw more comprehensive conclusions on the theme. Furthermore, the practical project also involves creating a picturebook, using a traditional story with the theme of the morbid and making the respective field study with the chosen target audience. The Struwwelpeter will certainly be a source of inspiration.

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A pervivência dos clássicos em formato de livro-objeto: o caso d'O Quebra-nozes

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[Ilustração / Illustration]

Abstract

Away from pre-defined models or the more common ways of designing an object-book, a significant part of children's literature has been enjoying intense material freedom. Part of this offer has been focusing on alternatives to classic tales, not only as a reflection of the unforgettable and fruitful nature of their (re)reading and early contact with the literary memory of a collective unconscious, but also showing new ways of reading and contact with the book. This brief study aims to make known the main discursive singularities and reading potentialities, emphasizing graphic-pictorial care, of a restricted *corpus,* designed from the Christmas tale by the German writer Ernst Theodor Amadeus Hoffmann (1776-1822), *The Nutcracker and the Mouse King (Nußknacker und Mausekönig)*, published in 1816.

1. Introdução

Objeto orgânico e multiforme, o livro de potencial receção infantil ostenta, hoje, um experimentalismo e uma ousadia material e arquitetónica que surpreende e desafia os diversos ramos do saber académico que sobre ele vêm refletindo. Alheio a modelos pré-definidos ou a modos mais comuns de conceção de um objeto-livro, uma parte significativa e crescente da edição para a infância vem auferindo de uma intensa liberdade material, pensada, de antemão, para potenciar uma relação de maior intimidade e iminentemente multissensorial com o destinatário extratextual. Trata-se de artefactos deliberadamente abertos a uma exploração física ou corpórea (para além das dimensões intelectual e estética naturais), manifesta nas aplicações ou incursões tridimensionais, táteis, olfativas, sonoras, isto é, nos diversos acréscimos menos comuns, descortináveis nestas obras concebidas para uma leitura atenta a todos os sentidos [26, 38].

Na realidade, como nos recordam Susan Doyle, Jaleen Grove e Whitney Sherman, em *History of Illustration* [11], os movimentos modernista e pós-moderno suscitaram notórias transformações temáticas e de perspetiva das próprias ilustrações nos *picturebooks* de potencial receção infantil que, consequentemente, fomentaram formas alternativas de ler uma página, bem como a aposta em formatos menos comuns do livro enquanto artefacto, sendo de sublinhar que "in the later twentieth century, postmodernism was making its presence felt in children's publishing as it was

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in fine art. Nonlinear or ambiguous approaches to the form of the book, and the construct of the viewer/book relationship were explored"[11]. Esta representa uma tendência crescente na contemporaneidade, sugestiva, a nosso ver e em parte, de uma atenção crescente às características e especificidades do sujeito infantil, em especial na primeira infância, pois "desde cedo, a estimulação do bebé alia o toque, a cor o movimento ao som, com verbalizações dos pais a organizar as rotinas do dia a dia e a dar sentido às tentativas de vocalização das crianças" [40]. Esta aposta no potencial narrativo da materialidade reflete, também, uma visão divergente da leitura, que, desta feita, se subentende como um exercício autónomo, participativo e divergente concretizado por meio do contacto com o objeto-livro. O convívio com livros experimentais, de natureza plural, potencia uma notória apreensão afetiva, íntima, destas publicações, num movimento similar, em certos momentos, à relação entre criança e brinquedo. Brincar com o livro, desde bebé, pode, na verdade, ser uma das portas de entrada da palavra literária, mas também do sonho, do pensamento e da imaginação, na vida dos mais pequenos [26].

Nos primeiros anos de vida, a criança está intensamente motivada para explorar os objetos, sendo esta uma das formas mais importantes de aprendizagem, uma aprendizagem sensorial, verdadeiramente pela descoberta. Gosta de imitar ações, de fingir, de manipular, de transformar e de misturar materiais, exercitando, deste modo, a sua capacidade de representar e de interpretar o mundo [13, 37]. A inteligência prática de que dispõe centra-se, sobretudo, no seu próprio ponto de vista. Desta forma, "a concepção de espaço e tempo da criança é egocêntrica, isto é, não é objetiva, pelo que a sua compreensão da causalidade e da medida não pode assemelhar-se à do adulto" [19]. As experiências de contacto com o livro e com a leitura podem, portanto, iniciar-se partindo dessa dimensão concreta (focada no eu infantil, com propostas centradas na descoberta das rotinas do dia a dia como o vestir, o banho, o comer...) para a abstrata, de uma abordagem simples para uma mais complexa e de uma ficcionalização centrada no aqui e no agora, ou seja, em comportamentos do real quotidiano ou das rotinas escolar e familiar, por exemplo, evoluindo no sentido de um tempo e de um espaço mediatos [19]. Não podemos, portanto, deixar de sublinhar o poder exploratório e hermenêutico que o olhar do bebé sobre a realidade que lhe é próxima possui, também, no domínio do contacto com o livro e com as primeiras leituras, tal como perspetiva María Emília López [22]. Essa intensa apropriação sensorial e visual, caraterística da primeira infância, reclama do mediador e dos autores de livros para bebés e crianças pequenas, nos dias de hoje e de um modo crescente, uma valorização da ação lúdica e do gesto sobre o livro, capazes de potenciar um olhar contemplativo, o avanço de associações imaginativas e o facultar de novas associações ou combinações. Nesta imersão inaugural e, muitas vezes, descomprometida, não é inócua a seleção da componente formal destas primeiras obras, no que respeita às potencialidades atinentes à sedução do leitor, sendo cada vez mais reconhecida a sua pertinência no que à iniciação à leitura diz respeito [17, 25, 30]. Assim, importa lembrar que "por mais poderosa que a ilustração

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seja como forma de comunicação, sem o design gráfico, ela teria que lutar para continuar existindo. O design gráfico comunica, convence, informa e educa" [42].

A superfície plástica destas publicações comunica por via da natureza tátil e física, pelo que a linguagem do *design* não pode ser negligenciada em favor da supremacia do texto, dado que também o *design* pode ser um instrumento propício à formação de um leitor crítico e à fruição estética, podendo despertar o interesse e a atenção das crianças. Como tal, além de uma imersão no universo dos livros incentivada pela voz[3] do mediador adulto, estratégia que se reveste de elevada importância na promoção do gosto pelo livro e pela leitura, a dimensão material destes livros-objeto pode/deve motivar, seduzir, desafiar e dirigir a atenção dos potenciais leitores, bem como aumentar a curiosidade para com a obra a ser lida através de um envolvimento singular (que se enseja emocionalmente significativo) e, gradativamente, autónomo. Este exercício instintivo e especial, quase mágico, em alguns casos, reflete uma clara atenção, da parte do mercado editorial, relativamente às necessidades de movimento, de apreensão sensorial, de contacto tátil, de vinculação mãe-bebé, num primeiro momento, mas também de aproximação aos interesses dos pequenos leitores, como avançado anteriormente, e a uma gramática da infância, composta, designadamente, pela interatividade, pela ludicidade, pela fantasia ou pela mentalidade mágica da criança e pelo seu gosto pela repetição [36, 37]. Como contraponto de uma visão coerciva ou impositiva da aprendizagem da leitura e de contacto com o universo literário, que, por vezes, se observa e que, naturalmente, afasta o destinatário extratextual da dimensão prazerosa e satisfatória da leitura, os artefactos a que nos referimos propõem um caminho visual e sensorialmente sedutor, marcado pelo encanto, pela criatividade e pela atração das suas formas, valorizando-se o contacto preferencialmente livre e direto da criança, à luz do paradigma da criança como ator social de pleno direito e de uma visão educativa centrada no sujeito infantil e na sua livre expressão.

O *design* diferenciado e sedutor destas manifestações estéticas pode ser entendido como uma energia profícua no âmbito do cunho experimental e criativo do livro enquanto objeto artístico e como importante meio de aproximação à leitura. Deve, portanto, ser encarado como um modo gratuito ou menos impositivo, já que, só com afeto, prazer, liberdade e respeito pela curiosidade e pela cultura lúdica (pela capacidade da criança de brincar e de transformar a realidade), própria do sujeito infantil, se pode celebrar o livro e a transmissão cultural de uma memória imaterial, desde o berço [17, 30, 26]. Deste modo, ilustração e design cumprem, ao nível da educação estética e no domínio da aproximação precoce aos clássicos nos dias de hoje, acrescente-se, como procuraremos demonstrar, um papel igualmente substancial e, em certos casos, até mesmo antecipatório, como nos recorda Teresa Duran: "la ilustración

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3 Recordem-se as primeiras melodias e as entoações, por exemplo, entre uma mãe e um filho, ou entre um adulto de referência afetiva para a criança, a musicalidade e o ritmo dessa voz entoada ("(...) accentuation de la part intonative et registre plus élevé") [31] que funciona como uma comunicação exordial da linguagem e do património cultural.

no es sólo un dibujo que endulza el esfuerzo de leer, sino que es, en sí misma, lectura, comunicación. De todas las funciones que desde los años setenta los expertos en semiótica (Todorov, Eco, Barthes...) se esfuerzan em divulgar acerca del lector modelo, la que considero que los ilustradores han resuelto mejor es la función anticipativa. De la misma forma en que un buen narrador oral demora el relato en los puntos más álgidos, logrando que el corazón de los oyentes palpite de angustia por aquello que va a ocurrir si un prodigio no acude a tiempo para evitarlo, el ilustrador se concentra en recrear esos momentos de tensión" [12].

Parte desta oferta, manifestamente singular e atrativa, comumente designada como livro-objeto, tem deixado transparecer uma valorização dos contos clássicos, não só como reflexo da natureza inolvidável e fecunda da sua (re)leitura, "(...) como primeiro encontro com o mundo" [7] e com a memória literária coletiva, mas também como mostra de novos e alternativos modos de receção (literária) e de contacto com o livro, como dizíamos. Estas publicações alicerçadas nos clássicos são um relevante, aprazível e alternativo veículo de aquisição de competências atinentes ao comportamento leitor, além de que se revelam, em certos casos, importantes artefactos de estímulo à imaginação[4], ao diálogo geracional, advindo de uma apreensão compartilhada (entre mediador adulto, frequentemente, iniciado pelos pais e criança) e à reflexão.

Entre as narrativas clássicas recentemente revisitadas e que, em nosso entender, têm permanecido acordadas na memória literária coletiva, por outras palavras, têm "sobrevivido", ao longo do tempo, e continuando a ser reconhecidas como textos que importa ler, reler e dar a ler, encontramos o conto de natal do escritor alemão Ernst Theodor Amadeus Hoffmann (1776-1822), *O Quebra-nozes (Nußknacker und Mausekönig)*, vindo a lume em 1816, e "(...) cuja fantasia mais poética, e às vezes até delirante, introduz-nos no mundo fabuloso de ficções que nunca tinham sido imaginadas no mundo do Iluminismo" [6].

Das várias retextualizações contemporâneas desta narrativa, salientamos, desde já, uma que se distingue das restantes selecionadas para integrarem o nosso *corpus*, um exemplar no qual os elementos sonoros visam o fomento de uma experiência esteticamente memorável e apelativa de contacto com o livro e com o universo cultural relativo ao bailado com música do compositor russo Piotr Ilyich Tchaikovski (1840-1893) e coreografia de Marius Petipa (1818-1910) e Lev Ivanov (1834-1901). Este género de livros, livros sonoros ou com sons, situam-se numa categoria de livros-objeto nos quais se observa a adição de pequenos dispositivos eletrónicos, dispostos numa das margens do livro ou, em certos casos, inseridos na própria página, em locais devidamente assinalados, que podem ser acionados por via do toque e que dotam estas publicações de elementos sonoros (melodias, sons de animais, outros sons onomatopaicos, etc.).

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4 O discurso pictórico, enunciado vital na maioria dos livros-objeto, ocupa a este nível um lugar especial já que "são as ilustrações que capturam a imaginação, que permanecem com o espectador e que conectam ao presente os momentos de nossa história pessoal. Desde o instante em que as crianças são apresentadas aos livros ilustrados, passando por sua admiração das capas de discos e CDs na adolescência aos vinte e poucos, as ilustrações têm o papel de definir momentos e períodos importantes ao longo do tempo" [42].

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O contacto com estas obras, próximas, não raras vezes, do domínio do entretenimento, sugerindo iniciativas espontâneas de revisitação, encerra igualmente relevantes potencialidades educativas, por exemplo, no que toca à familiarização da criança com a estrutura narrativa e a coerência discursiva; o auxílio na conquista dos mecanismos de nomeação do mundo; o favorecimento do contacto com a língua escrita, a sua sintaxe e vocabulário e a promoção da aprendizagem da relação causa-efeito. Note-se que o leitor pode repetir esse gesto de provocar o som o número de vezes que desejar, apreendendo, assim, ludicamente os sons do meio circundante (dos animais, dos elementos naturais, dos veículos, entre outros), frequente em vários livros pertencentes a esta subcategoria, potenciando uma mais fácil memorização, mas também parte do reportório musical clássico, no caso das obras que serão alvo da nossa revisitação. Deste modo, o efeito encantatório e de surpresa que estas pequenas melodias revelam, enquanto estratégia editorial potenciadora do imaginário e da criação de universos oníricos, coaduna-se sincronicamente com a teatralidade e o encantamento que distinguem o conto clássico em estudo.

Aliás, como mencionado num outro lugar [24], a música e a literatura para a infância partilham claras afinidades, nos primeiros anos de vida da criança, dado que a aprendizagem da escrita e da leitura se desenvolve de um modo análogo ao da aprendizagem musical. Em ambos os casos, é imprescindível uma exposição precoce à linguagem oral e a uma experiência auditiva/musical do meio circundante. As canções de embalar, por exemplo, contribuem, através do contacto continuado com determinadas estruturas sonoras, para a aquisição da linguagem oral e, posteriormente, para a aquisição da linguagem escrita. Estas formas poético-líricas expõem os mais novos a um ambiente linguístico que o vai familiarizando com a língua materna [9] e com a linguagem literária. Nestas formas musicais, imperam a tranquilidade, enfatizada pelo repouso das frases finais, a simplicidade da linha melódica, a repetição e a acentuação de determinadas sílabas [9]. A criança é, portanto, desde cedo, sensível aos sons. Com efeito, "graças à audição, a criança localiza a origem dos sons, avalia as distâncias, familiariza-se com o som ambiente, o que lhe proporciona um sentimento de segurança. Percebe igualmente a tonalidade afetiva de uma mensagem, e desenvolve interesse pelas palavras e vozes que ouve" [13], mostrando um especial interesse por padrões sonoros e sendo atraída por jogos verbais predominantemente fonológicos. No período pré-operatório, no qual se ressalta o carácter lúdico do pensamento simbólico, as crianças divertem-se, por conseguinte, a imitar sons e a experimentar dizer palavras diferentes. Mas importa sublinhar que, logo nos primeiros meses, "no momento em que a mãe, o ser em quem a criança confia totalmente, lhe devolve, como que por um espelho, as suas vocalizações, a troca produz-se no respeito da sua criatividade e no contexto de um jogo sonoro e musical, muito antes da aquisição da linguagem" [9]. Trata-se de uma comunicação pré-verbal, de acordo com Verdeau-Pailles, sustentada por trocas afetuosas entre bebé e mãe, isto é, de "verdadeiros diálogos sonoros e musicais pré-verbais" [9], que, numa primeira fase, passam pela imitação de vocalizações bilaterais e por retornos prazerosos

intercalados. A sonoridade é imperativa, nestes primeiros jogos musicais, comparativamente com a relatividade da decifração do conteúdo da parte do bebé destas interações inaugurais realizadas, frequentemente, pela figura materna[5]. Como tal, "nos 6 primeiros meses, no momento em que a criança de peito vocaliza, quando a mãe também vocaliza em recompensa ou com ele, modulando a sua voz, tornando mais lento ou acelerando o tempo, o bebé não compreende as palavras que ela pronuncia sobre a música. Mas é sensível à mensagem sonora, ao mesmo tempo que à melodia, às inflexões e timbre da sua voz, a esta mensagem portadora de afeto num contexto lúdico" [9]. Nos meses seguintes, aproximadamente até aos nove meses, estes diálogos passam a assentar "(...) em situações de pergunta-resposta e vão permitir o desenvolvimento das inovações criativas da criança" [9].

O ambiente familiar e/ou situações mais informais revestem-se, por conseguinte, de uma grande relevância precisamente pela componente interativa e afetuosa que distingue estes contextos sociais, sobretudo, nos primeiros meses de vida, mesmo quando o bebé ainda não sabe falar. Ao adulto cumpre o papel vital de proporcionar um ambiente favorecedor do amor ao livro (de acesso fácil e de contacto direto) e propício ao brincar com a linguagem verbal e gráfico-imagética, em qualquer ocasião. Na verdade, as crianças gostam de ouvir, de repetir e de experimentar palavras novas, cantilenas ou rimas, mesmo que as não compreendam [17, 41]. A presença assídua de livros, de forma(to)s diversa(o)s, como estímulo à curiosidade e à vontade de a eles aceder, leva-nos a concordar com aqueles que sustentam a tese de que não é obrigatório que o bebé entenda tudo o que se lhe lê e o que vê num livro [16, 40]. Na relação celebrada entre o mediador de leitura (o adulto) e o bebé, o livro representa um recurso manifestamente fulcral, uma vez que os laços emotivos que se estabelecem durante essa atividade são basilares para formar a visão que o bebé terá sobre a leitura e os livros, além de que pode ser um delicioso reduto de encontro entre pais e filhos, por exemplo. O sincero envolvimento cultural, estético (verbo-pictórica[6], sublinhe-se) e ético por parte do mediador, por exemplo, por meio do (re)conto de narrativas diversas (contos, fábulas, lendas, entre outras) à criança, funciona como um modelo positivo e cativante que os leitores mais pequenos poderão interpretar como estímulo à oralidade e como indutor de descobertas mediadas também pelo objeto-livro.

2. Algumas notas para o estudo d'*O Quebra-Nozes*

Contínua e ininterruptamente traduzidos, revisitados, reescritos e/ou adaptados, os contos maravilhosos distinguem-se pelo potencial metafórico, por um simbolismo e por uma complexidade discursiva e estética

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5 "Essa carga que a linguagem tem é aquilo que o bebê sente como significado, mesmo que ele não decifre as palavras, e essa primeira relação emotiva e musical é constitutiva dos vínculos de afeto. O afeto num bebê é reforçado quando há essas mediações de linguagem que são fundamentais, tão importantes quanto o tato [35].

6 Efetivamente, também a visão cuidada do ilustrador adiciona profundidade e significados ao livro uma vez que "ilustrações ruins são apenas um "enchimento" para as páginas. Podem ser bonitas, mas não conseguem transmitir qualquer conhecimento sobre o assunto que ilustram. Boas ilustrações, por outro lado, incentivam o espectador a pensar, a tirar mais do texto do que a mensagem que salta à vista e a alcançar um entendimento maior e mais profundo do assunto. Grandes ilustrações são como grandes histórias e narrativas – exigem que o espectador se envolva ativamente para que possa compreendê-las plenamente"[42].

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particulares e indispensáveis, no longo e desafiante processo de educação literária, dado que "(...) lo maravilloso de los cuentos les sirve para construir, pedazo a pedazo, la diferencia entre lo posible y lo imposible, entre lo auténtico y lo inventado" [33]. A inexistência destas obras com forte potencial criativo e/ou estético e, por extensão, educativo, no quotidiano da criança, poderá resultar, de acordo com Gianni Rodari, em *Escuela de fantasía – Reflexiones sobre educación para profesores, padres y niños* [33], num inegável prejuízo e empobrecimento. Este é notório quer no que concerne ao fomento da imaginação, quer ao nível do contacto ficcional com os medos, as angústias e/ou os obstáculos da vida real, assim ao nível da ludicidade, pois "los cuentos tienen un pie plantado firmemente en el mundo del juego" [33]. Entendemos, pois, estes enredos mágicos como uma importante e vital matriz editorial, materializada num significativo número de livros-objeto que têm vindo a lume, nos dias de hoje.

Ora, são precisamente a valorização da imaginação e da perceção da criança, bem como a intricada distinção entre realidade e fantasia, algumas das principais singularidades do conto *O Quebra-Nozes*. Originalmente inscrito naquela que é considerada a primeira coleção de contos de fadas infantis românticos, na Alemanha, intitulada *Kinder-Märchen*, em 1816, onde constam contos de outros autores, este texto de Ernst Theodor Wilhelm (1776-1822), mais conhecido por Ernest Theodor Amadeus Hoffmann, em homenagem ao compositor Wolfgang Amadeus Mozart (1756-1791), provocou, aquando da sua reedição na coleção *Die Serapions Brüder* (*Contos dos Irmãos Serapião*), publicada entre 1819 e 1821, um debate em torno da escrita para a infância [8]. Importa talvez lembrar que será apenas a partir do século XX, sobretudo aquando das primeiras edições ilustradas, que esta narrativa passará a gozar do devido reconhecimento literário [32]. Ainda que o autor alemão tenha conjeturado *a priori* ter por destinatário extratextual[7] a criança, na realidade, a natureza ambígua, utópica, fantasiosa e absurda desta obra, marcada por "um jogo de relações entre gerações diferentes" [32], bem como a subvalorização e o desmerecimento da escrita para a infância da ocasião, na Alemanha, explicam grande parte desta desconsideração. Na verdade, o particular interesse pela monstruosidade nos mais variados e inusitados moldes e modos de combinação, "il y a la monstruosité physique et la monstruosité morale. Certains personnages combinent les deux aspects" [2], corresponde a uma das principais singularidades discursivas dos contos de Hoffmann. Particularmente atento à dualidade da natureza humana, em especial, ao lado oculto ou obscuro, este artista alemão confronta o leitor com uma realidade plural, perturbadora e desconcertante, como nos lembra Aline Le Berre: "Hoffmann varie à l'infini sa galerie de portraits .... Il veut le confronter à ses propres abîmes intérieurs, à l'étrangeté, à des vérités inquiétantes qu'il s'efforce d'occulter, et qui existent en lui comme hors de lui: menace de la folie, existence de forces incontrôlables, capables d'entraîner l'humanité sur des chemins dangereux" [2].

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7 Sobre a opção por esta expressão, retome-se Aguiar e Silva, V. (1981). Nótula Sobre o Conceito de Literatura Infantil In Domingos Guimarães de Sá. A Literatura Infantil em Portugal. Braga: Editorial Franciscana, 11-15

A estranheza, a ambiguidade e a inquietação desta narrativa, "(...) um texto que condena a natureza sufocante vivida na infância da Alemanha do século XIX, e [que] podemos considerar que relata a luta de uma criança pela sua liberdade" [32], legitimam a perenidade e a constante transmutação desta diegese, que, sublinhe-se, vem sendo alvo de significativas revisitações cinematográficas, entre outras, de natureza igualmente artística, mas também comercial. Refiram-se, a título exemplificativo, os filmes *Fantasia* (Disney, 1940), *Barbie e o Quebra-Nozes* (Mattel, 2001); *Quebra-Nozes e os Quatro Reinos* (Disney, 2018). Goza, hoje, portanto, de uma intemporalidade sustentada por uma disseminação em múltiplos *media*, pelo que parte da versão matriz se foi esmorecendo, ao mesmo tempo que foram sendo adicionados ou reconstruídos novos significados. Contudo, para Maria Ribeiro, "(...) há dois aspectos que sobrevivem desde a sua origem, e que são comuns em todas as suas transformações: a questão da festividade e da tradição do Natal incutida pelo seu autor original, e depois a questão da dicotomia entre o sonho e realidade, e o mundo da fantasia, que lhe conferem o maravilhamento tão característico desta história" [32].

Trata-se, por conseguinte, de um clássico, pois, como lembra Italo Calvino, "os clássicos são livros que exercem uma influência especial, tanto quando se impõem como inesquecíveis, como quando se ocultam nas pregas da memória mimetizando-se de inconsciente coletivo ou individual" [7]. A natureza enigmática e ambígua deste conto motivou outras e, na atualidade, igualmente populares, versões, como a obra francesa de Alexandre Dumas, intitulada *L'histoire d'un Casse-Noisette*.

Em 18 de dezembro de 1892, no Teatro Mariinski, em São Petersburgo, estreia o universalmente conhecido e inscrito na tradição natalícia, mas, inicialmente, de receção conturbada ou adversa (à semelhança do sucedido com a versão alemã, aliás), o bailado russo, dirigido por Ivan Alexander Vsevolozhsky. Este terá sido arquitetado a partir desta versão francesa e contou com a coreografia de Marius Petipa (1818-1910), com a composição musical de Piotr Ilyich Tchaikovsky (1840-1893), bem como, posteriormente, com o contributo do coreógrafo Lev Ivanov (1834-1901). As tribulações de uma infância vivida sobretudo aos cuidados de um tio materno Otto-Wilhelm Doerffer e de uma avó de saúde frágil, motivada pelo divórcio dos pais e por uma mãe retratada como histérica, crê-se terem inspirado o criador alemão, "un artiste à multiples facettes, oscillant entre grotesque et tragique" [2] a escrever *O Quebra-Nozes e o Rei Rato*, num período da sua vida marcado pela influência do grupo literário *Serapion Brotherhood*, formado pelo próprio, em Berlim, em 1814. Aquando da sua formação académica em Direito e no decurso de uma mudança necessária para a conclusão desses estudos para a referida cidade, Hoffmann, que havia recebido do tio (figura que inspirara a personagem ambígua, algo sinistra e nebulosa e, simultaneamente, encantadora e divertida, do padrinho Drosselmeir do conto *d'O Quebra-Nozes)* uma influente instrução musical, acaba por abraçar uma carreira neste domínio artístico. Além das suas obras musicais e do seu contributo como fundador da orquestra de Varsóvia, Hoffmann avançou com um novo paradigma que ficou regis-

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tado no seu *Serapion Principle*, que, de acordo com Maria Ribeiro, numa tese de mestrado intitulada *A Actualidade d'O Quebra-Nozes e o Rei Rato, de E. T. A. Hoffmann: Análise em torno da perenidade da obra através da sua contemporaneidade* [32], "(...) se traduz num plano para viver de forma plena o mundo das artes, baseando-se no princípio de uma visão ideal que tem como objectivo ligar o aspecto interno – uma fantasia, humor – com um aspecto externo – narrativa" [32]. Essa sua visão inovadora refletia--se num genuíno interesse e respeito pela visão animista e fantasiosa do sujeito infantil, que se repercutiu numa escrita sustentada pelo mistério e por uma certa excentricidade que, na verdade, distinguia a própria personalidade do escritor alemão, na ocasião, destacado pelos seus excessos alcoólicos, pelo que "embora alguns críticos literários admitissem que as ideias e o estilo de Hoffmann fossem brilhantes, alegavam que o seu comportamento e hábitos estranhos não o deixavam ser o representante do romantismo literário alemão" [32]. Deste modo, esta dimensão utópica e esta exploração da surpresa e do universo fantasioso, num relato recheado de elementos sobrenaturais, de magia e de horror, transportam o leitor para uma realidade interna e onírica que pode ser lida como "(...) uma luta de uma criança que, ao estar a crescer, quer sentir-se ouvida, uma criança que vê a sua mente coibida e desvalorizada por parte dos que lhe são mais próximos. Aqui encontramos a crítica de Hoffmann à educação infantil da época" [32]. Trata-se, com efeito, tal como afirma Ana Garralón, em *Historia portátil de la literatura infantil y juvenil* (2017), de uma interpretação percursora de estudos científicos posteriores, no domínio da psicologia e do desenvolvimento infantil, designadamente "(...) la dificultad de los niños para diferenciar entre lo físico y lo psíquico, entre la realidad y la fantasía. Aunque en su momento este cuento no tuvo gran difusión, es considerado en la actualidad por los historiadores de literatura infantil alemanes como un clásico, prototipo de las historias fantásticas para niños [15], avançados por autores como o suíço Jean Piaget (1896-1980)[8].

3. Contributos para uma leitura do *corpus* textual

Avançamos, agora, para uma proposta de leitura, que se centrará essencialmente na dimensão gráfico-pictórica de um *corpus* muito restrito (que pretendemos exemplificativo), designadamente *El Cascanueces (*2017, 3.ª ed.) [14], de Katy Flint e Jessica Courtney-Tickle (ilustradora) e *The Nutcracker – A Papercut Pop-up Book* (2017) [28], de Shobhna Patel. Trata-se de dois exemplares com uma forte componente artística, além de uma elegante intencionalidade lúdica.

Dado à estampa em 2017, *El Cascanueces* [14]**, com texto de Katy Flint e ilustrações de Jessica Courtney-Tickle**, conta já com uma terceira edição, no ano de 2021, e inscreve-se numa coleção da Editorial Bruño, que contém os seguintes títulos, traduzidos para língua espanhola, *Las Cuatro Estaciones en un Día* (2016), *El Lago de los Cisnes* (2019) *e La Bella Durmiente* (2020), *El Carnaval de los Animales* (2021) e *La Flauta Mágica*

8 Recorde-se que Piaget é o autor da conhecida Teoria Cognitiva, na qual propõe a existência de quatro estágios de desenvolvimento cognitivo no ser humano: inteligência sensório-motora; pré-operatório; operatório concreto; e operatório formal ou abstrato.

(2022). Trata-se de uma publicação que visa a promoção de uma experiência eminentemente musical, construída a partir da obra de Tchaikovsky. Esta componente musical é deixada transparecer, desde logo, pela inclusão de notas peritextuais relativas à terminologia desta área artística, bem como pela constante presença de pequenos círculos coloridos, onde se inscrevem uma nota musical e a indicação "Pulsa aquí", que assinala, a cada dupla página, um botão. Este mecanismo, uma vez pressionado, anima toda a narrativa. Esta obra é, portanto, arquitetada em torno de um total de dez melodias, respeitantes aos diversos atos do conhecido bailado russo, designadamente "Obertura,", "Marcha", "Danza del abuelo", "El sueño de Clara", "Vals de los copos de nieve", "Danza Rusa", Danza de los mirlitones", "Vals de las flores", "Danza del Hada de Azúcar" e "Final". Já na última página desta publicação, são compilados todos os trechos musicais, juntamente com uma breve caracterização que tenta chamar a atenção dos leitores para determinadas propriedades sonoras, ao mesmo tempo que se interpela diretamente o receptor, convidando a descobrir a que momento concreto desta diegese corresponde cada uma das melodias. Trata-se, na verdade, de uma forma de, tal como avançado numa pequena nota de cariz biográfico relativa ao compositor russo, convocar uma experiência de leitura singular, na medida em que "la música de Chaikovski nos ayuda a entender qué están pensando y sintiendo los bailarines sobre el escenario... ¿sin usar palabras!, y también dibuja escenas en nuestra mente incluso antes de ver ese escenario" [14]. Profusamente ilustrada, esta obra de disposição horizontal (opção gráfica que se presta mais facilmente à criação de cenários visualmente aprimorados) dá conta de uma versão simplificada e edulcorada do hipotexto alemão, percetível na seleção cromática predominante, composta por cores quentes. Efetivamente, a escrita de índole bizarra e ambígua é aqui preterida em favor de um relato condensado e menos aberto. Esta reescrita concentra-se, essencialmente, na viagem pelo universo fantasiado, num gesto de agradecimento da parte do príncipe e na dimensão performativa das ações dos "adoçados" bailarinos e da própria Clara, protagonista desta versão. Note-se, igualmente, o cuidado em sublinhar o papel decisivo desta personagem feminina na resolução da batalha e, deste modo, no quebrar do feitiço a que o príncipe, na condição de Quebra-nozes, estava sujeito. Contudo, no epílogo, após o despertar de Clara, o príncipe volta à sua condição de brinquedo.

O segundo volume selecionado é uma versão em língua inglesa *The Nutcracker – A Papercut Pop-up Book* **(2017)** [28]**, de Shobhna Patel**, publicada pela Thames & Hudson. Também de disposição horizontal, apresenta uma revisitação cuidadosamente ilustrada através da técnica do recorte, inspirada diretamente na peça de Tchaikovsky. Assim, em vez de uma imersão nesta conhecida diegese mediada pela componente sonora, como se observa no exemplar anterior, agora, estamos perante uma transposição para um discurso pictórico composto por quatro cenários meticulosamente construídos por via de delicadas incisões em papéis coloridos (dentro de uma paleta contida que se cinge às cores azul, ao vermelho e dourado). Esses quatro momentos nucleares do conto em estudo,

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recriados por Shobhna Patel em cada capítulo, contam com a ação física do leitor, dado que é apenas por via do gesto de abertura entre recortes que um pequeno cenário ou personagem, dobrados em V, adquirem tridimensionalidade. O livro, à primeira vista, próximo do tradicional formato de códex, surpreende o destinatário extratextual que se vê perante um relato ilustrado *pop-up,* estratégia gráfica que acentua o dramatismo e encanto próprio de uma leitura mediada. A fragilidade destes cortantes, ouse já, dos elementos recortados ou perfurados, requerem uma mediação próxima. No entanto, a beleza destas ilustrações, passíveis de serem projetadas sobre uma parede, por exemplo, com recurso a uma lanterna, encantam e assombram leitores de diferentes latitudes. Com efeito, o poder encantatório e provocativo da ilustração presente nos livros para crianças cumpre um papel fundamental de estímulo à imaginação, já que "children's picture books, whether fiction or non-fiction, feed us attitudes and information and help to develop our visual senses and intellect. The creative possibilities of illustration are limitless. Away from a contextual need for literal truth, illustration becomes unfettered by reality, and one's imagination ir free to create images and conjure up atmospheres" [23].

Considerações finais

A adição de "qualquer coisa mais" ao livro, a transfiguração laboratorial deste artefacto, jogando com e contra a tradição, ou seja, inovando e contribuindo simultaneamente para a sua pervivência9, desafiando os limites da definição deste objeto cultural, em parte também como resposta ao desejo e à curiosidade por outros produtos do domínio do entretenimento, esta adição, dizíamos, deve ser vista, em alguns casos, como uma força motriz [21]. Diluídas, em certos casos, as fronteiras entre ficção e realidade, o leitor acaba imerso em experiências de leitura plurais (estimuladas a priori por um conjunto singular de estratégias gráficas) com as quais se potenciam perceções sensoriais táteis, sonoras, motoras (apertar, rodar, puxar) e, até mesmo, gustativas (morder), se pensarmos especialmente na leitura feita pelos bebés [31]. Este desprendido, voluntário, agradável e íntimo contacto com o livro, material e anatomicamente multiforme, na primeira infância, deve integrar o dia--a-dia da criança, desde cedo, dentro de um processo lato de interação com o adulto, ou seja, de uma leitura partilhada, afetuosa e genuinamente interessada da parte deste último agente, já que a expressão da sua voz, a par das componentes visual e gráfica, constituem formas de envolver a criança não leitora no confronto com a linguagem escrita [17, 31, 40]. A aproximação ao livro deve gozar, desde o primeiro momento (e, mesmo, após a entrada na escola), de liberdade e flexibilidade de escolha, de tempo e de proximidade com o adulto com o qual o bebé começa a aprender a ler o mundo. Importa, pois, que lhes seja facilitada e estimulada a exploração ativa, a tomada de decisões, a procura de

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9 Note-se que, em latim, o verbo "pervivere", um verbo intransitivo, significa continuar a viver. O prefixo "per" introduz, neste caso, a ideia de por meio de ou através de. Assim, viver por meio de ou através de, ou seja, é uma vivência que continua ou permanece independentemente do tempo, da passagem do tempo.

respostas e a realização de inferências com base em pistas contextuais para a apreensão dos significados de palavras e imagens não conhecidas da linguagem escrita e imagética e das sinergias entre ambas. Essa aproximação sensorial ou física, numa fase em que a criança dispõe de um pensamento intuitivo ou pré-lógico, aos poucos, vai dando lugar à imitação dos gestos do adulto, isto é, a outros modos de utilização/apreensão deste artefacto, quando realizadas por um mediador deveras enamorado pelos livros que funcione como ponte ou elo de ligação entre a criança e o livro ou a sua ação leitora [40].

A mediação do adulto, numa fase precoce, deve passar, portanto, pela preocupação com a criação de rotinas que estimulem o interesse gratificante pelo livro, tendo como desejo maior permitir à criança o acesso ao prazer suscitado por este objeto e fazendo deste um companheiro de todas as horas, dando-o a conhecer num clima de cumplicidade e brincadeira, não no sentido utilitário ou de mera distração, ou de "utensílio de adormecimento", a que, por vezes, é reduzido, mas enquanto objeto de enriquecimento da imaginação, de resistência, como alimento do espírito, como artifício de transformação dos nossos princípios de perceção, do gosto pelo saber e pelo diálogo com o outro/distinto através das expressões verbal e imagética. Assim, estamos de acordo com Teresa Duran, estudiosa para quem "determinadas adaptaciones, sean orales, textuales o gráficas, son tan ricas, que motivan una considerable pregnancia entre los oyentes y lectores, convirtiéndose, a la larga, en referentes culturales. Y en tanto tales, son tomadas como si tuviesen un sello de autenticidad (...)" [12].

Em suma, os bebés precisam de brincar com o livro. Necessitam de livros para morder e de livros que os "mordam", ou seja, que lhes sejam próximos e estimulantes, porque comungamos da visão de Joaquín Rodríguez, em *La furia de la lectura – Por qué seguir leyendo en el siglo XXI,* de que é fundamental "leer la palabra y leer el mundo como ejercicios simultáneos e inherentes" [34].

Os livros que aqui brevemente revisitámos potenciam um primeiro contacto emotivo e sensorial (ou, até mesmo, em certos casos, um reencontro) com o conto *O Quebra-Nozes e o Rei Rato,* obra que ocupa, sem dúvida, um lugar especial na galeria dos clássicos da História de literatura para a infância. Trata-se, nos dois volumes em causa, de um encontro que reconhece a unidade baseada entre o discurso ilustrativo e a narrativa verbal e que potencia uma aproximação afetiva a um referente coletivo, pois, tal como nos indica Angelo Nobile, a ilustração "favorece además la memorización y fijación en el recuerdo de pasajes, episodios y personajes de la vivencia, refine y educa la sensibilidad estética o pre-estética del niño, habla a la emotividad y a la afectividad, evoca sentimientos, estimula la inteligencia y la fantasía, incentiva la creatividad y el espíritu de observación y favorece la comparación, en una prueba visual, entre la imagen elaborada por el receptor en su interior, después de la audición o de la lectura autónoma, y el dibujo reproducido en la página surgido de la invención creadora del artista; siempre que responda a los cánones del arte y de la estética infantil, es fuente de alegría, de gratificación interior y quizá de recreación estética" [27].

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Motivado por um original elogio do mundo onírico e pela valorização inédita da voz da criança, da sua vontade e pontos de vista, o conto clássico que valorizámos neste trabalho, exemplo da resistência da literatura à erosão do tempo ou da sua pervivência, com frequência, materialmente remodelado, permanece intemporal. Num período como o que hoje vivemos, o mundo interior da criança e a interpretação que faz do mundo continuam a suscitar fascínio e também, de certa maneira, a transtornar, tal como acontecia com a pequena Maria, personagem do texto clássico aqui evocado: "embora a Maria estivesse proibida de falar nas suas aventuras, as imagens daquela terra maravilhosa de fadas pairavam à sua volta em ondas que suavemente a assaltavam em sons graciosos e encantadores. Olhava para tudo uma vez mais e tudo lhe surgia com nitidez. E assim, em vez de brincar como habitualmente, ficava sentada, calada e imóvel, profundamente absorvida. Por isso toda a gente a criticava por ser uma pequena «sonhadora»" [18].

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Alice e o Grotesco na Ilustração Infantojuvenil

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[Ilustração / Illustration]

Abstract

The Grotesque is an aesthetic category studied in numerous artistic disciplines such as Architecture, Painting and Theater - areas of ancient knowledge. This category was explored by many and by others simply appreciated. However, when reflecting on this phenomenon in the creative areas aimed at younger people, there is no concrete data that identifies its existence. This article is focused on the area of Illustration and sought to answer if there is a presence of grotesque aesthetics in this genre of visual creation specially dedicated to children and teenagers. Therefore, how can we identify its presence? Are the creators of visual storytelling aware of it while producing their work? Are they trying to get closer to that aesthetic, or do they prefer to move away from it? Considering these issues, the work focused on the evolution of illustrations and film representations of characters from Lewis Carroll's books. It also intended to understand the reason for these decisions about characteristics of Grotesque and what impact they have on the final art of illustrators, creatives and designers. It is a work that found interesting answers, opening the possibility of starting a discussion with the intention of filling a field of study in Visual Culture. A fruitful work is anticipated by continuing the analysis and criticism of the Grotesque not only as an aesthetic in an adult context as it has been up to now, but also to understand its evidence and its reception by the younger ones.

Introduction

Está largamente estabelecido que a leitura é um fator fundamental no desenvolvimento e crescimento da criança. É também constatável que, nos dias de hoje, a imagem se vai tornando cada vez mais num aliado principal da leitura não só para as faixas etárias mais graúdas como especialmente também para o público infantojuvenil. Tendo estes factos em consideração, é relevante relembrar que a literatura infantil atingiu a sua grande dimensão após a Revolução Industrial, não só através de escritores, mas também por vários ilustradores como Beatrix Potter (1866-1943), Edward Lear (1812-1888), Walter Crane (1845-1915), entre muitos outros. E é a partir dessa altura que se tem vindo a ampliar ao ser recriada pelas mãos de profissionais de várias áreas ligadas ao Design e às Artes estimulando, assim, o conhecimento visual das crianças e dos jovens por

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todo o mundo. Hoje, literatura infantil e ilustração estão completamente interligadas, sendo praticamente impossível imaginar o género apenas com texto corrido. Neste sentido, e visando um melhor conhecimento dos ganhos de desenvolvimento pessoal, é possível compreender-se que existe uma reação emocional das crianças perante os desenhos. Mas que tipo de imagética acompanha as histórias dos contos infantis? Que estilos de desenho e que estéticas podemos observar nos *picture books* (de que se falará mais adiante), por exemplo? Admitindo que existem várias aproximações estéticas distinguíveis, será que o Grotesco é uma estética presente? Se sim, de que formas se poderá manifestar? Como podem o designer, o editor ou o ilustrador aproximar-se dessa estética ou afastar-se dela? Estarão conscientes da sua presença ou da sua ausência na ilustração e no grafismo que criam? Quais os seus efeitos comunicacionais na arte final?

Tentando responder a estas questões, o artigo explora a Ilustração Ocidental, a partir do século XIX, e pretende enquadrar as faixas etárias dos 8 aos 14 anos. Embora tenha Jean Piaget considerado a imagem, para a criança, como um auxiliar para o raciocínio operatório e não como um elemento capaz de estruturá-lo [1], tem-se vindo a descobrir que a imagem ocupa um lugar muito mais importante e crucial no desenvolvimento do raciocínio das crianças e dos jovens; uma grande forma de comunicação com os mais novos, como se pôde ver anteriormente, é através da Ilustração.

A pesquisa para esta investigação foi feita com base na análise documental e na interpretação de texto referente à área em questão, o Grotesco, e, em tópicos mais à frente, uma pesquisa mais específica direcionada para o Grotesco nas Artes Visuais e para a Ilustração infantojuvenil. De seguida estão apresentados 4 estudos de caso – John Tenniel (1820-1914), Arthur Rackham (1867-1939), Walt Disney (1901-1966) e Tim Burton (1958-) -, onde em cada um deles as ilustrações analisadas são as respetivas interpretações dos contos *Alice no País das Maravilhas* (1865), e *Alice do Outro Lado do Espelho* (1872), ambos pelo próprio Lewis Carroll (1832-1898). A análise das ilustrações foi realizada através das metodologias *Good Eye: Looking at Pictures Using Compositional Interpretation* e *Discourse Analysis I: Text, Intertextuality and Context* respetivamente, duas das várias que Gillian Rose (1947-1995) apresenta no seu livro *Visual Methodologies: An Introduction to Researching with Visual Materials* [2]. Em cada um dos métodos retirou-se os parâmetros mais importantes, de acordo com Rose, na análise de uma imagem, e, foram utilizados os considerados mais essenciais em cada estudo de caso.

Da Gruta para a Página – Breve Exposição sobre o Grotesco

O Grotesco trata-se de um fenómeno predominantemente visual e é nesse âmbito que padece de uma heterogeneidade, de um desequilíbrio, de um desalinhamento, algo que não parece certo nem estático [3]. Importante será também reforçar que o Grotesco não só é um fenómeno visual como também físico. A sua existência remonta à antiguidade, sem data nem período conhecido, mas é desde aí, que se tem vindo a recriar até aos tempos que correm, sendo alvo de várias metamorfoses, que continuam a acontecer época após época. É algo que se objetiva nas diferenças

de meio social para meio social, de cultura para cultura. O que pode parecer grotesco para uns, pode não o ser para outros. Ao começar por ser considerado como uma Arte Ornamental, a 'descoberta' do Grotesco remonta ao ano 1480, no palácio romano *A Casa Dourada* de Nero. Foi possível constatar-se que nesse local existiam decorações florais, figuras que se transformam em serpentes e criaturas mitológicas [4]. Além disso, a própria palavra "grotesco", em italiano *grottesco*, deriva do termo *grotta*, proveniente dessa mesma língua, que significa gruta ou cova [5].

Consequentemente, a ampliação dos conceitos estéticos começou por essa mesma altura, expandindo-se no tempo, através da receção de diversas obras de arte e pelas observações, nomeadamente, de Victor Hugo (1802-1885). Acaba por ser só no século XIX que o Grotesco recebe a atribuição de categoria estética [6]. Vários foram os estudiosos que se empenharam em tentar compreender esta estética, e é certo que não se poderá deixar de mencionar os dois autores considerados como os principais percursores da investigação nesta área, Wolfgang Kayser (1906-1960) e Mikhail Bakhtin (1895-1975).

É possível compreender que, para Kayser, o Grotesco envolve três etapas: o processo criativo, a obra e a sua receção por parte do público [5]. De acordo com Rossi, Kayser acredita no Grotesco enquanto estrutura, na qual o mundo é tornado estranho, principalmente o que é familiar e conhecido ao olhar do espetador. Sendo que desta maneira o teórico alemão destaca o seu lado mais negativo, Bakhtin vê-o como alegre e triunfante, onde "o imaginário grotesco devaneia num mundo terreno e carnal (...) de vida e de esperança" [6]. É a partir do século XIX que o Grotesco deixa de ser um fenómeno lateral nas artes visuais e que começa a desempenhar, desde o Romantismo, um papel importante no mundo das artes, que se estabelece como uma forma de expressão (quer visual, quer pensante, quer como estilo de vida e de comportamento na cultura *mainstream* da época moderna). O Grotesco começa por ser tornar proeminente em correntes artísticas como o Cubismo, o Dadaísmo, o Abstracionismo e, muito naturalmente, na Arte Bruta, correntes estas que desafiam o naturalismo e os cânones greco-romanos que haviam ressurgido no Renascimento [7].

O Grotesco nas Artes Visuais

Francis F. Connelly [7] define três processos na criação da imagética grotesca – imagens sob o conceito de grotesco que incluem elementos normalmente desgostados por parte do público, com o objetivo de desafiar as normas e construir novas realidades; imagens cujo intuito segue a ideia de deformação ou decomposição de elementos; e imagens que indultem um caráter metamórfico. O Grotesco passou a ser utilizado enquanto adjetivo de gosto em geral, que agora se estendeu à compreensão de figuras da vida social, dos seus comportamentos, vestuário, entre tantos outros tópicos [8]. E, com o surgimento de várias correntes artísticas, o Grotesco ganhou um maior espaço para poder intervir, onde acabou por se expandir e se recriar tanto no século XIX como no século XX. Como escreveu Connelly, "Estes veículos culturais para o Grotesco incluíam desenvolvimentos em vertentes como psicanálise, fotografia, mass media,

ficção científica, etnografia, armas de grande destruição, globalização e realidade virtual. O Grotesco estava primeiramente conectado à noção de uma era de expressão "primitiva", com profundas repercussões para a arte e estética moderna (...)"3 [7].

São várias as áreas que beneficiaram com o contributo desta estética. Como referido anteriormente, é a partir do Modernismo que se pode ver o acentuar de tal acontecimento. Umberto Eco (1932-2016) refere que pintores cubistas como Georges Braque (1882-1963) e Pablo Picasso (1881-1973) procuravam inspiração na arte exterior à Europa como nas máscaras africanas consideradas na altura para a cultura europeia como monstruosas. É de seguida pelas mãos do Dadaísmo que a fealdade ganha um valor artístico associado à contemporaneidade emergindo na utilização da estética visual grotesca [9]. Como noutros processos plásticos expressivos, com o surgimento das vanguardas artísticas, o Grotesco ganhou novas formas.

"(...) as vanguardas históricas não pretendiam realizar nenhuma Harmonia e perseguiam exatamente a ruptura de todas as ordens e de todos os esquemas perceptivos institucionalizados, a busca de novas formas de conhecimentos capazes de penetrar tanto nos recessos do inconsciente como nos da matéria em estado bruto, a denúncia da alienação da sociedade contemporânea." [9]

Ilustração Infantojuvenil – Chapter e Picture Books

Existem várias perspetivas a olhar para uma mesma ilustração – a do ilustrador e a do leitor são as principais, mas o início de um desenho tende a ser igual tanto na criança como no ilustrador, pois parte da imaginação continua através dos rascunhos. Nos primeiros dez anos da criança, ela usa o desenho como forma de ação e não de intenção, só aos poucos é que vai atribuindo nomes e criando narrativas através da repetição de vários traços. Já os ilustradores vão ao encontro das suas vivências e memórias para ilustrar e libertar a imaginação. De acordo com António Marques, a criança é um *homo imageticus* desde muito cedo e, para elas, as imagens têm um maior impacto que o texto, pois ilustram através de cores e formas, sensações que contêm uma carga afetiva muito maior que a presente num texto [10]. Embora seja a imagem um fator importante na ilustração infantil, a sua presença nos livros começa a diminuir quando se chega aos livros para os 12 -14 e 14-16 anos. O referido autor acredita que esta ausência prejudique o interesse do jovem pela leitura, pois a presença da imagem também traz curiosidade e interesse ao leitor. A função paratextual das ilustrações não só enriquece a narrativa, como dá ao leitor uma possibilidade de representação de um determinado evento que possa ocorrer ao longo do texto ou que seja uma extensão do mesmo.

É necessário ter em consideração todos os elementos gráficos da composição de um livro infantojuvenil, desde a tipografia, ao *layout* e design da página [11]. Não só o leitor observa a imagem no livro, como tam-

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3 Uma tradução portuguesa da seguinte frase: "These cultural vehicles for the grotesque included such disparate developments as psychoanalysis, photography, mass media, science fiction, ethnography, weapons of mass destruction, globalization, and virtual reality. The grotesque was first linked to the notion of "primitive" expression era, with profound repercussions for modern art and aesthetics.

bém a tipografia que dá vida ao texto. O design do livro além de explorar a parte ilustrativa, procura investigar "(...) a dimensão pictórica e gráfica do texto (...)" [12]. É o tipógrafo que cria toda a plasticidade necessária para ir de encontro ao que o autor pretende, toma a posição de mediador entre o leitor e o autor da obra. É nos livros infantis que muito desse trabalho tipográfico é visto como arrojado, pois na literatura para os mais velhos o texto é normalmente apresentado em tipografias simples, que permitem uma leitura rápida e eficaz do texto. Já nos livros para os mais jovens o texto, é também ele, alvo de experiências visuais, algo que se pode constatar, por exemplo, nos livros *Geronimo Stilton*, de Elisabetta Dami (1958-). É certo que a ilustração figurativa vincula no campo infantil desde os *picture books*, onde a criança, para aprender o que é o quê, recorre às ilustrações de animais, pessoas, objetos, para começar a compreender que palavra corresponde a que ilustração. Sónia Pascolati afirma mesmo "(...) que o interesse principal nos *picture books* é explorar como é que a narração é construída através da imagética." [11]

Para Molly Bang, no seu livro *Picture This* (2016), o que define a Ilustração é o contexto no qual é inserida. A autora tenta criar uma narrativa para o conto tradicional Capuchinho Vermelho através de formas geométricas. Bang tem em atenção o modo como desenha as formas. Começa por representar a personagem Capuchinho Vermelho como um triângulo vermelho, estando o vermelho a representar o seu capuz vermelho e a forma triangular o formato do capuz quando colocado na cabeça. Mas Bang vai mais além, tenta compreender se arredondar as pontas do triângulo aproximará essa forma à ideia da Capuchinho Vermelho. A autora, desta maneira, acaba por desafiar os limites da imaginação do leitor, e prova como simples formas coloridas podem ilustrar uma figura mais complexa, como, neste conto, o Lobo Mau ou o bosque. É possível concluir através do trabalho de Bang, que a associação que o ser humano faz da cor com elementos e sensações tem grande influência na maneira como reagimos ao que está representado [13]. O simbolismo conectado a cada objeto também é um fator fundamental na criação de ilustrações para as crianças e jovens, pois o ilustrador tem de ter noção do que é que pretende transmitir, a clareza com que o quer fazer, e se a mensagem é corretamente lida. A árvore, por exemplo, é um dos elementos mais simbólicos nos contos populares tradicionais e, principalmente, nos contos de fadas [14]. A linha é um outro fator fundamental no processo de criação, a maneira como é trabalhada tende a influenciar decisivamente o aspeto do trabalho final. O uso de uma linha mais carregada, dinâmica e com formatos mais angulares procede para a compreensão de um desenho zangado; linha mais suave, mas também quebrada, representa timidez ou medo [14]. Como os leitores dos *chapter books* já passaram pelas primeiras impressões de um livro e já sabem identificar cada elemento ilustrativo ao que cada um corresponde, começam a ganhar um padrão de raciocínio ao lerem as imagens. Estas características formais das figuras estão na base da nossa avaliação do grotesco, não só pelo significado do que está representado mas, especialmente, pelas qualidades formais e expressivas dos elementos gráficos principais como a linha e a cor.

O Caso de Alice

Foi através das ilustrações de John Tenniel, um ilustrador já conhecido pelo seu trabalho na *Punch Magazine*, que os contos de Carroll se popularizaram. Realizou 42 ilustrações para *Alice no País das Maravilhas* e 50 ilustrações para *Alice e o Outro Lado do Espelho*. Em termos de conteúdo [2] percebe-se que Tenniel dá uma maior ênfase às personagens. A ausência de cor [2], faz com que o olhar se foque inteiramente no traço (este criado a lápis de *graffite* nos esboços, e depois a tinta-da-china preta). Tanto nas silhuetas das personagens como nas manchas que dão a sensação de sombra e de volume. Tenniel não exagera nas feições do Chapeleiro Louco, dá-lhe ao invés um toque naturalista, realçando apenas o seu nariz, um órgão bastante explorado no Grotesco, e o seu chapéu. Tendo em conta a lógica da figuração por Gillian Rose [2], as figuras principais também se encontram bastante centralizadas na composição visual. Na Festa do Chá, Alice está colocada mais perto da margem esquerda, estando a Lebre de Março no centro, e o Chapeleiro Louco perto da margem direita. Um outro aspeto que Rose diz ser relevante na análise da imagem [2] é a atmosfera. Nestas ilustrações torna-se um pouco ríspida devido ao uso da linha e da sua junção que proporciona texturas, manchas e sombras, que criam volume no desenho. Este aspeto pode também dar-se pelo facto de as gravuras terem sido feitas sobre madeira, que acaba por ser uma matriz rija, o que leva a traços menos fluídos.

De acordo com Rose, percebe-se que a mensagem a ser passada representa muito a Época Vitoriana. Uma menina, pequena, a receber ordens de criaturas que nem conhece. Uma criança que procura a sua

própria identidade, que percorre um caminho confuso, desenhado para a fazer questionar. Aqui, Alice é novamente o elemento de fora, que no meio das outras personagens vive uma experiência solitária. O estilo de Tenniel, pelo uso da gravura como método de impressão e também pelo uso apenas da linha preta, remete para as primeiras ilustrações

Fig. 1. Por John Tenniel, ilustração impressa em xilogravura, 1865.

e iluminuras feitas anteriormente. Além da sua seriedade e do realismo que incorpora nas suas figuras, é no momento em que Alice aumenta e diminui de tamanho, que se nota uma maior aproximação ao Grotesco.

Além de Tenniel, um dos ilustradores mais conhecidos por ter feito a sua interpretação dos contos é Arthur Rackham (1867-1939), destacando-se pelas suas ilustrações inspiradas nos estilos *folktales* e *fairytales*. As mudanças que ocorreram nas técnicas de impressão durante a altura da sua carreira profissional, ajudaram a que o resultado dos seus trabalhos fosse mais rico graficamente do que o de Tenniel. É possível perceber em termos de conteúdo de imagem [2], que nas suas ilustrações existem muitos retratos de personagens, porém, o autor dos trabalhos também fornece ao leitor um conjunto de fundos repletos de paisagens complexas e cuidadosamente trabalhadas. Existe também um contraste notável en-

tre luz e sombra. Assim, o leitor consegue sentir uma maior profundidade no desenho, o que cria uma relação mais próxima entre leitor e imagem, pois convida o leitor a entrar na própria narrativa. Todos os seus elementos são muito expressivos, potenciados pelas manchas criadas por Rackham para destacar as formas dos corpos, rostos e do próprio chão. Mas para dar um toque mais realista, o autor também cria pontos mais claros, para dar a entender que são locais onde a "luz" incide, como nos bicos das criaturas, por exemplo. Existe também um sentido de prudência e de cuidado nas suas ilustrações. Rackham começava por desenhar a lápis, e quando sentisse que o desenho estaria concluído coloria com as aguarelas, que, por sua vez, dão um aspeto fantasioso e etéreo aos seus trabalhos, como se parecessem pedaços de um sonho. É possível compreender-se o quão caricaturescas são as mãos do Chapeleiro Louco e também quão exagerado em tamanho está o seu nariz; é nestes pequenos elementos que Rackham rompe com o realismo e exagera certos elementos fisionómicos. Relativamente à lógica da figuração, como já mencionado anteriormente, as personagens deslocam-se um pouco do centro da composição, enquadrando-se ligeiramente para os lados ou ligeiramente acima do centro. Comparando a Lebre e o Chapeleiro com Alice notamos que esta praticamente não tem contornos a preto, como se não pertencesse de facto àquele mundo com regras e comportamentos tão...grotescos.

Sendo Rackham considerado um dos maiores ilustradores vitorianos, assim como Tenniel, também ele coloca Alice numa posição de menina que se aventura por um País cheio de regras. A história criada por Carroll, acarreta muitas críticas à sociedade vitoriana, e, tanto ele como Tenniel

Fig. 2. Por Arthur Rackham, ilustração a aguarela e caneta gráfica, 1907.

e Rackham, tentaram destacar essa ideia. Rackham utilizou traços mais delicados para desenhar Alice, e tornou-a bastante simétrica e proporcional. Para contrastar, as restantes criaturas dos contos são mais exageradas e com expressões mais vincadas, para que assim se note a diferença entre Alice e o País das Maravilhas; Alice não pertence ali, não quer ficar ali, mas pretende impor-se sobre as regras da Rainha de Copas.

A Alice de Carrol ganhou relevância global através do filme de longa-metragem de 1951 realizado pelos estúdios de Disney. Walt Disney (1901-1966) começou como desenhador e animador, mas mais tarde concentrou-se na produção e direção dos seus filmes. Compreende-se assim, que muito do trabalho visual apresentado nos seus projetos não foi apenas realizado pelo próprio, como também por uma equipa de criativos que se destaca pelo que realizou enquanto ilustração e animação, e que tanto contribuiu para a imagética mundialmente reconhecida dos seus Es-

ALICE E O GROTESCO NA ILUSTRAÇÃO INFANTOJUVENIL
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túdios, permanecendo viva até aos dias de hoje. No filme *Alice no País das Maravilhas* foi Mary Blair (1911-1978), como *conceptual artist,* que serviu de base para a realização das ilustrações finais do filme. O seu trabalho é rico em cores vibrantes e puras, uma paleta de cores cheia de tons que podem fazer parte do mesmo tipo de cor, mas que ao ser tão abrangente cria uma estética fantasiosa e alegre. Relativamente ao conteúdo expressivo [2], as suas figuras mais estilizadas também contribuem para uma imagética e um *mood* mais ligados ao querido e adorável. O espaço no trabalho de Blair é bastante trabalhado. No caso de Tenniel, pôde observar-se que o ilustrador trabalhara mais as personagens, sem dar tanta importância aos fundos e restantes elementos decorativos; mas Blair explora as sombras e silhuetas dos demais elementos gráficos. Percebe-se que a ilustradora não pormenoriza a pintura, focando-se principalmente no recorte das árvores, das folhas, entre outros elementos. Disney destacava na narrativa dos seus filmes os conceitos de "amor verdadeiro" e "amor à primeira vista", em vez de explorar as ideias tradicionais de casamento e família dos *folktales* [15]. A *concept art* de Blair foi uma influência tão grande, que vários dos seus trabalhos foram introduzidos nas animações finais do filme. Existem também cenas no filme que estão pensadas de forma a serem vistas pelo olhar curioso de Alice [16], característica que se insere no parâmetro da *mise-en-scène* no

Fig. 3. Stillframe do filme Alice in Wonderland dos Estúdios Disney, 1951.

método *Good Eye* de Rose [2]; consegue-se perceber que grande parte das ilustrações não têm contornos, desta forma é o contraste entre as cores que perceciona os limites entre cada elemento gráfico. A maioria das figuras também está desenhada de forma mais arredondada, assim como Alice que está desenhada sem linhas muito vincadas, os dedos, o vestido e o cabelo terminam todos em traços mais curvados. Também é característico nas animações de Disney os olhos grandes e redondos das personagens, que transmitem uma segurança e conforto ao olhar do espectador.

Relativamente à análise do discurso [2] nas ilustrações de Disney, é importante destacar o trabalho de Blair. Trouxe uma sensibilidade na criação das ilustrações, nomeadamente nas personagens, dando-lhes um ar adorável e convidativo, pelo uso das cores, pela ausência de contornos carregados e pelas formas mais arredondadas. Alice continua a transmitir a ideia de menina curiosa e perdida num mundo desconhecido. A versão de Disney explora a diversão e o nonsense presente no País das Maravilhas sem se focar propriamente nas lições de moral que o conto de Carroll pretende passar. O Grotesco, neste caso aproxima-se da visão de Bakhtin, também próximo de Tenniel e afastado das ameaças sombrias do estilo de Rackham.

Apesar de o filme de Tim Burton (1958-) pertencer aos Estúdios Disney, o estilo de Burton torna-o um exemplo isolado mas, claramente, mais próximo de Rackham do que de Blair. Foi o diretor do primeiro filme *Alice*

no País das Maravilhas de 2010, e o produtor do segundo filme *Alice e o Outro Lado do Espelho* de 2016, sendo o diretor deste segundo James Bobin (1972-). O estilo de Burton tem como uma das principais características a distorção dos corpos, objetos e paisagens; a cor também acaba por ser dos aspetos mais importantes a analisar no trabalho de Burton, pois faz muito uso das cores fortes e vibrantes. No entanto, a sua imagética cria uma atmosfera [2] diferente da que se pode observar no trabalho de Disney. São várias as razões pelas quais isso acontece, primeiro porque são paletas de cores diferentes, embora ambas saltem à vista, as de Burton são mais escuras e pesadas; existem mais tons cinza e azuis, que criam um ambiente místico e sombrio. As personagens em si remetem imenso para um estilo grotesco, pois têm rostos e partes do corpo desequilibradas entre si, como é o caso da Rainha de Copas. O que mais difere o filme de Disney e as ilustrações de Tenniel e Rackham, do filme de Burton, é o uso de técnicas digitais mais recentes que criam efeitos especiais, nomeadamente *CGI*, um tipo de grafismo 3D que gera imagens por computador. O realismo no trabalho de Burton, devido ao *CGI*, coloca as suas ilustrações num patamar diferente, pois o que ele criou não foram somente ilustrações com

caneta, tinta ou aguarela, o seu filme utilizou personagens interpretadas por atores reais, misturou-as com personagens criadas de forma completamente digital, ferramentas que na altura de Tenniel e Rackham ainda não se encontravam desenvolvidas. O tipo de técnica que cada artista usa e a técnica em que o trabalho é posteriormente impresso ou digitalizado, também tem um evidente peso no resultado final da arte que cada um acaba por criar.

Fig. 4. Stillframe do filme Alice in Wonderland com produção de Tim Burton, 2010.

É possível indicar vários aspetos no trabalho de Burton que remetem para um visual grotesco, como é o caso de algumas personagens, os gémeos Tweedledee e Tweedledum, a Lagarta e o Gato *Chesire*. Além disso, a paleta de cores cria uma atmosfera mais densa e misteriosa, aspetos ligados ao Grotesco e ao Gótico. Acima de tudo, são os cenários que enriquecem o filme, não só pela quantidade de elementos gráficos que neles se inserem, como pela maneira com que estão trabalhados.

Conclusão

Pensar no ilustrador como um intérprete de uma história escrita leva-nos a um universo cheio de possibilidades gráficas, onde o próprio texto é alvo de experiências visuais. Tanto as técnicas utilizadas na conceção da ilustração como as técnicas com que é reproduzida têm grande influência sobre o resultado final. A tecnologia tem vindo a criar novas formas onde o Grotesco se possa vir a moldar, e, com o uso dos meios tecnológicos a ser cada vez mais frequente entre as crianças, é inevitável que os ilustradores se deparem com o Grotesco no estilo visual de ilustrações em videojogos, filmes e desenhos animados.

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Consegue-se compreender que os elementos fundamentais para avaliação dos estilos gráficos criados por cada ilustrador correspondem ao tipo de traço, à escolha da paleta cromática, à proporção entre formas, ao contraste entre luz e sombra e à escolha dos materiais e dos meios para criação das ilustrações e animações.

Embora os ilustradores não pensem necessariamente no Grotesco enquanto objetivo ou finalidade estética, mas sim como uma consequência das escolhas tomadas ao longo de cada processo de trabalho, é importante pensar-se na Cultura Visual e que novas formas do Grotesco se expressar possam ser trazidas até aos mais novos.

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A Pop-App booklet for raising environmental awareness

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[Ilustração / Illustration]

Abstract

The Bats Pop-App is inter-disciplinary project developed by our research unit (animazionedesign research laboratory, DADU, Università di Sassari) in collaboration with the Porto Conte Regional Park, in Sardinia, Italy. As part of the dissemination activities carried out at the Park's Visitor Center our team was asked to develop a system of experiences to support an educational endeavour on Chiroptera, the mammal order that embraces the many and different variety of bats populating our planet. Intended to present to the Park's visitors – primarily second-grade kids lead by their teachers –our work took the form of a multi-media informative artifact, an hybrid 'system' which combines illustration, animation and augmented reality to engage the Parks visitors presenting them what we have called a Pop-App booklet. A free illustrated book that can be explored with an interactive app meant at creating an educational bridge between the contemporary dimensions of the material and the immaterial by offering a playful and engaging educational experience.

1. Introduction

As part of an informative research project financed by ARGEA, Sardinian's Regional Agency for Agriculture and commissioned by the Porto Conte Regional Natural Park, our team was asked to develop an educational package to disseminate key information about the Chiroptera order of mammals (bats) to the park's visitors, which is in large part composed by second grade school kids aged 11-14.

Lead by their teachers, the class groups typically visit the Park in the spring season for a program encompassing visits to the Natural Park's main building, which hosts various museums, and its natural surroundings. During the visit the class groups are often engaged in presentations about the natural environmental and ecology, often combined with hands-on activities lead by the Centre's educators.

Our task was hence to 'transform' [1] the rather dense body of information – in the form of a very extended PowerPoint presentation – usually used as a general reference from the Park's educators, in a sub-set of flexible and possibly engaging informative modules.

Is it important to highlight how, as our Departmental unit operates within a research environment, many of the 'production-related'

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decisions we take when we happen to embark in external projects are triggered both by the desire of experimenting, as well as by the availability of resources and opportunities. Following the lines of research work we decided to take this opportunity to explore the interactions between the realms of analogic and digital communication, developing a short illustrated book that the visitors could interact with in different ways as well as take with them as a souvenir (fig.1).

Fig. 1. Pop-App booklet

The contents of the book embody the informative program that a typical visitor experiences, articulating them in four short animated films about various aspects of the life of bats, and in a hands-on activity enhanced by a free app that allows interacting with the book contents via augmented reality. In the following pages we wish to describe the creative process that led to the articulation of a rather dense informative body into a comprehensive system combining a variety of formats, languages and techniques.

Beyond being a reference of the visit's key contents, in its combination with the hands-on activities and the interactive exploration via the digital app, the booklet aims at being a personal diary/souvenir of the visits as each visitor is asked to personalize his/her copy of the book by cutting the shapes hosted in the last pages of the book itself and pasting them in position in the central 'centerfold' pages of the booklet to create a theatrical pop-up set to be hence explored, through the App we developed, through Augmented Reality technology.

2. Four animated shorts

The first part of the project consists in four animated short films that present a series of key aspects of life of Chiroptera: their habitat and lifecycle, their anatomy, their nutritional habits and information regarding the species' conservation. A key initial task was organizing, summarizing and transforming the original scientific contents provided by the Park's educators into a simple series of scripts that could provide a flexible starting point for production. The original documentation's contents had hence to be re-defined into subtopics to shape the narrative base of four films.

Since at the time we were to start production, our laboratory was hosting an intern, a student that had previously shown a particular interest and talent in stop motion, we decided to involve her introducing in our film's scheme a subchapter, a short section (of which she would be entirely responsible) to be developed in this distinctive format, within each of the films. The inspiration came from the inserts, or informative "boxes", that can often be found in scientific schoolbooks whenever a specific topic needs

to be explored in particular detail. The solution allows the text's regular informative sequence to be preserved while presenting the detailed focus that specific topics need to be fully presented. In the film presenting the bat's nutritional habits, a specifics stop-motion-like insert, or box, was created to offer an in-depth explanation of the technique – known as 'echolocation' – exploited by bats either to orient themselves in space and to catch their preys. Within our animation's general visual style, a mix between 2D hand drawn animation and an info-graphic style, to further convey the idea of an autonomous and focused bit on information the sequences within these informative boxes, was developed in a distinctive steam-punk 'retro' papercraft cut-out style reminding of Victorian paper toys (Fig. 2).

Once clarified how to shape our informative structure, the development of our four animated clips was ready to be carried out along the lines of a good teamwork structure. On the grounds of our re-edited text script, an illustrator developed storyboards with rough pencil sketches, sharing ideas with other members of the production team. The storyboard were hence passed to an animator to develop the clip's *animatics* in order to combine the informative and storytelling requirements with an actual timeline (Fig. 3).
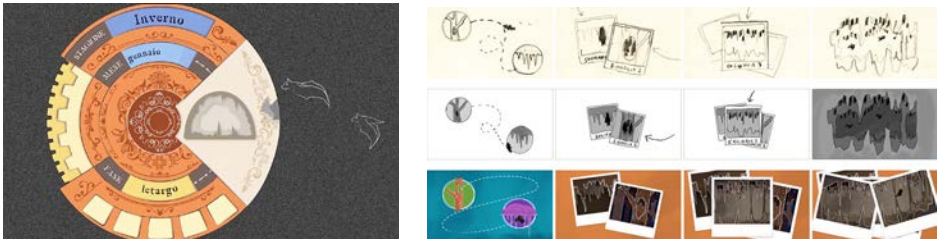
Fig. 2. A frame from the Bat's Life Cycle Box inside the Habitat video.

Fig. 3. Storyboard, animatic and final frames were created by hand o a digital tablet

After the animatics enable the Park's educators to check for the new contents consistency, and having receive clearance to go on, a good deal, of effort was at this point devoted to keep the films's duration within the required timing, start preparing the final drawings, in particular backgrounds, props and other elements in the scenes.

For a selected section of sequences we decided to involve an experienced animator to create specific scenes involving complex movement, such as for the bat's distinctive fling patterns, or character interactions. (Fig. 4).

Stylized figures, landscapes and backgrounds were created as illustrations on an iPad to produce a crayons-like color drawing style. The choice of this artwork formula and a good collaboration between the illustrator and the animator cleared the path to a smooth production process.

As the animated sequences were carried out, a second team member focused on creating the needed voiceover commentary (which was provided by an external professional studio). The opening and closing sections, as well as titles and credits where created in parallel. Finally, the final editing combined all the different parts – the different animated sequences, sounds and voiceover, in the final films.

Generally speaking, the four animated films follow a rather lin-

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Fig. 4. Frames of a flying bat, drawn by an experienced animator.

ear narrative scheme. On the grounds of a simple visual and animation structure, always keeping an eye to the need to keep the process simple and manage production costs, some narrative tricks were introduced to make the films more engaging. In the film on the Chiroptera's habitats and life cycle, a classic narrative device was followed. As we present different locations in which a bat moves within a year, we show a moving bat as it flies in the center of the frame (Fig. 5), while images evoking the four seasons are displayed one next to the other in the sliding background. Here, the classic technique of "*panning*" that by simply moving the background enhances the idea of movement offered by the 'cyclical' sequence of the bat's flight [2], also evokes the passing of time within the seasons, in a way similar to the scene in Disney's "*The Lion King*" were the idea of the growth in time of the main character *Simba* is recreated within only seconds during the famous song "*Hakuna Matata*" (Allers R., Minkoff R., 1994).

Fig. 5. Frames from our 'four seasons' bat scene.

Fig. 6. The three scientific words *Troglofili*, *Fitofili* and *Antropofili,* respectively mean bats living in caves, bats living in forests and bats living in human settlements.

Another challenge we faced was how to present clearly, and in a memorable way, the meaning and structure of three complex scientific terms. Instead of using simple captions, we decided to create the words themselves by enhancing their role in the scene, turning part of the textual representation as elements of the background. Taking inspiration from another famous scene, the opening titles of the film "*Monty Python's Life of Brian*" (Jones T., 1979), where the credits become some kind of a visual metaphorical landscape, we decided to contextualize some of the letters that compose the text with the terms' actual meaning, by means of a strong visual stylization (Fig. 6). Beyond making more accessible the actual, and slightly arcane, scientific terminology (*Troglo-Fito-Antopo*...) the result is pleasing, more understandable and possibly, educational.

In the film dedicated to presenting the bat's anatomy, the presentation of how in their evolution bats developed wings of very different sizes – hence performing very different flight patterns – in connection with the character of their respective habitats the scene we created evokes an 8-bit videogame screen [3]. Here, too, resolving to a "*panning*" technique was

used in scene depicting a bat flying, through the imaginary different levels of the game, switching between wings of different length in connection with the change in the environment shown in the background (Fig. 7).

Similar tricks have been also exploited in the 'box' sequences at the end of our films. Each of the four *boxes* presents a particular paper-craft object to metaphorically embody a given scientific content. In one case (Fig. 2) we created a fake rotating paper calendar to mark the bat's life cycle; whereas in a second presentation, a sort of card game, operated by a pretend knob by a 'pixillation-like' hand, is used to illustrate the bone structure in bat's wings. Similarly, in another sequence, an imaginary chessboard helps to present in a fun way the basic concepts of echolocation (Fig. 8).

Interactions for bridging the virtual and physical realms

Despite having been available for some decades, and attracted considerable interest in various domains (among which in sectors such as the medical, military and training), augmented reality (AR) technology has a relativity limited use in education. While several studies have shown its potential as a tool in learning processes [4] and how its use can effectively stimulate the interest of students by enriching learning and reducing the cognitive load [5], often AR is seen primarily as just another technological gadget. In fact, achieving particularly relevant results within this specific area of research lies outside the scopes its the integration in our project, that should be instead intended primarily as a playful integration meant to create curiosity in our public. In this direction, the AR integration in our Bat-App has some degree of connection with two projects. The first is a book created, ten years ago, by Unit Experimental, a research unit based at the Polytechnic of Valencia, in Spain [6]. The book was intended as a portable multimedia extension of the exhibit *Pensar con las manos. Los cuadernos de Isidro Ferrer & Pep Carrió.* [7] in which various short animated clips were associated with the compositions of the two Spanish graphic designers. The Uniform Harrow city map [8] a promotional project developed in 2018 by Liverpool's based studio Uniform "to communicate the benefits of a big redevelopment of the area to local residents in an engaging way" is another interesting reference for our Bat Pop-App.

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The project is based on a foldable map depicting the area interested by a large redevelopment plan in London, that was widely distributed among the local public. An AR app allows users to hold their phone or tablet over the map to explore 3D animations and various multimedia integrations presenting the project. More a promotional device than an actual informative tool the project is a brilliant example of how a smooth integration between physical and virtual information can enhance participation and experience.

On the track of these two examples, the key idea behind our integration of AR in out project about Chiroptera is that new generations, which are nowadays fully comfortable with integrating digital technology in every aspect of their daily existence, may be intrigued by superimposing it over an 'exotic' medium such as a paper book. In our Bat Pop-App 'system' we decided to push this assumption one step further by presenting them with a series of cut out shapes, printed in the final pages of the booklet itself, to be directly cut and pasted in the booklet's central pages, to give shape to a pop-up 3D-like scenario that can be explored within an Augmented Reality session.

Three themes – echolocation, habitats, and nutrition – were developed for the augmented visit, in which simple animations, triggered by the exploration, are aimed at integrating in an interactive way the informative set in the book and in the animated films we have already discussed.

From a technical standpoint of view, Augmented Reality relies on recognizing and tracking the physical world around us to superimpose and integrate it with additional information, virtual objects, and interactive capabilities.

Two different approaches are followed to produce the matching between such different realities. Marker-based solutions rely on positioning in space virtual components (Qr Codes, and the like) that have a set of formal characteristics that the software can 'see' and interpret. On the contrary, the marker-less formula implies that the elements needed for locating and tracking a target are somehow embedded in the scene itself. Horizontal surfaces can be arranged, by positioning three-dimensional objects in space that can be in turn interpreted as 'implicit, and therefore invisible to the user, markers. For our project we resolved to this second option, so that the infrastructure – the actual paper pop-up models that the users are invited to assemble in the central pages of our booklet – that allows the interaction between the physical and the virtual domains remains not immediately evident to the users.

Developed within a cross-platform graphics engine developed by Unity Technologies for creating video games and other interactive contents in real time, our AR app used the entire illustrated page as its target image. The key idea behind this choice was making it possible to interact with the pop-up that each user assembles on its copy of the booklet overcoming the potential problem created by the unavoidable imperfections produced by home-made cut, paste and assembling.

A different design solution has been implements for each the three AR scenes. In one scenario, the full-page illustration of a bat with its

mouth open (the mouth being formed by two simple pop-up elements) is surrounded, once framed with in the screen of the app, by four virtual clouds (Fig.9). By tapping on each of the clouds the user can visualize an animated insect, that shortly after flies right in the bat's mouth.

Another scene presents a night vision of a 3D small house model located in an open space (fig. 10). The AR interaction with this set up produces a simulated emission of the waves used by bats to eco-locate obstacles, when the waves emitted in the simulation by the bat hit the model house, the waves appear to bounce back offering a practical simulation of the actual process. As an actual invisible "3D trick model" of the house with the same dimensions as the one in the paper pop-up model is virtually superimposed with it the user can navigate, just as the bat would do, the space on the booklet page. The third and last AR pop-up presents three different scenes: once targeted within the app the central one, representing a cave in the woods, activates an animation in which a flock of bats leaves the cave flying towards the user.
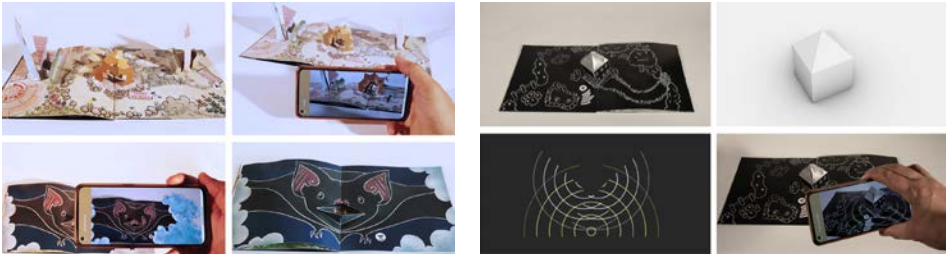
Fig. 9. (left) Full-page illustration and AR contents.

Fig. 10. (right) Working of augmented reality in the echolocation page.

Conclusions

The Bat Pop-App interactive booklet we created for the visitors of the Porto Conte Regional Park has been an opportunity to explore ways in which the superimposition of the digital and the analogic realms may create an informative space capable of attracting school kids in order to disseminate some key scientific facts about bats.

A design team of seven people, including one animator and one intern-animator, one illustrator/animator, one expert in the creation of paper pop-ups, one expert in Augmented Reality development, one graphic designer, and a creative supervisor, worked for several months in collaboration with the Park's educators to bring to life a hybrid informative format that combines the languages of illustration, animation, and interactive design, offering an innovative approach to the dissemination of scientific content.

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Ilustração (bio)molecular - quando a metáfora assume a realidade

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Abstract

Visualization enhances the ability to absorb and memorize knowledge, especially in areas such as Biochemistry, the basis of all Biology and Medicine, where the object of study is essentially invisible. A scientific illustration of biomolecules is necessarily abstract and symbolic, bound by specific norms meant to simplify the message in an attractive way that's clear and suitable to the knowledge level of the receiver, sparking interest and holding the attention long enough for the subject to be understood and memorized, without letting the student, in his enthusiasm, mistake the metaphorical representation for reality. To achieve this, it's necessary for both teachers and creators of illustrations (or models, physical and virtual) used in teaching to be aware of the dangers of oversimplification, and to continually ensure that the student knows that every model is a metaphor and that there are many visualization models (all scientifically accurate, but tailored to different purposes and scales), while adapting the visual discourse to the abstraction capacity of the age group it is meant for.

Contribuições dos autores

Fernando Correia conceptualizou o artigo. Cláudia Barrocas elaborou a versão inicial. Fernando Correia editou, reviu e expandiu a versão inicial. Todos os autores leram e aprovaram o manuscrito final.

1. Introdução

A ilustração científica é uma componente da Comunicação de Ciência centrada na imagética criada para veicular e facilitar a assimilação do conhecimento científico. Enquanto discurso e narrativa estrategicamente formatados num produto visual congrega diversas metodologias, métodos e formas, mais ou menos padronizadas, de figuração, com estatuto e valor documental que lhes permitem a paridade com o discurso verbal que ilustram. Estas imagens extrapolam a função presentativa e assumem a capacidade de re-"apresentar" o objeto de estudo científico, constituindo um modelo (construção que simula, sem ser idêntica) por vezes propositadamente redutor nas características visuais, mas que continua identificável e correlacionável com a origem.

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1.1. A Ilustração Química e Bioquímica — princípios e fundamentos.

Representar macro-estruturas biológicas, principalmente organismos, é um exercício complexo mas que tem vindo a ser maturado, em métodos e técnicas, desde os períodos pré-científicos e muito mais até ao presente, com a adoção de padrões consistentes, específicos para cada área do saber científico. Já a representação do mundo invisível só se tornou possível quando surgiu o microscópio ótico, e foi R. Hooke quem o trouxe para as ciências naturais, usando-o para criar rigorosas ilustrações de um mundo desconhecido, na sua obra pioneira "Micrographia", editada no século XVII. Quando a tecnologia sofreu nova revolução, passando de lentes de vidro, para lentes eletromagnéticas, um salto dimensional foi dado com incursão no mundo onde a Biologia se funde com a Química.
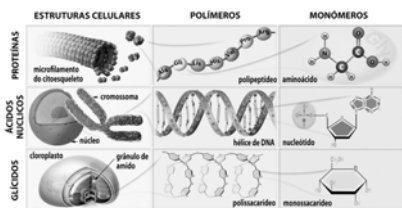
Veja-se, como exemplo, as fotografias de microscópio eletrónico de varrimento onde se conseguem observar bactérias na sua forma tridimensional, ou o microscópio eletrónico de transmissão que nos permite ver diminutos vírus, ou conjuntos de macromoléculas que se coordenam para criarem membranas celulares, poros, filamentos do citoesqueleto, etc.

Fig. 1. Escalas dimensionais: diferentes estruturas celulares, os polímeros (macromoléculas) que as formam e os monómeros (moléculas) com os seus constituintes atómicos (FCorreia e CBarrocas, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores)

1.2. Literacia Visual

As visualizações (termo hoje aplicado a todo o produto imagético que melhora a imaginação e experiência visual) podem ampliar a memória visual e, consequentemente, as funções cognitivas. Em Química/Bioquímica, as imagens são usadas para transmitir eventos que são difíceis de descrever com palavras, de que são exemplo, a flexibilidade estrutural das proteínas, o mecanismo pelo qual os iões atravessam canais membranares, ou a forma como a temperatura afeta a reatividade das moléculas.
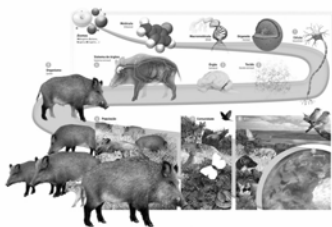
Mas a complexidade do modelo ilustrativo a criar depende do propósito da mensagem a transmitir e do público-alvo a que se destina. Para o primeiro parâmetro, o ilustrador necessita de colaborar em regime proximidade com o investigador: deve estar consciente do que se já se conhece, deve exercer uma seleção ponderada do que é pertinente, do que é acessório mas facilita a contextualização, e de tudo o que (para aquela mensagem em particular) apenas criaria ruído e poluição visual. O segundo fator também influencia a visualização a elaborar, mas cabe apenas ao ilustrador, pois requer competências especiais para produzir um produto visual capaz de suscitar interesse pelo tempo suficiente para

Fig. 2. Infografia integrativa recorrendo às ilustrações científicas para evidenciar a complexidade da matéria, desde a escala atómica até à planetária. (Fernando Correia, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores).

que ocorra a assimilação da mensagem codificada na imagem.

A fusão dos campos científicos com a tecnologia e outras disciplinas (arte, psicologia/neurociências, etologia e outras ciências sociais) pode criar bases para a produção de imagens que não só são mais eficazes na comunicação de conceitos, mas facilitam a interpretação por parte de não-especialistas. Este tipo de imagens deve conseguir excitar e despertar a vontade de estudar, ou seja, de investir tempo e recursos para descodificar a imagem e encontrar-lhe significado [1]. A qualidade estética da imagem funciona como o gatilho para uma sequência de funções comportamentais e cognitivas: i) atitude inicial (interesse e/ou pré-disposição); ii) capacidade de leitura e descodificação; iii) avaliação da significância em função do conhecimento pré-existente; iv) integração e/ou produção de novo conhecimento; vi) e memorização.

Para o especialista, a leitura destes códigos é quase inata, de tal forma estão mecanizados os processos aprendidos durante a sua formação, poupando tempo e recursos energéticos e neuronais. Porém, um não-especialista necessita de uma imagem que gere um maior estímulo visual, mais enfática e com vetores que conduzam a leitura.

Estas são as bases da literacia, num qualquer domínio específico, mas a literacia é um processo de duas vias, não se extingue na leitura, pois também é preciso escrever e mais, saber o que escrever. Um ilustrador químico é, na prática, um literato na literacia visual química, tal como o é um especialista nessa área — sendo que ambos sabem "ler" esse código, o ilustrador é quem saberá "escrever" (desenhar) melhor, mas é o cientista quem possui o conhecimento para criar novos discursos (é um produtor de ciência). Ambos estão obrigatoriamente umbilicados. A promoção da literacia visual, em qualquer domínio das ciências naturais é vital, pelo que a aprendizagem da química/bioquímica passa pela maior capacitação representacional (aprender as convenções científicas, conhecer as novas tecnologias informáticas, e desenvolver o pensamento crítico) [2].

1.3. Breve contextualização química e das particularidades da sua visualização

A matéria consiste em elementos químicos (átomos idênticos), que se podem reunir em compostos (contendo vários elementos, iguais ou diferentes). Um átomo é formado por protões, neutrões e eletrões. Os protões e neutrões formam um núcleo carregado positivamente que mantém em órbita eletrões carregados negativamente, formando um átomo estável e eletricamente neutro. Os eletrões organizam-se em orbitais; as mais exteriores estão disponíveis para criar ligações com outros átomos, originando moléculas. As ligações podem ser fortes (covalentes, iónicas e metálicas) ou fracas (dipolo-dipolo e pontes de hidrogénio). As ligações fortes formam moléculas, sais iónicos e metais.

As moléculas que desempenham um papel ativo nos sistemas vivos são designadas por biomoléculas e incluem grandes moléculas, como proteínas, lípidos, DNA e RNA, bem como pequenas moléculas (designados genericamente por metabolitos).

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As ligações fracas surgem entre partes da mesma molécula e entre esta e outras moléculas, estabilizando estruturas tridimensionais, formando complexos e ligando moléculas de forma transitória, constitui a base de muitos processos biológicos (ex., reações enzimáticas).
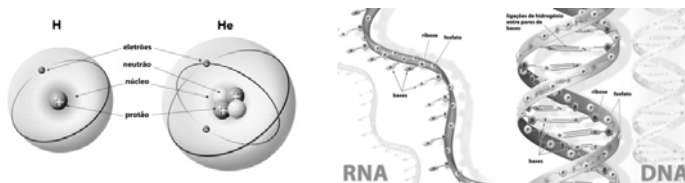
Fig. 3. Ilustrações químicas de átomos de hidrogénio (H) e hélio (He) e sua estrutura (Fernando Correia).

Fig. 4. Ilustrações químicas de moléculas de RNA e DNA (FCorreia e CBarrocas, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores)

O campo da visualização biomolecular lida com a representação gráfica da estrutura, interação e função de biomoléculas, complexos biomoleculares, "máquinas" moleculares e unidades biológicas funcionais inteiras [3]. Hoje existem modelos dinâmicos que permitem estender o papel das imagens para uma função mais interventiva — por exemplo, ao auxiliar no desenho de novas moléculas farmacêuticas com propriedades específicas e personalizadas [4].

2. Metáforas convencionadas

Como uma molécula é 10-100 vezes mais pequena que o menor comprimento de onda do espectro de luz visível, não exibe "cor", nem sequer um volume sólido ou tangível. Tentar ilustrar realisticamente uma molécula resultaria em algo incompreensível.

Resta uma solução: criar uma metáfora, especulativa mas não fantasiosa, que traduza visualmente as principais propriedades da molécula [5], inferidas por observações indiretas. Estas metáforas respondem a convenções — de forma, estrutura, cor — que resultam de um acordo tácito entre estudiosos do tema, com base em três premissas basilares: 1) ser reconhecidas como códigos visuais padronizados e sistematizados; 2) ser aceites pela maioria da comunidade em que se insere; 3) responder aos quesitos técnicos da reprodução a baixo custo [6]. As imagens resultantes têm um poder semântico consistente, que enquadra e correlaciona o signo, o seu significado e os seus referenciais no mundo físico.

2.1. Átomos

É comum representar o átomo com um núcleo e uma nuvem de eletrões que ocupam um volume esférico, mas para simplificar e diminuir o ruído visual, ao representar moléculas cada átomo passa a ser uma esfera de diâmetro proporcional ao da mais externa camada de eletrões. Um átomo não possui "cor", a cor atribuída às diferentes variedades é uma convenção adotada por químicos para facilitar o reconhecimento.

O primeiro modelo molecular surge em resposta a uma necessidade comunicativa, decorrente das famosas palestras de divulgação científica do London Royal Institution, como as populares "Friday-evening Discourses" [7]. Em 1865, o químico alemão August von Hoffman apresentou uma palestra sobre "O poder de combinação dos átomos" e, para demons
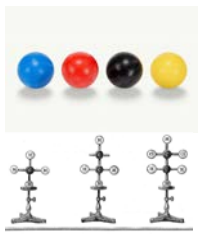
Fig. 5. Bolas coloridas usadas por Hoffman para representar fórmulas químicas na sua apresentação [8].

trar as ligações químicas entre os átomos, criou o primeiro modelo tridimensional com bolas de croquet [8], furadas e unidas através de tubos de latão. Com esta visualização improvisada, sugeriu pela primeira vez uma configuração tridimensional para as moléculas, diferenciando os átomos através de uma notação cromática.

As escolhas das cores estavam limitadas às das bolas de croquet e, para cada atribuição baseou-se nas convenções que já vinham sendo ensaiadas nos séculos anteriores:

· Carbono é preto porque é a cor do carvão.
· Oxigénio é vermelho porque é necessário à combustão.
· Azoto é azul porque é o elemento mais abundante da atmosfera, e o céu é azul.
· Hidrogénio é branco porque forma um gás incolor.
· Cloro é verde porque forma um gás esverdeado.
· Enxofre é amarelo porque é a cor da sua forma mineral.
· Fósforo é laranja porque produz essa cor quando exposto a uma chama
· Ferro é castanho avermelhado porque enferruja.

Nos anos 50 do século XX, Robert **C**orey e Linus **P**auling na CalTech desenvolveram modelos atómicos de madeira para construir modelos moleculares. Rapidamente os *kits* se tornaram populares nas aulas de química, refinados ainda por Walter **K**oltun no início dos anos 60, e amplamente disseminados graças à impressão a cores de livros e revistas [9]. O código de cores usado por esses modelos ficou conhecido como "**CPK**" e tem sofrido apenas ligeiras adaptações quando traduzido para programas informáticos de visualização molecular (um dos mais populares é o **J**mol , notação cromática **J**).

Contudo, numa molécula composta por muitos átomos diferentes, estas cores resultariam numa miscelânea incompreensível. Por isso, a cor de um modelo de molécula acaba por se resumir à função de diferenciação entre grupos reativos e/ou sub-unidades moleculares. Ainda é possível ter coerência entre a cor e a natureza da molécula: aos lípidos são atribuídos tons amarelados (emolunado a cor da familiar manteiga), aos hidratos de carbono o branco ou castanho-caramelo, e às proteínas as cores dos radicais que integram a sua estrutura [10] (verde-ciânico do níquel, vermelho do ferro, azul-violeta do cobre). Ao contrário dos átomos, algumas moléculas absorvem parte da onda incidente pelo que, em teoria, poderiam exibir cor, mas só um conjunto puro do mesmo tipo de moléculas emite radiação suficiente para ter uma cor percetível [11].

2.2. Moléculas

Os dados experimentais da cristalografia de raios-x e espectroscopia de ressonância magnética nuclear permitem conhecer a posição geométrica dos átomos na molécula e construir modelos tridimensionais, mas é importante reter que um modelo é uma abstração metafórica que padroniza, mas não pretende mostrar o "aspeto real" da molécula - é uma mera

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aproximação. A escolha do tipo de modelo depende da complexidade e especificidade da informação a transmitir, mas podem dividir-se entre *modelos atómicos* (mais iconográficos, retratam diretamente os átomos e ajudam a determinar algumas das propriedades moleculares) e os *abstratos* (resumem a molécula a um esquema minimalista).

2.3. Modelos Atómicos de Ligações

Este tipo de modelo foca-se no esqueleto de ligações químicas entre átomos de cada composto molecular, que ajuda a prever grande parte das propriedades químicas do composto [3]. A fórmula eletrónica de Lewis, vinda diretamente da química, representa um "diagrama de ligações" para moléculas onde os eletrões de valência (pontos) são estabilizados por ligações covalentes (linhas simples e múltiplas).

As restantes formas estruturais organizam os átomos apenas com base nas ligações , em cadeia aberta ou fechada (em anel). Os átomos da cadeia podem estar dispostos num mesmo plano ou adquirir uma distribuição tridimensional, usando-se linhas ou triângulos a negro para mostrar diferentes arranjos espaciais e isómeros geométricos [12].

O modelo adaptado de von Hoffman é designado por *modelo de bolas e varetas* e dá ênfase às ligações, sacrificando informação relevante (ligações duplas e simples são indistinguíveis) mas permitindo explorar os ângulos de ligação bem como as distâncias entre os átomos que constituem essa molécula e inferir a forma espacial da molécula.

2.4. Modelos Atómicos de Superfície

Os *modelos de superfície* apresentam apenas o interface entre a molécula e o ambiente em que se insere [13, 14], pois são as características e propriedades da superfície molecular que determinam a complementaridade entre enzima e substrato, a solubilidade, etc, permitindo que os processos biológicos efetivamente ocorram. O modelo mais usado é o *modelo de superfície por espaço preenchido*, onde cada átomo é representado por uma esfera de raio proporcional ao raio atómico do respetivo elemento. Estudos demonstraram que os átomos que compõem uma molécula mantêm distâncias fixas entre si, o que cria uma cápsula virtual com um raio designado por raio de van der Waals. A superfície que resulta da soma de todas as esferas numa molécula define a superfície molecular, ou superfície de van der Waals (SVDW). Este modelo é o que mais se aproxima da realidade, mas continua a ser limitado: a camada externa de átomos oculta os átomos mais internos e as ligações (direções, distâncias e angulações),

Fig. 6. Ilustrações químicas de uma molécula de beta-D-glucose, segundo os vários tipos de representação mais comuns em ilustração química (FCorreia e SMartin, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores) e uma molécula EcoR1, onde se observa a superfície suavizada e inflada de ambas as subunidades que compõem esta enzima (CBarrocas © FCorreia).
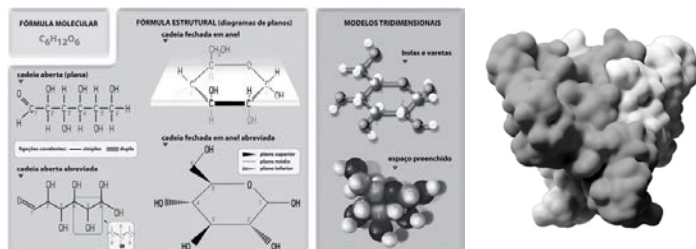
embora todas elas sejam computadas para criar o modelo molecular.

A superfície van der Waals (SVDW) delimita o volume molecular e determina a topografia, mas resulta em vales mais ou menos profundos, que acabam por estar inacessíveis a outras moléculas ou átomos — são quimicamente irrelevantes. Novos modelos refinam a SVDW para criar uma "superfície reativa" [15], com topografia suavizada e ligeiramente inflada, que representa as regiões da molécula que podem contactar com uma molécula de solvente [3].

2.5. Modelos Abstratos de Representação Molecular

A necessidade de simplificar modelos, tornando-os mais intuitivos e didáticos, levou à criação de *modelos abstratos* que simplificam modelos excessivamente complexos (proteínas, ácidos nucleicos, etc.), quando o que importa percecionar é a forma molecular geral. Surgem assim as representações cartune (*cartoon*) para proteínas, retratando as cadeias peptídicas como "fitas helicoidais" (hélices alfa) e "fitas planas com seta" (folhas beta pregueadas). Criadas na década de 70 por Jane Richardson, deram início a uma nova era na interpretação e representação de proteínas, sendo amplamente adotadas [16]. Mais tarde, vulgarizou-se uma segunda simplificação das fitas recorrendo a "cilindros" longos e maleáveis (contendo fitas de Richardson), dobrados sobre si mesmos num novelo, clarificando a estrutura terciária e o volume real das proteínas. A combinação de fitas e cilindros ajuda a uma perceção mais realista.
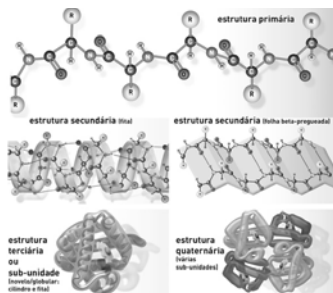
Fig. 7. Ilustrações químicas de uma proteína de grandes dimensões — a hemoglobina — desdobrada nos diferentes níveis estruturais, com diferentes modos de representação (FCorreia e CBarrocas, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores).

Outras macromoléculas não proteicas, como o DNA, são representadas com figurações geométricas similares: uma escada em forma de dupla hélice, em que as fitas (ou cilindros) representam o esqueleto de açúcares-fosfato e os "degraus" (varetas ou elipsoides), representam os nucleótidos complementares [3]. Hoje em dia, existem várias tecnologias de visualização moleculares de livre utilização[3] que aferem os dados introduzidos e geram modelos tridimensionais de alta qualidade.

2.6. Das Moléculas às Estruturas Celulares

A complexidade de uma macromolécula, seja uma proteína ou uma junção de várias moléculas (ribossoma composto por RNA ribossómico e proteínas) é tal que os modelos de superfície podem dificultar a visualização dos fenómenos celulares em que estão envolvidas (movimentação de solutos, ações enzimáticas, etc.). A solução passa por uma sequência de imagens, criando uma narrativa visual em vários passos, evidenciando as alterações estruturais em cada um dos momentos. Uma ilustração de dimensão mais próxima à microscópica implica escalas menores, um campo

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3 https://avogadro.cc/ · https://molview.org/ · https://www.ncbi.nlm.nih.gov/Structure/icn3d/icn3d. html. · https://jmol.sourceforge.net/screenshots/

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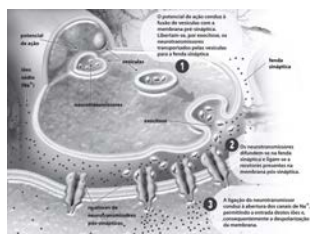
de visão maior (para abarcar todas as estruturas) e obriga à simplificação, descartando detalhes em prol de facilitar a leitura, mantendo formas, vistas, posições, e cores consistentes para permitir correlações entre diferentes partes da sequência. Abrem-se assim verdadeiras janelas imersivas para ambientes microscópicos, facilitando a interpretação e consequente compreensão do fenómeno em causa [17].

Fig. 8. Ilustração científica exemplificativa da transmissão do impulso nervoso através de uma sinapse química (FCorreia e CBarrocas, volume BioFOCO do manual do 10º ano de escolaridade. Cortesia Areal Editores).

3. Conclusões

Em Química, tal como noutras ciências naturais, recorre-se cada vez mais a imagens para descrever e explicar resultados experimentais. Esta constatação é ainda mais pronunciada, não na química representacional (símbolos, equações, estereoquímica, etc.), mas no âmbito da microquímica (domínio molecular, atómico e cinético, com representações a nível submicroscópico)[18].

Esta abordagem comunicativa surge a partir de meados do século XIX e está fortemente implantada no século XX [19], com imagens que, apesar de subjetivas, possuem uma carga de especulação limitada e controlada pelos dados. A complexidade da bioquímica exige a criação de ferramentas programáveis para modelação tridimensional e uma crescente literacia científica para saber ler e interpretar essas imagens. A fase de aprendizagem é crítica para alunos do ensino básico, secundário e superior, e deve ter-se o cuidado de reforçar a assimilação paulatina de aprendizagens, em prol de uma maior literacia visual e científica, além da tecnológica [20, 21]. Isto passa pela consolidação das convenções e do seu significado na linguagem de visual em vigor — que é preciso conhecer, interpretar e usar de forma correta para que não resultem em perceções desajustadas [22]. Vários autores (Barnea, 2000; Gilbert, 2007; Ferk et al., 2003) [20, 23, 24], salientam a importância de se desenvolverem habilidades de visualização, literacia visual e capacidades metavisuais nos alunos [19]. Só assim poderão atribuir significado a essas metáforas visuais e interligar conhecimentos de várias fontes, para consolidar conhecimentos pré-existentes e gerar novos conhecimentos. Nesta fase, os atores devem não só saber ver esta tipologia de imagens como veículos efetivos de Comunicação, bem como estarem convictos que o pensamento visual pode ser uma ferramenta para resolver problemas científicos [25]. Simultaneamente devem reconhecer que todos os modelos de visualização são hipóteses gráficas e que têm limitações dependendo dos objetivos a demonstrar. Segundo Oliveira (2010, p. 229) [26], "as diferenças entre o real e o conceitual não são trabalhadas no ensino médio, seja porque os professores não lhes atribuem relevância, seja porque ainda são bastante influenciados pelo realismo da ciência moderna", dificultando a distinção, por parte dos estudantes, entre modelo e realidade, "entre o que é pensado e o próprio existente" [27, 28].

Este exercício de sensibilização e consciencialização para a química visual deve ser feito desde o primeiro contacto do estudante com a disciplina. Os manuais escolares são um dos instrumentos de apoio pedagógico onde as imagens devem evitar a hipersimplificação usual, apresentando os alunos aos vários modelos de visualizações, convenções e notações mais — sempre adequando o discurso visual à capacidade de abstração cognitiva de cada faixa etária. O parque imagético dos manuais escolares, em vigor para o 10º, 11º e 12º ano de escolaridade editados pela Areal Editores — onde os autores deste artigo aplicaram estes princípios e entendimento — são um exemplo que atesta essas premissas basilares, afastando-se do paradigma que ainda impera. A validação deste pressuposto foi feita a vários níveis: internamente, pelos próprios ilustradores (que criaram novas ilustrações validadas por especialistas) e, de seguida, pelo corpo de autores do manual (textos) e dos responsáveis pela revisão editorial (com larga experiência na criação deste tipo de produtos); e externamente, pelo corpo de revisores indicados pelo Ministério de Educação (especialistas isentos sem conflito de interesses) e depois, pelos professores do ensino secundário que o elegeram e adotaram. Estes manuais encontram-se entre o 2 e 3º lugar no *ranking* das adoções em escolas do ensino secundário, a nível nacional (censos Pordata, para continente e ilhas).

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The Graphic Vision of Ana Aragão's Literary Universe: Labyrinths and Maps

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[Ilustração / Illustration]

Abstract

The draughtswoman Ana Aragão created a mural of 50 meters with a continuous roll of illustrations and illustrated panels related to her literary references – many of them inspire her own work – for book publishers Porto Editora/Bertrand Editora. The point of this work, called *Universe of Books*, is the creation of a visual narrative about literature, writers and characters in one major illustration and small *isles* of illustration in the exhibition area. Aragão drew her own literary universe. The black and white illustrations reveal themselves as allusions and homages to writers such as José Saramago, Sophia de Mello Breyner Andresen, Fernando Pessoa, and Lewis Carroll. The artist maps her imagination through drawing, reinterpreting episodes and excerpts of some books that inspire her, iconic photographs of writers or sites, and by creating completely imagined scenarios. The absence of borders between drawings create a state of apparent collage, allowing the viewer to easily pass from one literary world into another, in some cases combining them altogether. Aragão transformed outstanding books and literary auras into distinctive and peculiar drawings with stacked up buildings, crowded spaces, subjective atmospheres and surreal scenarios. In sum, Aragão created abstract and labyrinthic maps of her literary universe through her *métier*. Her metafictional work establishes links between different narratives, instead of creating detachments among them.

1. Drawing Between the Seen and the Unseen

Martin Salisbury (2022) stated that "[o]ne of the difficulties inherent in using words to write or speak about drawing is the fact that, ultimately, drawing is itself a language" [1]. That is what happens with Ana Aragão's work. Drawing is her main language, method, and research. In a way, drawing is a language that opens up an in-between place for her work, between illustration and fine arts. Linear and non-linear marks intentionally conduct us to a drawing-based expressive art, to her visual narrative. Aragão thinks visually, but words also have an important place in her creation. She often draws an essay where she narrates her inner journey into an illusory three-dimensional space inhabited by an inverted world(s), by meanings and reinterpretations that only she can find in literature, through a process of alterity. In the illustrations called *Universe of Books* for

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book publishers Porto Editora/Bertrand Editora – in a mural of 50 meters and illustrated panels placed in an area of 200 square meters at Lisbon Book Fair 2022 –, Aragão tries to unveil her literary references within a kind of holistic space, by converting stories, phrases, and words into a visual aesthetic experience through lines, shapes, tones, light, shadows, rhythm, textures, movement, and space [Fig. 1], using only a black *Bic* ballpoint pen. In this case, however, Aragão does not adapt a reality from

her point of view, she adapts pieces from literary artworks to her point of view, endowing fictional stories with an architectural aura and sense of spatiality. The images conceived for her literary universe result from reality, just as archival photographic records, but also, and mostly, from her imagination.

Fig. 1. Detail of one of the illustrated panels at Lisbon Book Fair 2022. © Ana Aragão's Instagram

In her work, the hand-drawn line can be understood as a tool for expressing a more emotional response and an ally to memory. There is an harmonious dialogue between different authors and respective artworks and some key literary moments for Aragão that the viewer becomes to acknowledge. As Salisbury (2022) said: "It resonates naturally with the concept of 'thinking through drawing' – drawn lines or written words forming on paper, needing to be seen, heard out loud and 'felt' as they emerge" [2]. Aragão unveils suggested backgrounds and atmospheres, making the drawn shapes, figures, and words (that is, quotations) seen and heard. An illustration artwork about literary artworks within real and/or fictional worlds and/or mystical and mythical creatures, characters, or plots makes the unreal real and vice-versa. Aragão's impetus resembles that of Salisbury's (2022): "Drawing is a way for me to communicate with my unconscious, to generate ideas and to give physical form to the things in my head. My drawing has always been a bridge to the imagination" [3]. On one hand, those drawn imaginary fragments taken from readings help to reveal her memory, accompanied by words, phrases or verses drawn, a way for her to externalize emotions. On the other hand, these are imaginary drawings that show imaginary stories or, almost, seem to declaim invisible poetry or prose.

Location is always an important element to a given story and it is so in Aragão's work. Real and imaginary places inhabit her drawings. As Aragão states: "All places, characters, objects, words, quotations and small events are possible vanishing points"[2] [4, own translation]. In this case, she does not make use of graphic satire and social or urbanistic comment, but preserves instead the *tones* of visual humour and comic effect, giving strong privilege to the use of visual metaphor, distortion, and exaggeration or out of scale, but also analepses, prolepses, "acrobatic temporal leaps and a presentification of the great Authors who accompany

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2 Original text: "Todos os lugares, personagens, objetos, palavras, citações e pequenos acontecimentos são possíveis pontos de fuga [...]."

us because the nature of simple words is not perishable"[3] [5, own translation]. There is how time rises up here as an indispensable feature to define her "Universe". She invests in a subjective aesthetics and style, poetic and subversive, where the ballpoint pen is the great ally – and the single tool. This method allows her to create hyper-semantics, by making a case for timelessness as a mirror of various eras, literary and non-literary art styles and aesthetics, writers, currents of thoughts, and cultural, social and historical contexts, as it similarly happened with previous works from her solo exhibitions *Future Frames* (2016), *Vertical Reclamation of Individual Spaces* (2018), and *S.M.L.LX.* (2019), for example. In that way, Aragão's drawings cultivate a strong presence of metafiction (Waugh, 2001) [6] and meta-image supported by hypertext, citation, and homage. The evocations in *Universe of Books* not only delve into Aragão's literary selections but also into the way in which she deconstructs her own work and stirs up the *pathos* in the viewer.

The project *Universe of Books* allows us to argue that Aragão draws to write. Her visual calligraphy leads us to discover utopian (de)constructions that are simultaneously dystopian, dreamlike, poetic, and loquacious tellers of visual stories. This goes on the path of François Schuiten and Benoît Peeters, who also created imaginary, parallel worlds with architectural designs reinterpreted from real cities in a gloomy way, devoted to Jorge Luis Borges' metaphysical surrealism and magical realism, with whom Aragão has a special conceptual affinity. Borges' *babelian* library is implicit in the visual narrative of the *Universe of Books*. This is another one of her works that perpetuate the labyrinthine nature of her style through intericonicity and surrealism, not forgetting the references to Lewis Carroll's *Alice in Wonderland* [Fig. 2]. Her graphic research and the hermeneutics of drawing also owe much to words. The concept of metapictures can be worthily applied here, conceptualised by Winfried Nöth and Nina Bishara's (2007) as "a picture about a picture or a picture of a picture" [7] or a picture quoting a picture in a new style, already theorized in *Picture Theory: Essays on Verbal and Visual Representation*, by W.J.T. Mitchell (1994) [8]. These illustrations contradict foreseeable and preconceived expectations, because her cities are as rhizomatic as her thoughts. This is her fictional landscape, and this is her mental/conceptual landscape for the literary field, where she brings together improbable and impossible, fantasized, and experienced scenarios.
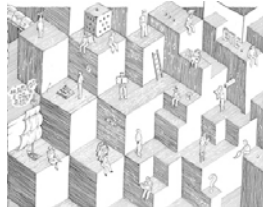
Fig. 2. Ana Aragão's mural drawings. © Ana Aragão

From the "invisible geography of ideas in space" (Aragão, 28/10/2019, Instagram) to maps and landscapes provided by books, according to Aragão, we move into the constant evocation of the map, especially the concept of mental map (conceptual/rational) and the possibilities of simultaneous or overlapping of layers from different times, multiple references, and various

3 Original text: "[...] saltos temporais acrobáticos e uma presentificação dos grandes Autores que nos acompanham porque a natureza das palavras simples não é perecível."

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narratives. Aragão's subjective cartographies are an expression of the reality-fiction dichotomy that feeds a point of view she adopted between utopia and dystopia. As a rule, the visual composition of Aragão's work favours metaphor, ruin(s), the future, the improbable, the exquisite, the misshapen, the enigmatic, the myth, the city, irony, reality, and the imaginary representation.

As a builder of cities, megastructures and projects that are always hypothetical, visionary, idealistic, unrealistic, impractical, overimaginative, utopian, and, as such, impossible, Aragão generally titles her works as *anagrafias*. *Anagrafia* is understood in the sense of negation, of inversion of anything, which the prefix *ana-* provides. This means that Ana Aragão's works follow an unconventional and anachronistic way. Her identity is, therefore, composed of various identities: the woman who imagines different realities, the woman who creates a reality out of different fictional worlds, the woman who gives life to a wide range of literary texts by drawing, all densely concentrated in a single space. There, her identity is multiplied, almost polifonically (Vila Maior, 1994) [9]: the draughtswoman Aragão dialogues with the reader Aragão, the rational Aragão and the emotional Aragão, being the same self in different worlds, and being different selves in the same world. This project is a map of all these selves.

We face a continuous drawing populated by several drawings that reaffirm the denomination of "time machine", several pasts, but also several presents, to prospect the unknown future. The "invented images" and "images of images" are recurrent in her work process, the latter including "exercises for recreating existing images, which I admire, which I research and which, perhaps, I do not understand" (Aragão, 18/10/2019, Instagram). In some works, if the linguistic tools, related to the field of style, appear in a veiled way, they are exposed by the motto of the work. That will justify some of Aragão's strategies to create semantics not out of words but of images instead. Aragão admits to be amazed by the word, highlighting the value and beauty she finds in it, its ability to adapt to different contexts. The ability of someone says something that means something else seduces her, so she tries to do the same with her line, by creating a polysemous line and exploring the poetics of visual language. She creates graphic poetry. For Aragão, in general, there is very little that is literal.

In addition to the visual discourse on a visual discourse, Aragão also inserts verbal discourse. Therefore, whether in literature or in visual arts, the text and the image are the results of a mosaic of quotations, absorptions, and transformations, also defended by Roland Barthes (1977) [10], due to the uninterrupted presence of previous or contemporary references. At the launch of *MA IV Imaginar* magazine (2021), the conflicts that the concepts of reality and imagination raise and how it is difficult to establish borders was highlighted. In that event, the geographer Álvaro Domingues stated that reality is affected by what can be proven to exist, and, as such, there is "a generous field for everything we can imagine, and once imagined, it comes to exist"[4] [11, own translation]. And he adds

4 Original text: "[...] um campo generoso para tudo aquilo que podemos imaginar, e, sendo imaginado, passa a existir."

that "reality does not exist if it is not fictionalised, because to fictionalise is to give names to things, to understand their meanings, some think that it is also to understand their essence and how they relate to each other"[5] [12, own translation]. The discourse formulated by Aragão constitutes an hybrid narrative of narratives. This work is perhaps the most explicit of what Aragão (2022) had stated:

> My drawings are realistic. It is a reality, if you like, seen through the eyes of fiction, or, on the contrary, a fiction built from reality. Anyway, there is always this relationship. There is a base that is anchored in reality. I would say that reality is part of fiction. Graphically, reality breaks down into parts; if we were to tear reality apart, those pieces would be the pieces of fiction that will be created. [13]

2. Turning Literature into Illustration

The project *Universe of Books* joins her fictional worlds in paper architecture, following the lineage of Archigram, and in illustration with the fictional or even real worlds of many Portuguese and international literary authors. Her graphic narrative and research on how to put words in drawings include necessarily the city, the landscape, and urbanism in an imaginary and fictional way, being influenced by the fluid, dreamlike, and surrealist marks of Madelon Vriesendrop's work, and by her ability to cross disjunctive memories and fragments of reality in a sphere of multiple arts. Aragão (2022) stated that:

> Fiction is just a disruption, if you like, a different way of grouping reality, perhaps with the same words as reality, except that the words of reality are in a different order or do not make the same sense, as in the case of Alice in *On the Other Side of the Mirror*, where you understand the meaning of all words (individually) that the Cheshire Cat says, but you do not understand what he is saying as a whole because the words are not grouped together the way they make sense. [14]

> Aragão's scenarios have many geometrical buildings, megastructures, deformed houses, and hyperbolic shapes, and, at the same time, more traditional, rural, and intimate features, but of irregular sizes and aspect. Aragão is able to make an epic caravel suddenly appear, or to position several human figures without defined identity, apparently anonymous, all over her literary spaces, in interaction with the illustration's space and books. It may be said that they are a reflex of the draughtswoman herself traveling over the many stories she chose to retell by drawing or quoting; or they are each and every single reader – "the special anonymous characters"[6] [15, own translation] – who has his own way to behave and enjoy books; or they are, in some way, imbued by the spirit of the characters; or it is all of this at once. If we look carefully, we find some of these human silhouettes with ornaments such as an eye patch,

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5 Original text: "[...] a realidade não existe se não for ficcionada, porque ficcionar é dar nomes às coisas, é perceber-lhes os significados, alguns acham que é também perceber-lhes a essência, é perceber como é que elas se relacionam umas com as outras."
6 Original text: "[...] as especiais personagens anónimas [...]"

laurel wreath, and neckband associated with the Portuguese poet Luís de Camões, or the Little Prince's crown.

Fig. 3. Ana Aragão's mural drawings. © Ana Aragão
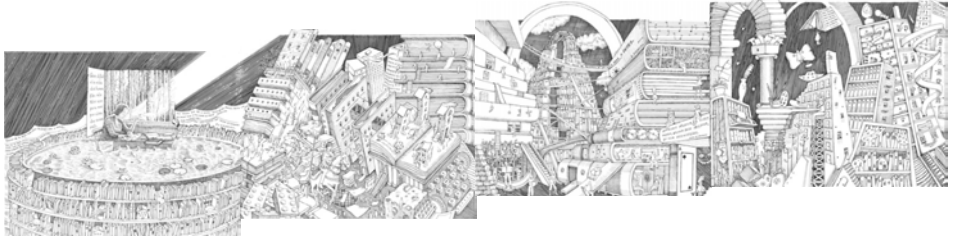
We can find cities whose streets form labyrinths, some ending in a lighthouse that meets the sea, perhaps an allusion to the novel *Invisible Cities*, by Italo Calvino. The books are a key to map out the creative action of Aragão [Fig. 3]: there is a bridge coming from nowhere giving access to a place/city whose stairs take the form of book spines; some houses are made up of books with windows instead of name tags, walls, roofs, or tiles. Some punctuation marks are scattered all over the landscape – "dice with more dots and books with less punctuation"[7] [16, own translation] – or as "windows" on the sides of bookshelves-buildings, and letters appear mysteriously on the facades or coming out of the books on the shelves, well beyond the mere condition of adornment. Aragão blends different architectural aesthetics in the book spines, alluding to other cultures and epochs. A cross-section in a building allows the viewer to peek inside the details of the readers' everyday life and see how books fill the house rooms. In general, the doors are drawn like sheets of paper, and many books and sheets of paper simulate clothes hanging on the windowsills. There are delirious scenarios of stacked books and random letters drawn in rooms and on facades, which cohabit cities made by piled houses, whose ceilings are open books, all very close together or evoking the dense and crowded composition of Eastern cities, defying gravity as if being born from a long sheet of paper held by "the doubled man who finally turns the page of this endless Universe"[8] [17, own translation] [Fig. 6]. In Aragão's world, books can be staircases or columns that support the infrastructures, which appear to be books.

Further, Aragão depicts an iconic photograph of the Portuguese poet Sophia de Mello Breyner Andresen. The poet is in the middle of a circular pond of water lilies which is, simultaneously, a library with maritime elements that reflect Sophia's core poetic key element: the sea – the eternal *A Menina do Mar* (1958). The poet is seconded by a window in her background with a forest, alluding to her children's tale *A Fada Oriana* (1964) or *O Cavaleiro da Dinamarca* (1964). We can also see piles of disordered, toppling, tilted and open books on the top of columns with flowers – someone holding up *A Maior Flor do Mundo* (2001), by Saramago –, mushrooms, vegetation, and buildings with roots and sinuous forms emerging from books, as if coming to life.

7 Original text: "[...] dados com pontinhos a mais e livros com pontuação a menos."
8 Original text: "É o homem duplicado quem vira por fim a página deste interminável Universo."

Aragão turns walls into typewriters (a machine associated with the romantic side of writing or just with the old-fashioned way of the *métier* of writing), accompanied by piled-up pieces of *Lego* and knocked-over books, as if they had catastrophically fallen from a shelf or emerged from a battle. A human figure on horseback and rigorously dressed as a knight accentuates this journey to the past. The educational/didactic and playful nature of reading is thus reinforced. All books have windows and many bookshelves are depicted as buildings, where we also can find doors in some facades, and front drawers labeled as theater, prose, diary, essay, poetry, and novel, introducing a range of literary genres. That is, windows, drawers, and doors are seen as ways of stepping into other dimensions.

An improvised Tower of Babel, under construction, is made of piled books; the characters Alice, White Rabbit, and Cheshire Cat – with bright eyes and smile coming out of the dark – are depicted as well, together with an ace of spades, as a book cover. They highlight the fantastic, the surreal, and parallel worlds which literature provides and Aragão likes to work [Fig. 3]. Sofas, lamps, stairs, and benches have a subtle but important presence as elements associated with reading. As our gaze continues, suddenly, slides and escalators appear. They exemplify the unexpected and subversive elements that the draughtswoman usually introduces in her work. In some books, instead of pages, we see musical notes, pulleys, books within books, and letters highlighting terms such as metaphor, euphemism, feminism, graphics, anaphora, romance, and irony – all useful tools to write but also to draw, to expand imagina-
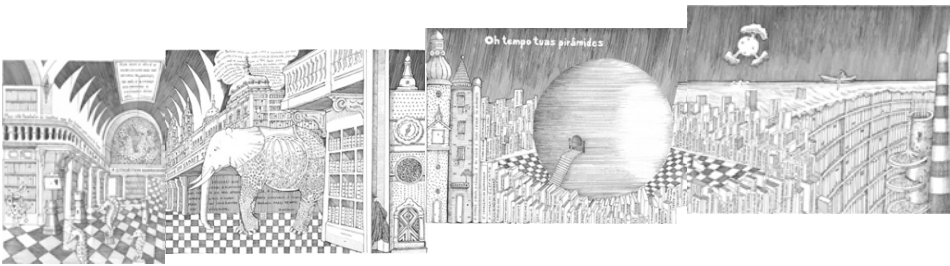
Fig. 4. Ana Aragão's mural drawings. © Ana Aragão

tion, and rebuild reality. We also find out that different types of lines in different directions seem to create textures that cannot be touched but can be imagined; arches are made of books; capitals are made of drawers and sheets of paper or even books; bookshelves house books and houses behind the curtains, like a little twist of magic; door handles reminisce the story of *Beauty and the Beast* or have surprised eyes and eyebrows; and bookshelves are turned into chests (of stories). Among the books, we find drawing and painting supplies, but also typewriters, shelves growing in different and inclined directions, (dis)organized, colliding with each other, piled up, and phrases such as "Where are you going" subtly written on papers sticking out of windows.

Aragão uses the Convent of Mafra's library, which is also used as the
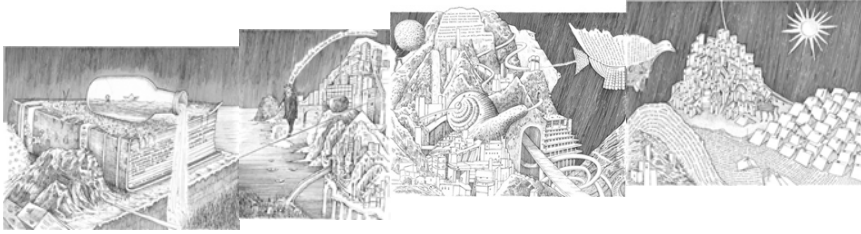
setting for José Saramago's *Baltasar and Blimunda* (1982) as the primary space for her world. There, she combines seahorses, an allusion to the work of Sophia de Mello Breyner, with other symbols. The checkered floor is a game board chess from *Alice in Wonderland*; she defies conventional notions of perspective and an elephant suddenly shows up with the carapace of Albrecht Dürer's rhinoceros; and excerpts from Saramago and Sophia's works are also included [Fig. 4]. Books are spread all over the floor; various characters, historical monuments, landscapes and other kinds of symbolic elements sit on the books' stories they represent [Fig. 6]; a Ferris wheel, where the baskets are houses foreshadowing book launches, the biblical tree of sin and the serpent from the Old Testament are other hypertexts represented; a large dam/dike that is, actually, a large bookshelf or library and a city made of book skyscrapers display titles from diverse fields on their facades, including *The Pearl*, *The Divine Comedy*, *Ficciones*, *Maus*, *A Maior Flor do Mundo* and *Die Verwandlung*. All of this constitutes a colossal arena of stories and Aragão's personal expression about the magnitude of human knowledge [Fig. 4].

Fig. 5. Ana Aragão's mural drawings. © Ana Aragão
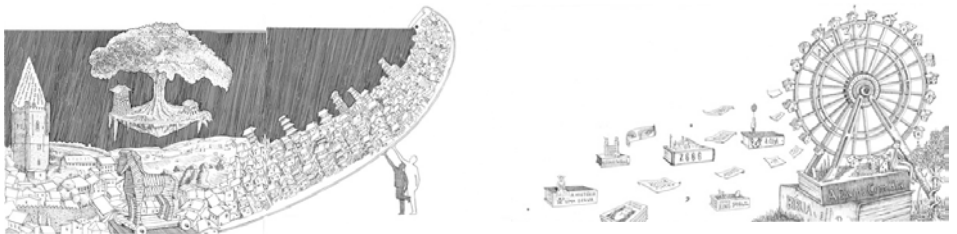
    Quotations are written as wishes to come true on the pages of the books, on the walls and roofs of buildings, as if drawing a rainbow or beam of light over the blackened sky, filling Saramago's birdhouse, on the top of the mountains, filling what could be a sea, a river or even the land where several half-opened books rest like houses or anchored or even winged boats. The famous portrait of Portuguese poet Fernando Pessoa walking through downtown Lisbon was converted into a dangerous walk on a wire, and the mythical Sisyphus pushes the stone up the mountain. These are other two references depicted in this project, together with mountains as a gigantic snail with a compass in its shell, prominently displayed between book-buildings [Fig. 5].

Fig. 6. Ana Aragão's mural drawings. © Ana Aragão

3. The Continuous Drawing of Aragão's Literature Universe

Aragão's drawings are mostly fed by imagination, putting on a higher level what she thinks and feels rather than what she sees. Her *inner eyes* overcome the observational drawing. Aragão approaches the *line* as Roland Barthes (2007) characterized it: as a graphic and a linguistic sign [18]. This endless territory of creativity stands out by fictional illustrated maps, which are highlighted by the black and white colours. This chromatic synthesis has an emotional dimension with absent borders, evoking the world of dreams, to the groves and forests of vegetation and other elements of nature. At the same time, this synthesis keeps clear the massive presence of the groves and forests of houses, instigating daydreams and aspiring to inaccessible worlds – which always proved to be a starting point. Further, the black and white stimulates a metaphysical value between the reigns of emotion and reason and creates a mysterious atmosphere. Michel Pastoureau (2014) found in black a kind of "abstraction" as "a fertile expressive ground"[9] [19, own translation].

Aragão chose to pursue the interpretation of reality and fiction through drawing. She uses paper architecture to interpret charismatic passages from the endless territory that is literature in its many genres, languages, cultural and social backgrounds. Using such a traditional technique, drawing, Aragão appears as if suspended over her own invented map, a continuous and personal literary map, and for that, "[a]t the heart of all illustration, drawing plays a vital role" [20] with complex images full of micro-narratives and a layered landscape. Her literary universe is thus mirrored in the abstraction and symbolic language that a map provides, demanding a deep understanding by the viewer of the subject to be able to get involved and *see* the message as a narrative. Aragão's method does not comprise a representation, a portrayal, or even a description of the literary works selected. Instead, it seems like a game performed from her usual architectural *perspective*.

The Archigram founder Peter Cook (2019) said that "[a] transfigured city can stay in the mind because it can nearly exist – it can be related to the pre-existent city. It is by no means abstractly conceptual. It might, of course, be unlikely, but always possible" [21]. Aragão went further by bringing the (im)possible stories into her (im)possible city. "Just like books, the city is equivalent to an analog universe of endless hyperlinks"[10] [22, own translation]; there is always something to relate to, with places that we do not actually see and live in, but which are embodied in the version that the imagination can best define. Thus, through her *Universe*, the drawing guides the viewer, like a magnetized compass: starting from what he knows, he is driven to try to reach the unknown, the surprise, the not expected to find. What we read helps to unravel our intuitions. The techniques she used do not include collage, but it seems so, as the viewer discovers the passage from one literary world into another or the intersection of stories perceived while walking alongside the mural. In this way, her work becomes

9 Original text: "abstracção um terreno expressivo fértil"
10 Original text: "[...] tal como os livros, a cidade equivale a um analógico universo de infindáveis hiperligações."

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metafictional creating fiction over fiction, creating new narratives over the pre-existent narratives. This explains the fusion of her imagined cities with the images suggested by the stories narrated by books:

> Why do I consider important the thought of what does not happen, the idea of an imagined city? It is not just the memory of what happened, but it is also the memory of what did not happen that allows us to decide. We also decide by resorting to what did not happen, but which we imagined.11 [23, own translation]

Aragão's project *Universe of Books* intends to sustain indeterminacy, indefinition, and the spontaneity of the city. She sought to explore simultaneously both the experience of the city and the experience of the book in an entangled way. The stories on books paper that make the reader travel, imagine, and escape do not distance themselves from drawing on drawing paper that promotes the action of the viewer – as well as that of the reader. In this mural, we find that the city is experienced daily and deeper if between lighter and more demanding readings, between smaller and bigger trips. Thus, it becomes possible to live the story through drawing and to live the drawing through its meaning, through the journey it promises. If a book can confront us with both reality and fiction, Aragão's drawings also encourage this confrontation, or intersection, by creating imagined cities to be observed and *read*, where reality and imagination are often entwined.

"In this Universe [of Books], all the books have already been written and all are yet to be written, simultaneously"12 [24, own translation], hence the importance of remembering the many books already written, the many stories already known and repeatedly read, but also the ones that could be written. Aragão shows gnawed books, worn-out eventually by use; many parachutes – which she confesses being "never enough" – which graphically represent the ways of smoothing out the flights that the readings provide; air highways which, contrary to their literal meaning, are often created to arrive slowly; and she challenges the conventionality of shapes, giving mystery to an unexpected object with a spherical shape whose centre is surprisingly hexagonal.

Aragão's imagined cities are, in the end, mental constructions, which, ultimately, is also what books are. Therefore, the illustrations reflect Aragão's view of the city, or several possibilities of looking at the city through the literary path, just as a given reader can base a certain view on the book's story and another one finds an entirely different perspective. Just as affective and sensory relationships are built between readers and books, so it is the Aragão's relationship with drawing and literature. Through geometrically or torturously drawn lines, she tries to show the stories behind books, the cities behind cities, the cities behind books, and

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11 Original text: "Por que considero importante o pensamento daquilo que não acontece, a ideia de cidade imaginada? Não é só a memória daquilo que se passou, mas é também a memória do que não se passou, memória daquilo que não aconteceu, que nos permite decidir. Nós decidimos também recorrendo àquilo que não aconteceu, mas que imaginámos."

12 Original text: "Neste Universo, todos os livros já foram escritos e todos estão por escrever, simultaneamente."

the books behind cities. Just as we seek to recognize the places we know (which is often not possible), Aragão seeks to re-discover, re-visit, and re-invent the stories that are already known. Above all, she looks for the ones not told yet.

The labyrinthine and rhizomatic character of Aragão's illustration is not surprising, as herself denounces it: "If everything in the Universe looks like a labyrinth, Reading equals the rhizome"[13] [25, own translation]. It is, in fact, a transversal feature of the draughtswoman's work. The following relation established between her drawing and Literature is essential to understand this particular project: "On the next page, everything is repeated, but in a renewed order. The secret of the Universe is not its disposition, but the infinite ways of traveling through it"[14] [26, own translation]. Words, lines, texts, and drawings are repeated until exhaustion, but Aragão sets a new order by rephrasing not the books' stories but the universes that they suggest.

4. Coda

This proposal of reconfiguration of the seen and the unseen, using drawing as calligraphy and the transfiguration of the city, turns the non-present written stories into physically present written stories through images. Facing an illusory collage, a reunion of stories without a defined and definitive beginning and ending, Aragão suggests the idea of ubiquitousness, in which the stories are almost turned tangible. From the analysis of Aragão's work, we can conclude the same as Peter Cook (2019): "Through architectural drawings of a certain kind, stories can also be told. [...] We have been led to believe the unbelievable through drawing" [27].

Aragão's mural is a *vessel* for her idiosyncratic performance, eschewing any formula. The diversity of literary artworks picked up by her explains the territory of expanded fictional worlds. Her chaotic and (dys)[u]topic, subjective and poetic personal expression conveys her personal literary universe, echoing as a reservoir of literary, social, and cultural history. Illustration, as an art form, captures the viewer's imagination and promotes the union of each personal history with the present, and the old and current stories. Moreover, these illustrations promote affinities with the known, the almost known, but also with the unusual, the non-ordinary, and the exquisite. It is an ode to great authors, the existing and the invented; to the known and the unknown; to the real lives and the invented ones; to the drama, the comedy, the most restless souls, the surreal, the myth, and the fantasy.

We find a peculiar graphic sensibility, a graphic language prone to fiction in Aragão's work. Her visual landscape turns into her visual-literary landscape, where her visual signature and individual stylistic approach capture the aura of the books and promote a crossover from literature to drawing and vice-versa. In sum, she creates a poetic drawn narrative. These are Aragão's imagined cities, where books urge her to imagine and to

13 Original text: "Se tudo no Universo se parece com um labirinto, a Leitura equivale ao rizoma."
14 Original text: "Na página seguinte, tudo se repete, mas por uma renovada ordem. O segredo do Universo não é a sua disposição, mas as infinitas formas de a percorrer."

(re)invent, more than capture the imagination or plan a city. She wishes to metamorphose the ordinary city and ordinary citizens into actors of the real and inventive stories that books provide and into disorganized cities and organized chaos full of hidden and undiscovered meanings to see and to *read*.

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Illustration and tactile image: 3D printing in favour of the creation of inclusive materials and its use at the intersection with workshop printing techniques.

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[Ilustração / Illustration]

Abstract

This article is about a search for the creation of tactile images and illustrations from the use of workshop printing techniques and 3D printing. Explorations in the search for communication and expressiveness, produced in ESAD.CR as part of investigation projects and classroom projects with teachers and students. This article reveals how exercises and experimentations in classes and in workshops led to the creation of accessible resources, promoting practical reflection through them. The article begins by providing an overview of visual and tactile images created with students, then focuses on the possibility of creating tactile illustrations by using 3D printed plates and printing press techniques. This article reveals how, approaching working through experimentation and comprehension, led to the creation of accessible resources and practical reflection on them. Focusing on the creation of accessible materials for different projects and purposes, the explorations presented result in finished work for specific audiences, but also as work in progress, as directions for continuous research in tactile illustration, images, and communication.

Introduction

The Convention on the Rights of Persons with Disabilities (made into law in Portugal by Resolução da Assembleia da República N. º 56/2009) on its article 24th states that persons with disabilities should have the right to develop practical and social skills to participate based on equal opportunity in education as members of a community. The World Report on Disability, from 2011, states that about 15% of the world's population had some form of disability. To create accessibility is to create physical conditions for access and enjoyment of places, experiences, and objects. To create interpretation, conditions for the promotion of each individual`s vision, mirroring diverse ways of being and thinking the human experience. Having cultural material in accessible formats is having culture in an accessible format. Creating accessibility in culture puts into relation ways of being and creating that, starting from differentiated wills or objectives, gain expression in formats that reference ways of inhabiting the world.

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ILLUSTRATION AND TACTILE IMAGE: 3D PRINTING IN FAVOUR OF THE CREATION OF INCLUSIVE MATERIALS AND ITS USE AT THE INTERSECTION WITH WORKSHOP PRINTING TECHNIQUES.

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Tactile Images

Inclusion means soliciting the ideas, opinions, and viewpoints of the target group (Ambrose & Harris, 2010). Developing work in favour of a specific audience implies creating empathy. The creator (or producer) puts himself in the role of the audience by reflecting on the production of communication and its effectiveness. Research through practice allows testing, establishing hypotheses and communicating principles. Research by doing sets out steps and processes for an object to emerge, be feasible and reproducible.

Seeking to raise awareness, explore potentialities and possibilities of communication, in classes and workshops, challenges were created, in the School of Arts and Design of Caldas da Rainha (ESAD.CR), for students and participants with distinctive characteristics (including a few students with blindness or low vision). In a workshop, in 2015, the creation of images with tactile characteristics was proposed, based on photographs of monuments, through the exploration of printing workshop techniques. Using silkscreen to apply colour and linocut to create relief on paper, the students first decision to be made was the printing order, whether to first apply colour and then relief or to produce in reverse order. By direct drawing on an acetate sheet, each student created the image to be transferred to the silk screen. After deciding on the printing colour, they made decisions about the illustration to be created in a tactile way. Styling the lines and shapes of the chosen monument they proceeded to cut the linoleum board to enhance the creation of relief by means of pressure. The results were printed images with overlapping visual and tactile reading.
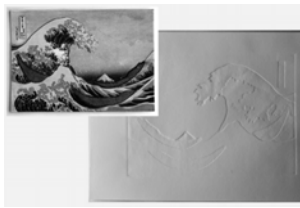
In another workshop, in 2017, the creation of images with tactile characteristics was proposed using the agglomeration of found materials on a cardboard plate, a creative process that refers to the collagraph printing technique, in which materials are glued onto a base, creating a three-dimensional plate, a matrix which after being inked results in a printed image with relief. As a starting point and communication aim, each student chose the image of a publicly recognised painting, and by agglomeration of materials tried to produce a relief plate that would become a recognisable translation of the original image into a tactile image.

In an exercise, in 2016, students were asked to produce images in graphite and indian ink by exploring different textures, gradations, and line thicknesses. The drawings were scanned and digitally worked on, to increase contrast and remove details in order to clean and accentuate the clarity of the image. The tactile plates were produced using a 3D printing technique.

Fig. 1. Example of a linograph plate and its printed image.

Fig. 2. Example of a plate and its print.

Fig. 3. Examples of the original drawing and the resulting printed plates.

Fig. 4. Example of the printing and of the printed sheet before being folded into an Instant book.

In another exercise, proposed in 2018, the challenge was to make use of silkscreen printing with two colours and relief with a 3D printed plate as means to tell a story. The exercise resulted in an Instant book with tactile and graphic information that complement each other. When overlaped, the tactile and graphic information are repeated, when separated in the sheet of paper, the printed elements work as complementary elements.

The printing processes used in these exercises and workshops are differentiated in their approach to creating the matrixes. The matrix resulting from the linocut technique is created by reductive technique while the matrix created through 3D printing arises by addition. While the linoleum plate allows working manually from a smooth surface that has uniform height, and its expressiveness can be explored by cutting its surface, the 3D printed plate, produced as additive manufacturing, allows working mechanically from a predefined image whose height can be defined in a pre-printing phase, and its expressiveness can be explored with materials used to paint or draw.

From Pixel to 3D

The first experience of creating tactile images was carried out in 2011 in the Digital Prototyping Lab of ESAD.CR, as previously described in the article "Imagens Tácteis - Transformação multissensorial de uma pintura", based on a proposal by the teacher Josélia Neves, who was involved at the Polytechnic of Leiria in several accessibility projects for blind people, attempting to find solutions that would transform images into three-dimensional elements.

The project was about the possibility of giving images to "see" to people who are blind or have low vision. The challenge would be to find solutions that would appeal to other senses, namely hearing and touch. By combining these two senses, through audio description (image description) and touch, it would be possible to make images accessible to people with different degrees of visual impairment.

Fig. 5. Scheme of the 3DP process.
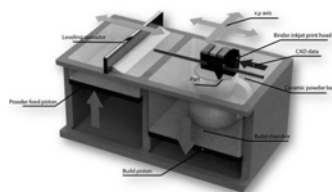
At the time, the ESAD.CR laboratory had a ZPrinter 450. A 3D printer based on a technology that works by binder jetting. This process, called 3DP, was originally developed by MIT and patented by Sachs (Sachs, 1993), as three-dimensional printing techniques.

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It is an additive manufacturing method that employs two materials: the building powder and the binder liquid. The liquid is selectively deposited by print heads that aggregate the pulverised materials into a bed filled with the same powder. The distributed binder liquid will combine with the powdered material to form a rigid layer of a given shape.
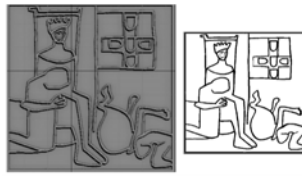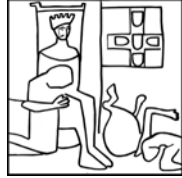
Fig. 6. Painting "Aljubarrota" by Mário Rita.

Fig. 7. Base image with contours only.

Fig. 8. Rendering and base image.

     For a first test, the painting "Aljubarrota", by Mário Rita, present in the collection of the Batalha Community Museum, was chosen. In this specific case and considering the expressionist character of the painting, we tried only to reinforce the main lines to simplify the distribution of the pictorial volumes in the two-dimensional space.

     Using image editing software, the colours were eliminated, and the contours of the figure were drawn respecting all the drawing elements. After obtaining a monochrome model, some traces and areas of noise were still visible and were eliminated, as they were not considered truly relevant to the final objective.

     In the three-dimensional conversion a 3D modelling software was used, and displacement mapping techniques were tested (Karhu, 2002), which allow interpreting the grey tones as level elements.

     With the described process, it was possible to prepare a 3D mesh based on the 2D displacement map, which, with appropriate parameterization and sufficient subdivisions, guaranteed the intended 3D effect.

The 3D object was printed for a first tactile test. The results were not very pleasant. Although it was possible to read, the edges were too rough and made the interpretation process uncomfortable for those with high sensitivity to touch.

     The high contrast of the colours caused sharp edges. It was necessary to adjust the thickness and softness of the stroke for the effective tactile recognition of the image.

Fig. 9. Detail of the result with the initial image.

Fig. 10. Detail of the result with the blurred image.

     The problem was partially solved by editing techniques and through specific filters that allowed the image to be slightly blurred. Repeating the process, changing only the base image, the quality improvement in the edges was notorious.

     The printed piece was finally tested in a real context in the Batalha Community Museum. Having verified advantages and disadvantages it became clear that the tactile perception only happens when it is combined with verbal explanations - leading the "look" of the fingers - passing also

through the important sound complement of a more subjective and emotional character of sound effects and music.

The innovative character of the proposal lies in the techniques and materials used in the construction of the tactile images and in the combination of complementary means to replace vision in the perception of images.

Fig. 11. Rendering and blurred base image.

Fig. 12. The 3D printed final model.
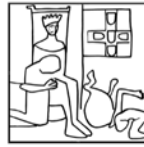
Tactile Visual Illustrations and Characters

In the scientific research and technological development (IC&DT) project ProLearn4ALL, aimed at the development of playful-pedagogical products accessible to children of the 1st Cycle of Basic Education (CEB), seeking to increase the knowledge of children about the characteristics of disability, the challenge proposed, in 2019, was to create resources about the main domains of disability (auditory, intellectual, motor, and visual). Using a problem-based research methodology (Ulger, 2018; Yew & Goh, 2016), possibilities were explored, tests were made, and materials produced using the printing techniques that were previously explored in classes and workshops.

As previously described in the article "Personagens de representação Inclusiva: em busca da diversidade de representação no projeto ProLearn4ALL", in order to make a connection between the different resources and to create empathy with the themes, five characters were designed. Differentiated by their own characteristics, each one linked to one of the principal areas of disability. Their story was explored in an illustrated book. The book was built in the harmonium format, allowing the pages to be opened entirely on a flat surface and be touched, so that the story can be explored by readers with distinct characteristics. On each page there is text, superimposed as visual and braille. The visual and tactile illustrations have matching colours and textures, line thickness and depth, making use of three levels of height that create a parallelism with the depth representation of the visual illustration. In some of the illustrations there are visual clues that do not correspond to tactile clues and tactile clues that do not correspond to visual clues, encouraging discoveries and dialogue between children when handling the book.

Andrew Hall (2011) states that an image has the power to address an audience, to place the reader inside, enhancing a direct link to emotions, memories, and experiences. Each character was created to be differentiated, by colour, texture, silhouette, visual cues, and specific details. Each character was created regarding representation, a somehow potential mirror for the reality existing in a classroom, trying to show diversity as the norm.

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The visual graphic style resulted in the use of simple forms, using contained distortion to create expressiveness, not losing the visual reference of joints such as knees and elbows, so as not to lose the relationship with the observable in a human body. There are defined contours for the shapes, which are present depending on the illustration because the application of colours sometimes goes a little out of the delimited spaces (as

Fig. 13. Example of the printed harmonium book, with graphic and tactile information.

Fig. 14. Relations of colors, textures, silhouetes and lines thickness for the graphic and the tactile images of the characters.

if they could have been painted by children). In some of the illustrations, besides the duplication of information in the main elements of the narrative and the characters, there is a complement between the visual part and the tactile part, as some visual elements exist only as printed image or as printed relief.

Conclusions and Observations

The production of tactile images using printed 3D plates and workshop printing techniques has potential to be explored in the creation of tactile illustrations and inclusive materials. It`s a process where there will always exist some amount of margin for errors, due to being partially handmade, and it is a process that is not suited for substantial amounts of prints. When tactile image and printed image are created and printed in a collagraph logic the process is not time consuming as it only involves applying ink and making a print. However, in an example like the illustrated book, three successive impressions were made: a first one for the image and visual text (uv printing), a second one for the braille text and a third one (with the sheet being moistened) for the tactile image. The succession of processes made the printing and assembly of the illustrated books a time-consuming process. There are difficulties to be overcome regarding reading some of the resulting images. The image printed by means of a force applied on the moistened paper leads the paper to adapt to the grooves creating depressions on the front of the sheet of paper. However, for tactile reading, the relief to be read using the fingers must be the one on the back of the sheet, because it appears printed as height. This relief on the back of the sheet does not appear as a result from the direct contact with the matrix, which sometimes causes reliefs to have less defined contours. Tests and fine-tuning are essential to control variables such as the characteristics of the paper to be used, the way the matrix is created, and the amount of force applied. The matrix created by additive manufacturing of binder ejection must be applied on a base to create resistance to the action of the press. Without applying the matrix over another surface that serves as its base and without reinforcement of the binder agent layer, the

matrix will break. The pressure limit that can be applied and the height of the relief to be produced are factors and variants to be considered when producing the readable tactile image. Attention should be paid to the grammage of the paper, its ability to be visually printed before the tactile print is made, and the paper should also have water absorption capacity and elastic capacity. The expressive potential for the use of 3D printing technology as an intermediate point between the creation of illustration and communication by tactile and visual image is great and deserves future exploration, either in the continuity of the use of printing by material extrusion or in the exploration of the use of material ejection printers. Explorations in creating prints to be matrices, creating prints as plates to be read, the use of different printed materials, printing on paper or printing without paper. Currently, at ESAD.CR, the processes described in this text are used in the production of tactile books using matrixes produced with the technologies of editing, modelling and 3D printing for subsequent printing on paper.

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Artificial Intelligence in Editorial Illustration: An Insight into Proximity and Plausibility; Emotion, Empathy and Ethics

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[Ilustração / Illustration]

Abstract

The discipline of editorial illustration from commission, through production and into publication is perceived as being under threat from artificial intelligence (AI). Cosmopolitan magazine launched its AI issue in June 2022 with the headline, 'Meet the World's First Artificially Intelligent Magazine Cover' with the subheading, 'And it only took 20 seconds to make'. In a swiftly moving technological shift that seeks to revolutionize task-based work, are editorial illustrators in danger of losing out to machine-based learning algorithms because copyright law considers originality as an embodiment of the author's personality [1]? Do publishers of periodicals such as newspapers, magazines and journals see opportunities to radically alter and potentially streamline their pre-production models of content handling by removing creators from the pressurized publication cycle? Are we seeing the final nail in the coffin of editorial illustration as a worthy and noble pursuit that has been a cornerstone for the accountability and transparency of curated content in print and digital editions? This paper considers issues of plausibility and proximity of editorial illustration in relation to the creative experience for commissioners and makers, arguing that human presence at every step of the process is vital to the way that communicative content is constructed, received and digested in periodical publishing. The authors further consider how readers emotive responses to published content risk being undermined by the over-reliance on AI technologies, losing opportunities for empathetic responses to published editorial content and highlighting potential ethical issues including assumed racial and gender bias, and inbuilt prejudices formed from the origination and development of some AI interfaces by developers.1.

Keywords

Introduction

Visual creatives are increasingly concerned about the impact that artificial intelligence (AI) could have on their individual creative careers. Various authors have reported that the emergence and rapid spread of AI-generated illustrations in periodicals signals the decline and demise of illustration as a recognizably commercial creative activity [2, 3]. Swiftly emerging AI technology has achieved significant impact recognition with the general public, through extensive news coverage of AI-generating interfaces

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such as ChatGPT, the natural language processing tool that enables and accomplishes textual content tasks driven by human prompts, created by the technology research company OpenAI. Since its launch in November 2022, ChatGPT has generated massive global publicity to become what Swiss bank UBS claims is, 'the fastest growing app of all time' [4]3 and has incited great curiosity around the possibilities of potential AI uses and applications, as well as stoking debate about the perceived changes it will make to everyday lives of millions of people globally. ChatGPT is fast learning with the potential ability to integrate knowledge and learn from the entire corpus of human text-based knowledge. This puts human learning at a disadvantage. AI strips textual knowledge at a much faster rate than humans know how to evolve learning, and knowledge is built from that learning corpus interplay. While AI can now learn by itself by building knowledge through algorithmic calculation, it still does not understand the inherent meaning of what it's learning. It can however use linear knowledge processing to make decisions.

From formative education into working lives, peoples and communities will be introduced to, engage with and potentially adapt to AI as part of their integrated, everyday existence. In many instances, the technology is projected to ultimately replace repetitive task-based employment, seemingly confining dated and inefficient practices to history. AI may also be harnessed to help design and guide internships, support on-going training and be utilized to measure aspects of employee performance as a developmental tool, in educational and employment contexts. In essence, its supporters claim AI's credentials to aid humans in day to day tasks make it an attractive proposition to a wider range of stakeholders, rather than an all-out bludgeoning assault on established everyday practices. Similarly, OpenAI's Dall-E - now reincarnated as Dall-E 2 – promises instantaneous, spectacular results through its text-to-image AI interface algorithm engine, delivered by Generative Adversarial Networks (GAN). GAN's are seen as the step beyond the first wave of AI technology, where two machine learning models are simultaneously trained: a generator model creates output by combing data from multiple learned sources; a discriminator evaluates and tests the generated data training the generator to achieve more specific results in future iterations.

Having navigated the thorny and disruptive issue of the availability and indiscriminate use of stock illustration in newspapers, magazines and journals in the early 2000's, editorial illustrators now face a fast-looming mountain of professional practice concerns with the seemingly-inescapable rise of AI-generated imagery. The ubiquity of digital production tools like Adobe Photoshop, Illustrator and Animate has helped support editorial illustrators to produce, present and disseminate artwork for reproduction and promote their creative offer to a range of potential clients in ways that have assured the attractive potential of global reach since the 1990s. Such digital tools have been used through license to enable and apply the

3 ChatGPT is a machine-based learning tool, not an app. Reporting inaccuracy is common given the rapid emergence of the technology and the resulting struggle to categorize and analyze it effectively by external commentators.

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creation of visuals, aiding the consumption of content in a known and triangulated communication model. AI now explodes such notions of beneficial support, by scraping data from multiple available digital sources through aggressive algorithms that blend text-based prompt results into tangible visual forms that many worry are exploitative and damaging. Peeling existing published visual data without an original creator's permission and re-purposing it for other's potential pursuits and financial gain raises significant moral, ethical, and legal questions that shake the very core of creative practice. The metaphorical plague of locusts that AI unleashes risks stripping the fields of creative promise bare and pre-empts a seemingly bleak and barren future for visual creatives, and indeed creative production across the arts and cultural sphere globally.

2. Proximity and Plausibility in Editorial Illustration

Editorial illustration is a highly successful form of visual journalism, with its roots deeply embedded in commentary, criticism and enlightenment [5, 6, 7, 8]. The structure of commissioning, negotiating and disseminating has developed editorial illustrative content as a trusted and reliable method of communication that has built respect with readerships over months, years and in some cases, decades. Editorial illustration has been used to unearth, reveal and interrogate subjects, like examining the celebration or resignation of political regimes, drilling down into economic plans that have been heralded as triumphs or catastrophic failures, or exposing key societal issues that have merited coverage. Editorial publishers have carried content in ways which elucidate, educate and enlighten, whilst providing a solid, critical context through which to distil, debate and distribute to their respective readerships.

2.1. Historical Threats to Editorial Illustration

In the context of recent AI emergence, it is worth briefly returning to previous threats that editorial illustrators have faced to their models of practice and commercial livelihoods. Such investigation would appear to posit a notion that contextualization of the problem, adaptive methods of practice and commercial agility are key themes that emerge from historical precedents. For example, it is doubtful whether readers of newspapers, journals or magazines in the late 1990's would have recognized the difference between a specifically commissioned and creatively nuanced editorial illustration from a homogenized stock image, aside from very seasoned readers or illustrators seeking to preserve their income interests from newspaper and magazine publishers. The commercial gains that licensing a stock illustration from a library database promised proved ultimately superficial for both creators and publishers alike. In reality, the stock illustration industry was never a serious threat to the mainstream professional livelihoods of illustrators, because editorial illustrators were authorially adept at demonstrating outcomes generated much more content than simply decorating a page [9, 10].

Where the licensing of stock imagery was a genuine threat, many illustrators simply refused to license their artwork for reproduction, preferring

instead to expose their work into different markets such as design, children's publishing or advertising to appeal to more creative forms of commissioning practice. Nevertheless, it should be noted that Shutterstock has entered into a recent agreement with OpenAI to integrate Dall-E into its online product, largely as an attempt to keep photographic stock imagery relevant as an income stream for photographers and photo-orientated image makers [11]. Similarly, the 'print is dead' mantra, trumpeted by many mainstream media outlets with the arrival of the desktop computer in the 1990s, proved wholly inaccurate and misguided. Print and digital outputs not only occupy a space in the contemporary editorial publishing arena, but have also happily co-existed as print and digitally intertwined platforms, acting as mutually beneficial communication systems for imparting information, delivering entertainment or educating their collective readerships. Space exists in the editorial market for specialist and hybridized platforms that serve specific readerships and spectators as sophisticated consumers of editorial content. Such models reflect and reframe the writer's chief concerns, the publisher's râison d'etre of existence and the illustrator's creativity in bringing text and image elements together into a cogent, cohesive single image, or indeed as a sequence of images that run as a combination, depending on publication format. Therefore, an illustrated essay will have a different proximity of reception and comprehension with a readership than a GIF, or animated content on a digital platform that can enable a greater frame rate [12]. These instances of disruption to creative editorial illustration practice are manifestly present throughout other forms of illustrative practice, and indeed seep into creative and cultural production and dissemination across many aspects of the visual, written and performing arts internationally. Their effect is to leave a wake of change, reconciliation and adaptation that shows the versatility and agility of the illustration community as a source of both invention and consolidation of new practices of production and consumption.

The perceived threat of GAN AI as a substitute for human-created artwork has led organizations such as American Illustration (US) and the Association of Illustrators' (UK), the body responsible for managing the World Illustration Awards, to publish statements declaring that they will not accept AI-generated content to be admissible for their respective annual illustration showcases. The Association of Illustrators' released a statement in mid-February 2023, which included a rider about legal recognition of data sources as being an issue that requires resolution before works can be considered,

> '…for these platforms to be used ethically, there needs to be a legal framework in place, that does not freely exploit the intellectual property of creators without permission or remuneration.
> For this reason, the AOI does not currently intend to promote AI-generated artwork and works produced using AI text-to-image generating software are not currently eligible to be entered into the Word Illustration Awards. This will be reconsidered if the protection of the rights of artists is built into the business model of AI platforms.' [13]

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Whilst the current buzz around AI is predominantly concerned with its promise rather than its measurable success of delivering content more specifically, in the context of editorial illustration its text to image generating software has been employed in answer to assignments and published with full knowledge of its data-scraped origins. GAN AI undoubtedly offers a plethora of creative options for visual artists and designers, but also offers possibilities for those whose visualizing skills are not professionally honed, developed and synthesized over hours of practice and extensive knowledge of designing for particular readerships or audiences. Positioning GAN AI as an outright replacement for editorial illustrations created by human creators is missing the point and set in factual inaccuracy that sees the debate expressed in much too simplistic terms. GAN AI is indeed a powerful and potentially evolutionary creation tool – or series of tools, merged with approaches if humans augment its development - that editorial illustrators could adopt and adapt to their working arsenal of approaches to solving editorial assignments.

This approach is championed by several influential organizations and institutes, including The Alan Turing Institute, who see their mission to engage minds between the arts and sciences to explore complex problems using AI [14]. The emerging technology could become a further extension of their toolkit of image production and dissemination processes. The arrival and early adoption of ChatGPT for textual-based content, its ability to quickly generate material will have a multitude of functional uses that appeal to particular users. But Chat GPT suggests textual content based on textual prompts, hypothetically in the way a search engine generates suggestions for content that users can choose to click. However, does capturing a creative process through textual prompt really excite creators?

The PromptBase phenomenon is interesting in attempting to address the inability of the AI lack of a sufficient literal lexicon to feed the technology. In an enthusiastic WIRED magazine article, 'Picture Limitless Creativity at Your Fingertips', author Kevin Kelly explains that,

> 'PromptBase is a market for prompters to sell prompts that create simple images such as emoticons, logos, icons, avatars, and game weapons. It's like clip art, but instead of selling the art, they sell the prompt that generates the art. And unlike clip art, it is easy to alter and tweak the art to fit your needs, and you can extract multiple versions again and again. Most of these prompts sell for a couple bucks, which is a fair price, given how much trouble it is to hone a prompt on your own.' [15]

The inherent lack of a visual creative process here is problematic for editorial illustrators schooled in visual ideation processes and developing visual solutions to problems of comprehension, contextualization and receptive understanding in readerships. The apparent removal of creativity from a visual idiom, to one where linguistic fluency support is a necessary part of a creative process, is alien and synthetic to many illustrators who work *with* text as an intrinsic, vital part of their creative process.

2.2. The Absence of the Human Axis in the Creation of GAN AI

Fundamentally, AI technology will not stop creators creating in whatever mode(s) they choose to connect to their respective audiences. AI is not going to prevent opera singers from singing, nor novelists from writing fiction, nor illustrators from creating visual statements in response to textual content. At the heart of this desire to communicate is the urgent need and desire to produce meaningful visual statements. Some authors suggest its simple immediacy is appealing, almost as a way of side-stepping toil and graft of the creative process itself. Kelly suggests that,

> 'This new art resides somewhere between painting and photography. It lives in a possibility space as large as a painting and drawing – as huge as human imagination. But you move through the space like a photographer, hunting for discoveries. Tweaking your prompts, you may arrive at a spot no one has visited before, so you explore this area slowly, taking snapshots as you step through. The territory might be a subject, or a mood, or a style, and it might be worth returning to. The art is in the craft of finding a new area and setting yourself up there, exercising good taste and the keen eye of curation in what you capture. When photography first appeared, it seemed as if all the photographer had to do was push the button.' [16]

The problem with this view is that it casts everyone with access to a smartphone as a 'photographer'. Everyone instantly becomes a 'photographer' because they can take 'snapshots'. The misunderstanding of the intellectual investment that professional photographers instill in planning to capture subject matter, through researching locations, preparing shoots, managing the logistics of equipment hire, set up and function, and processing imagery is deeply problematic, bypassed by the apparent ease of 'push(ing) the button'. The lack of awareness and empathy with a photographer's explicit craft in establishing and constructing photographic content is circumnavigated, seemingly in the interests of technical efficiency or limited knowledge of professional practice. By extension, creating editorial illustration output

Fig. 1. *Cosmopolitan* magazine cover, a collaboration between the digital artist Karen X Cheng and Open AI (June 2022).

isn't a therapy, an outpouring of emotive response or some form of solace, although these attributes might be net constituents that enable a creator to continue to produce consummate work. Editorial illustration comes from a deeper, engrained belief and singular determination to deliver truth, insight and accountability through visual form in tandem with text, as a consolidated relationship that communicates a message, within a specified timeframe. The human axis in this production interface is present, evidenced and essential.

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The *Cosmopolitan* AI-generated cover – the A.I. issue - symbolically represents many of the current issues that creatives who are skeptical of the technology align with. The image of a towering astronaut walking towards the viewer, as if ready to step over and crush the audience, reads as a deliberately provocative statement that challenges the very nature of creating original output as being a grounded, honest pursuit by (hu)mankind. The white reversed type subheading, 'And it only took 20 seconds to make' appears to emphasize this fleeting moment of history by being placed under the darkness of the astronaut's moon boot sole, suggesting a metaphorical, existential threat to human creativity. Perhaps more immediately, the choice of using an astronaut with its in-built symbolism of future worlds found through exploration and discovery is so tired as a metaphor. The image would be rejected as a banal, obvious visual solution by many editorial illustrators. The image precisely follows an entirely conventional, predictable visual suggestion to asking the AI interface to propose an image that equates to, "illustrate a future where AI is the dominant creative production method." It is such hackneyed stereotypes that provide hope and belief for those invested in the conceptual advantage that editorial illustration has over current AI-generated content as being a serious creative threat.

Doom-mongering and over-sensationalism are regularly repeated tropes that appear to play out favorably across communities, where the promise of AI-generated imagery is enthusiastically supported and heralded as being genuinely ground-breaking. There is little doubt that for users that want to explore concepts, explain ideas, and narrate stories as textual content with associated imagery, AI technology offers them very expedient and accessible possibilities to produce material far beyond their own natural visual ability. Much like clip art offered in the desktop publishing boom of the 1990s. But editorial illustration carries much greater, deeper and more meaningful content than clip art was ever capable of, created by illustrators imbuing subjects with meaning through the explicitly or implicitly implied emotional concepts that connected neurologically to a reader's experiences. Editorial illustration, by extension, is not just simply seen – it is felt. As a form it is designed and constructed to resonate with and through our interconnected sensory receptors and become an intrinsic part of our experience of a subject. As a fully recognized and tested multimodal property, editorial illustration challenges the perceptions, values and reasoning of its receiver by inviting inspection, analysis and reflection at the reader's convenience.

In print editions of newspapers and magazines, the finality of content was achieved through the act of publication that corresponded to a specific date [17]. Print publication processes enabled the citation of articles accurately and ensured that archiving of content was possible using legitimate and standardized systems of recall. In print editions, the only means of recourse after publication was a letter to the newspaper or magazine editor from a reader. In the digital publishing domain, the open-ended nature of continually available comment fundamentally changes the reception dynamic between the creator of written and visual content, their

publisher and the readership, creating proximity to work considerations that are markedly different to principles established through a print-based medium. We now have to contend with what Thomas Nail refers to as, the 'mobility of the image' [18], and the repercussions that has for their production, dissemination and reception as communicative content. The advent and installation of editorial comment boxes beneath digitally published articles enable readers to respond to content with greater immediacy, which arguably democratizes the reader experience by allowing an open invitation and opportunity for response. In such instances, publishers moderate reader responses to balance the right to reply against the scrutiny and potential removal of inaccurate or abusive commentary by readers. These opportunities for additional or addendum commentaries nevertheless have the effect of prolonging the article and thereby have the potential to subvert or prejudice the writer's original intention.

The significant issue with GAN AI in this context lies not with the technology but rather the public's perception and expectation of it. Ultimately, we are seeing the early stages of AI image-generation technology and its functionality through programs such as Midjourney and Stable Diffusion, whilst surprising and potentially exciting for many, is also relatively basic in its infancy. The architecture of GAN AI is designed to perform a particular and specific task and is coded – by human(s) – to enable that task to occur. Once the task is complete, the technology is obsolete until that same task needs repeating. And again. Ad infinitum. It is therefore possible to see how repetitive tasks carried out by humans will be susceptible to being replaced by AI in the future. But replacement is better stated as the redefinition of task-orientated work, because the programming of AI can eliminate annoying human habits and modes of behavior that detract from a task being completed. Therein lie the inherent limitations of AI in an editorial communication context. Readers are not task-orientated to read content, nor to treat an editorial illustration as a passive bystander for the text.

2.3. The Presence of the Human in Editorial Illustration Production

Readers respond to editorial content as a purveyor of information and a convenor of opinion. They have a complex and personalized relationship with text that has far greater reach and significance than completing an action. As humans, we have an extraordinarily complex, neurodiverse nuanced way of interpreting the world around us. This functionality is based on multi-sensory simulation – through acute observation, directional sound and even touch in a haptic sense of familiarity with a page or the gesture of a swipe of a finger across the screen in digital editions. The illustration community is partly threatened by AI because it is propelled by powerful, entrepreneurial stakeholders who have significant platforms to espouse the virtues of this emergent technology. But few stakeholders have a genuine interest in the output beyond an initial 'wow' factor. They are invested in AI technology primarily for their economic benefit that adoption from arts communities will deliver to them as investors and to

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shareholders that they are answerable to. In this context, it is no surprise that technology entrepreneur Elon Musk, along with other innovative technology investors, have entered the AI arena with Dall-E. It would be easy to dismiss AI as the next technology fad, but it would also be short-sighted. There are some important elements of functionality that can help editorial illustrators create imagery, particularly around data driven design possibilities for enlightening reader experiences from factual and statistical content. As editorial illustration develops as intrinsic and preferred source material for the consumption, analysis and synthesis of visual information, such possibilities should not be overlooked by either creators or publishers.

Editorial illustration as a commissioning process needs predict-ability; editorial illustration as a creative interpretation of text demands unpredictability. Therein lies the tension of AI as any kind of like for like replacement for human-made artwork. In its early incarnations, the text to image generating technology appeals to those who masquerade as image-makers. Early exponents appear astonished by the myriad of possi-bilities, the marvel of the technology powering the production and instan-taneous gratification of seeing 'their' results. However, editorial illustra-tion is a pursuit, a struggle and a puzzle intertwined as a coherent visual statement. Its inherent creative attraction comes from precisely with the tension of wrestling with a text to image conundrum, solving a problem in a defined, restricted timescale for a diverse readership demographic often beyond physical geographic boundaries, cultural backgrounds and of un-known political persuasion. The creativity invested in each and every edi-torial illustration is shaped by that tension; the unscripted path of possible directions that production of artwork could follow. For many editorial illustrators, the investment in the intellectual journey of unlocking a diffi-cult assignment, finding suitable and reliable reference material against a finite deadline defines the noble pursuit of the creative production process as much as the delivery of the final artwork itself. AI fundamentally strips away that joy of the intellectual pursuit of a measured, calibrated and articulated visual response to textual content alone.

Within the lexicon of descriptive commands thrown at the AI interface, many examples cite the phrase, 'in the style of [insert artist name].' This so fundamentally misunderstands an artist's contribution to a creative work as to be insulting and derogative to creative practitioners. Artists may adopt a style, or indeed employ various styles across a working creative life, in response to particular and specific need, whether they produce visual, literal, aural outputs that require sensory decoding. Asking an AI interface to gener-ate a particular subject (a jug) within a contextually different environment (a sandy beach) in the style of a specified artist (Pablo Picasso) will produce a myriad of different visual outcomes because Picasso employed different styles throughout his production of cultural artefacts, from early paintings that were principally concerned with natural realism, through the pioneering works made in deconstructed form through Cubism and into later experi-ments with linear Surrealism. Stylistic productions served as a carrier of much deeper, resonant embodiments of the conceptual, spiritual, emotional

dimensions of subject matter themselves that invited consideration and reflection from their respective spectators. In short, editorial illustration needs an empathetic and emotionally invested audience to respond to the communication content they receive as part of a unified, cogent and rounded communication process.

3. Empathy, Emotive and Ethical Considerations

Empathy and emotion as human characteristics are not uniformly recognized in society. Indeed, responses are directed by different cultural exposure, nurturing and conditioning through individual experiences and the assimilation of lived, experienced and shared surroundings [19]. Our cognition of editorial illustrative content and display, by extension, is formed and shaped by personalized and shared experiences that we associate with, triangulated between the experience of consuming published content, contextualized against schematic patterns in our stored memory.

With a vast array of images processed every day, human beings use stored schematic patterns as a visual short-cut to process information quickly, decoding through familiarity with known or recognized content that supports nuancing and meaning concisely and cogently. That consumption is also subject to cultural shaping by the communication platform and our multimodal responses to static and motion-based stimuli, allowing us to experience emotive reactions such as joy, anger, pain, injustice or guilt. Emotions run deeply in human beings and creative output is delivered to connect three different core cognitive attributes: modality, structure and meaning. Our remembered visual morphology helps translate these components into tangible, coherent and meaningful visual statements. As responsive humans, our sensory ability to collect, process and synthesize information builds up a database of stored memory.

How the human mind processes images, and in particular their emotional messaging, is through the imaginative part of the frontal lobe of the brain. Images are an executive summary of meaning; they act on the mind's experience and memories to trigger experience and knowledge, placing the viewer in an immersive, digitally assigned process. Our minds emotionally receive and decode images, allocates labels to them so what the reader understands can be articulated and shared. This process is hardwired into us through our evolution [19]. Illustration is more significant to understanding the world more deeply through images as it allows the reader of images to understand their world and how to place themselves in it, articulating accessible communication to others, framed in Maslow's Hierarchy of Needs as an essential part of our problem-solving nature.

3.1. The Empathetic Human Creator and Receiver

A significant criticism of AI in its juvenile development has been that images appear beautiful rendered but superficial in depth of content. In essence, the 'material' quality of a AI-driven imagery appears more concerned with the manifestation of the image as an exquisitely technical render of complex visual information rather than a deep-dive into its symbolic association with a subject or field of further enquiry. AuthorsWu, Seokin and Zhang claim that,

ARTIFICIAL INTELLIGENCE IN EDITORIAL ILLUSTRATION: AN INSIGHT INTO PROXIMITY AND PLAUSIBILITY: EMOTION, EMPATHY AND ETHICS

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> 'Although artificial intelligence does not yet have subjective charac-
> teristics such as consciousness, free creativity, personalization, and
> emotion, the application of AI technology in the field of art has not
> only enriched the form and toolbox of art, but also expanded the
> extensions of art' [20].

For all of the impressive rendering of surfaces – often betraying the roots
of the developers fascination with natural and hyper-realism depictions of
forms – many critics find the lack of depth in many images underwhelming.
Stable Diffusion's decision to open source code and expose image sources
that are helping train its model is an attempt to be transparent about the
origins of data. Many will argue – not without reason – that this is also a way
of harvesting more source material from which to generate imagery from.
Editorial illustrators frequently cast figures beyond the mere representa-
tion of themselves, and by default, they cannot be considered as simply
innocent forms in the picture plane. Instead, conceptual editorial illustra-
tion work frequently creates imaginary figurative depictions that are imbued by the situation of the image in which they appear, regardless of whether they are illustrated abstractly or realistically. Such figures often serve as totemic message carriers for a deeper, more profound set of ideologies and beliefs that are resonant through the relation-ship between text and image. This is achieved through figurative posture, gesture or the dynamic placement of the figure within the picture plane, but editorial illustrators can transcend logical permutations of human skeletal forms and expected mobilities.

Fig. 2. Total Meltdown *Time* magazine cover by the Cuban-born American illustrator Edel Rodriguez (September 2016).

Instead, creators originate and develop anthropomorphic forms that
define new possibilities for figurative representation, often with other-
worldly connectedness. Edel Rodriguez's illustrated cover for Time maga-
zine (September 2016) defining former US President Donald Trump as a
melted puddle of humanity achieved global recognition because it used
symbolic colours that were associated with Trump to condense meaning
into a powerful visual statement and bridge cultural language divides that
text alone would have been unable to, with creative conviction that elicits
empathy from his readership.

3.2. Histories of Bias and Possibilities of Balanced Representation

In editorial illustration, the issue of bias remains an a particularly pointed
ethical issue to resolve. Historical examples of discriminatory representa-
tion abound with great frequency. The education of new and contemporary
exponents of editorial illustration need to consider fair and progressive

gender, racial, and neurodiverse representation, and indeed to turn the tide of under-representation of minority groups in communication news media. Many early examples of Anglocentric AI-generated results are partly due to the nature of software developers drawn primarily from Western cultures and influenced by Western political, social and economic ideals. The risks of disinformation from an over-reliance on dated tropes that have existed threatens to perpetuate misinformation and elongate misnomers which sit at odds with a progressive, fairer society.

Of even greater concern is the provenance of data-scraped images from dubious and disingenuous sources, that for example risks inflating extremist ideologies or religious fundamentalist beliefs beyond their marginalized status. If democratization of news media through AI-based technology is really at the heart of those pushing these GAN's then we should see a greater proportion of employees representing a wider spectrum of society.

One area where GAN AI technology may aid editorial illustrators is around the needs of ethically data-driven visualization. The depiction of user-friendly statistical information has the potential of embracing subject matter more cogently by handling any resulting statistical content with empathy and awareness. In a world where fake news and deep fake imagery abounds, training GANs to produce visual responses that present under-represented groups fairly and transparently is a start on the road to reducing bias and building trust. In order to recognize such developments as being genuine and tangible, it is essential that developers are drawn from as wider pool of cultural, social, political and economic backgrounds as possible, and become advocates for AI's ability to transform support mechanisms to aid humans, as opposed to being continually over-promoted as the annihilator of human creative existence. De Cremer and Kasparov refer to this approach of human and machine team duality as 'new diversity' [21].

It is also essential to provide some sense of transparency about where sourced images have been 'discovered' before being appropriated. At present, AI technology is unbound by lawmakers, raising significant and well-justified legal, moral and ethical concerns about the provenance of its source image stock. Local attempts at digital image stamping and removing transfer permissions for imagery to be scraped, whilst acknowledged as being responsive attempts by creators to protect their own intellectual property, need greater recognition of the issues and robust, legal support through national and international legislation to fully address the issue. An unregulated market, seen as a massive issue in sectors such as security, energy and financial services, now risks being abused by financial investors looking to make high-yielding returns on the back of creative back catalogues, poorly defended by the missive that they were merely trying to provide a creative content service for all.

4. Conclusion

AI powerfully challenges the production landscape for content creation for many invested stakeholders, even though the technology is in its relative infancy. The emergence and adoption of such technology, in most instances out of genuine investigative curiosity, shows an appetite for

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knowledge driven by a familiarity of experience. Harnessing the power of AI as an image-generating tool as part of the wider editorial illustrator's toolkit will undoubtedly be a personal decision and there will be plenty of opportunity for those interested in helping shape the intelligence of the technology. It is possible to see that illustration has become somewhat homogenised by the nature of the tools employed to make images. The best exponents use these tools in remarkable and exciting ways, but the tail is long. In the future this lower order work is what the GAN AI technology replaces. Traditional materials use relies on the kinetics of touch and feedback between surface and materials, and the human hand, eye that link aesthetics and emotion with mark making will be harder for GAN AI to achieve. For others, AI will always be artificial in both its construction and its wider philosophical reach as being a synthetic and soulless relation to human-centered creation. As the technology improves and the lexicon of archived visual units continue to grow, the opportunity of unlocking the text interface with more explicit, richly descriptive and active vocabulary spoken by the user increases.

However, the technology will only ever be as good as the instructions a machine-learning tool receives. In the future, we may well see plug-ins designed to overcome this problem, much in the same way that after-market plug ins for social media apps claim to grow traffic, appreciation and reach. Intensively training GAN AI could conceivably bridge gaps between visual and verbal communication in the production of artwork, particularly with a wider and more inclusive dynamic of developers drawn from different racial, gendered and minority-inclusive backgrounds, but the current focus of creatives investing in the technology appears to be concentrated primarily around developing accuracy and discovering efficiencies of application. Truly successful editorial illustration relies on invested readers to fill in the gaps between text and images, assimilating multimodal modes of communication into a coherent whole in the receivers mind.

Crucially, editorial illustrators need to have nuanced knowledge of the debate about AI and a philosophical investment in the future of their discipline, not only for their own commercial interest but for that of the next generation of makers. Paramount to any knowledge acquisition is the open-mindedness to embrace the challenge of changes in practice by immersion with machine-learning technology. Free trials are available, and some illustrators and artists have been approached as beta-testers. The moral, ethical and financial considerations around the challenge of AI are best debated by having an informed and respected seat at the table, that can encourage better practices based on agreed moral, ethical and legal principles for usage and development moving forwards.

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Picturing Truth: Visual Resources to Convey Reliability in Children's Non-fiction

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Abstract

The informational and the creative meet in non-fiction children's literature, where the communicative and expressive potential of the picturebook as a medium has given rise to a new variety of approaches. Although this has allowed authors and illustrators to move away from values associated with traditional information communication media, the intention to convey reliability seems to persist in some non-fiction books with didactic and expository takes. In these books, the introduction of certain resources has served as a way to enhance the credibility of the content, manifesting not only through the textual and paratextual, but also in the visuals.

This paper examines a series of visual conventions which can be considered to convey or reinforce the credibility of the presented information in non-fiction picturebooks. Relying on the social semiotic theory developed by Gunther Kress and Theo van Leeuwen, I analyse picturebooks from the European publishing market featuring stylistic and design approaches associated with the true and real. Through this study, I intend to identify ways in which credibility can be visually communicated in a children's book genre characterised by a degree of creative freedom that sets it apart from other informational forms.

1. The Fact and the Art

Picturebooks have become a fertile ground for authors and illustrators to explore the account of the fictional and the factual. Non-fiction children's books have benefited from the communicative possibilities of the picturebook as a medium, making use of the flexibility derived from the synergistic relationship between image and text [1], while adopting an approach not solely motivated by a desire to inform, but also by the intention to amuse and delight the reader [2]. The combination of these factors and relative lack of constraints has allowed them to push the communicative conventions of the genre, placing non-fiction children's books in the position to bridge two supposedly antagonistic ideas: the factual and rigorous, with the artistic and subjective [3].

The recent surge of a broad spectrum of non-fiction picturebooks with innovative approaches has led some scholars to argue that these books have been liberated from the necessity to incorporate restrictive qualities associated with traditional information communication media

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[2]. However, the need to convey reliability can still manifest in books with didactic and expository takes, in which the use of certain resources may be considered to strengthen the credibility of the content. The distinctive features of the picturebook and its possibilities for creative expression have conditioned the ways in which this can be done. Picturebook theory usually emphasises the multimodality of this form due to the coexistence of the visual and verbal semiotic systems, considering pictures and words to be indissolubly bound together in the communication of a message [4, 5]. The examination of the reliability which can be communicated through text has been more prominent, probably due to an already existing linguistic tradition and the possibilities for its direct application in the genre. On its part, the paratextual has been often employed to reinforce the credibility and authenticity of the accounts, notably through the presence of an informational back-matter [6]. While the sense of credibility which can be conveyed through the textual and the paratextual has received further academic attention, the study of the visual seems to be more nuanced.

In this paper, I will use a social semiotic approach to analyse visual conventions associated with reliability which appear in non-fiction picturebooks published in the European market. My purpose with this study is not to discuss the cognitive potential of illustration, nor to judge what is true or not in visual arts, but to examine the ways in which the content can be visually presented as reliable, in view of the presence of conventions considered to represent the real or true.

2. Modality in Children's Non-fiction

The credibility of a sign can be explored in social semiotics through the concept of modality. Understood in verbal texts as the '*truth value or credibility of (linguistically realized) statements about the world*' [7, p. 155], modality allows to determine the degree to which a text intends to be perceived as true or real through the use of certain words and constructions. Adapting this Hallidayen concept into the analysis of images, semioticians Gunther Kress and Theo van Leeuwen suggest that images might contain certain elements, or modality markers, which convey how truthful they are meant to be perceived as in a particular social context, and under a particular social agreement of what is considered true [7, 8]. According to their theory, the choice of colour, the rendering of detail, the use of depth, or even the contextualisation of the represented elements, can be used to convey different degrees of truthfulness and credibility in visual representations [7]. Kress and van Leeuwen acknowledge, however, that what can be perceived as true is not universal, and argue that modality markers may vary depending on specific coding orientations and their associated understandings of truth [7].

The particularities of the picturebook as a non-fictional medium, in which a degree of creative freedom is not contested by the informational purpose, determine the nature of the resources which can be employed to convey reliability. While the range of possible visual outcomes within the genre attests for the expressive potential of children's non-fiction,

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it also complicates the analysis of the modality of its illustrations. This visual diversity, in combination with the varying degrees of correspondence and accuracy present across the genre, result in a lack of uniformity in the visual representations, hindering the establishment of set parameters to analyse the appearance of truthfulness in these books. It is possible, however, to identify a number of visual resources and conventions, often borrowed from other disciplines and contexts, which can be considered to condition the perceived credibility of non-fictional representations in children's books.

3. Visual Resources to Convey Reliability

3.1. Photographs and Eidetic Representations

Photographs and photorealistic representations have often been used in children's non-fiction as reliable depictions of reality. Photographs owe their sense of truthfulness to the seemingly direct connection they establish with the world we can observe and experience in a way apparently devoid of the creator's subjective input: they are truthful in so far as they constitute a record which transmits the '*literal reality*' [9, p.16]. The assumption that representations which comply to the idea of 'realism' are more objective and reliable due to their high naturalistic modality [7] could partially explain their prevalence in children's non-fiction books.

The perceived objectivity of these representations still lies on the assumption that photographs communicate an unadulterated vision of reality, with those behind the camera being sometimes perceived as having no influence on the realities depicted. As Susan Sontag put it, the photographer was often thought to be '*a scribe, not a poet*' [11, p.88], highlighting their perceived role as recorders and not as creatives. However, Sontag herself addressed the error in this assumption by adding that '*the supposition that cameras furnish an impersonal, objective image yielded to the fact that photographs are evidence not only of what's there but of what an individual sees, not just a record but an evaluation of the world*' [11, p.88]. This suggests that, as much as a faithful representation of reality a photograph can be, the choice of what to represent cannot be ignored as a manifestation of subjectivity in itself.

While the use of photographs and photorealistic representations became a staple of children's non-fiction since the end of the 1980s [10], their use in the genre predates the peak of popularity they achieved during this time. Earlier approaches seemed to not be as concerned with a pretension of objectivity as later non-fiction books, which can be appreciated in the way that photographs were used in relation to the textual narrative and the elements of design. The series *Les Enfants du Monde* (Children of the world), created between 1952 and 1978 by Dominique Darbois, made use of black and white photographs to depict the lives of children of various races and origins, allowing the reader to compare and contrast their own daily routine to that of children from other parts of the world. Heavily stereotyped, as it can be expected from the time when the collection was created, the books combine the use of the photograph as an authentic

testimony of the life of a child with playful design choices. The creativity transpires in elements such as the configuration of the text, the use of blocks of colour, and even the presentation of the photographs themselves, often cut into different shapes to complement the overall concept of the spread in which they are shown. Although this collection stands out as an example of how the voice of the creator can manifest through the use of photographs, the playfulness of the design should not distract from the credibility they hold: the images seem to act as a testimony and connection to reality, enhancing the reliability of the story through the use of naturalistic representations.

In other books and collections, however, the voice of the creator might be intentionally minimised or concealed, presumably in order to contribute to the objectivity of the depictions. Publishing houses such as Dorling Kindersley or the French Gallimard, which popularised the use of realistic imagery in non-fiction children's books [10], did so by presenting the subjects often decontextualised, in a white background, and removed from any additional surrounding information which could hint at the subjectivity of a maker. Kress and van Leeuwen [7] see in resources such as these an intention to convey objectivity, impersonality, and detachment, suggesting that the images are meant to be perceived as impartial accounts of reality.

Although the subjectivity of the creator might be initially obscured by an illusion of transparent accuracy, photographs and, by extension, representations which aim at photorealism, are not more devoid from the underlying intentions and interpretation of the author than drawing or painting [11]. Regardless, and despite the suspicion photographs might incite due to the disguised bias of the creator, their high modality confers them a notion of veracity hardly paralleled in a non-fictional context.

3.2. Data and Information Visualization

Non-fiction children's books have occasionally adopted visual elements and graphic representations from specialised disciplines which are traditionally considered objective and reliable. From scientific and technological fields, they have borrowed the use of diagrams, graphs, charts, maps, sections, and other visual conventions for the display of data and information. Despite their low naturalistic modality, these representations might occasionally be perceived as more real than a photograph [7]. Kress and van Leeuwen acknowledge that, although the view of realism as naturalism is predominant in the current context, this coexists with other understandings of what is real. Therefore, the correspondence between the appearance of a representation and reality is not necessarily considered more reliable than that of abstract graphic representations, as these may reveal an essential truth beyond external appearances, the reliability of which might be preferable in certain circles and fields due to their apparent lack of subjectivity [7].

The credibility associated with these conventions might derive from the expectation of an impartial representation of data, but also from their appearance. In comparison with representations in which the hand of

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the creator is more apparent, the visual austerity of diagrams and similar visual conventions seems to allow few possibilities to conceal the creator's dispositions. Expert in informational graphics Edward Tufte advocates for the use of as little ink as possible in their creation, to ensure the representation of only relevant information, hence directing the reader's attention to the data and not to any redundant, distracting or unnecessary graphics or decorations [13]. His definition of graphical excellence as that which '*gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space*' [13, p.51] would suggest that the efficient use of the visual resources and their exclusive focus on the communication of information would hinder any possibilities of misrepresentation and falsehood. This is not to say that these representations cannot be subjected to bias: although informational graphics should aim to communicate the truth, their makers can distort the data and interfere with the reader's attempt to decipher the underlying reality [13, 14]. However, this is no different, as Tufte points out, to the use that can be made of any other means of communication in order to deceive their intended audience [13].

While the reason behind the use of these resources might not be limited to an attempt to convey truthfulness, but also to the effective and clear presentation of data, their presence in children's books is not exempt from the reliability that informational graphics hold in their original contexts. The children's books produced by the Isotype Institute under the Max Parrish Imprint since 1942 made use of a method of visual explanation called ISOTYPE (International System Of Typographic Picture Education), which looked into '*assembling, configuring and disseminating statistical information through pictorial means*' [15, p.345]. Initially devised by Otto Neurath in the context of the Vienna Circle, its development would continue after his death by his wife Marie Neurath, who was responsible, in the span of two decades, for the production of more than eighty children's books. Likely influenced by the positivistic views of the Vienna Circle, Otto Neurath envisioned the use of signs as a way to educate and make knowledge accessible, on the basis that images, unlike words, are devoid of bias: a view he manifested in his slogan '*Worte trennen, Bilder verbinden*' (words separate, pictures unite) [16]. Neurath saw great potential in the universal understanding of pictograms, and showed clear and ambitious ideas concerning the presentation of information for children, as he did for visual education [15]. The preface to the *Teacher's notes* for the Visual Science collection, published between 1950 and 1952, is illustrative of the calculated process behind the design of each of the Isotype images:

> *As you turn the pages of this book, you will notice that it uses more pictures and fewer words than most schoolbooks you have seen. These pictures, called Isotype charts, are not meant to show you exactly how things look but to give you information about them, like a map or an engineer's blueprint. Because they have an unusual job to do they are made in an unusual way. Everything which would not help you understand the meaning, or which would confuse you, is left out. Colours are used only to help make the*

meaning clearer, never simply as decorations. This means that every line and every colour in these pictures has something to tell you. [17]

Although Tufte himself gave little – and negative – attention to the works produced by the Isotype Institute [16], the previous passage creates notable connections with some of his criteria for graphical excellence. After establishing that the purpose of the Isotype charts is to present information, considered by Tufte as a common element across different types of information graphics [13], the excerpt addresses the fact that any superfluous information is left out to avoid confusion in the interpretation of the images. In these representations, even the use of colour is an informational resource, and not a decorative or aesthetic choice. This highly practical conception of the images is consistent with Tufte's argument towards the presentation of the greatest amount of information by the fewest resources, making use of all the components of an image. In this sense, in their conception, the Isotype representations seem to aim for the clarity, precision and efficiency that Tufte's guidelines expected from infographical displays.

Not all the representations of data in children's non-fiction abide by Tufte's principles to the same extent. Although the study of informational graphics is usually associated with that of technical fields, Kress and van Leeuwen see the origin of diagrams not only in technical drawing, but also in abstract art [7]. The perception of abstract shapes as linked to the creative as well as to the technical seems to manifest in *Geo-gráficos* (Geographics) [18], in which artist Regina Giménez illustrates specific data about the universe and Earth exclusively through the use of diagrams and infographic representations, resulting in depictions that oscillate between the precision of informational graphics and the sensibility of geometric art. As opposed to designs produced by the Isotype Institute, the choices of colour in Giménez's work do not have an exclusive informational purpose, and respond to aesthetic decisions. Similarly, the purpose of the representations is not only to display the information as, in some spreads, the use of the abstract-looking conventions creates scenes in which the graphs take the form of their content.

The laxity that the picturebook allows in the representation of informational graphics is particularly noticeable in non-fiction children's books published since the 2010s, in which an intention to present the information clearly and efficiently coexists with the presence of visual elements beyond those essential for the communication of data. *Timeline: A visual history of our world*, by Peter Goes [19] takes the concept of a timeline to turn it into a pictorial interpretation in which the selected historical events are visually merged with each other in detailed illustrations. *Yo y el mundo* (Me and the world) [20] shows the differences in the lives of children from around the globe by collecting information about demography, housing, food, culture or sports, using resources such as maps, pie charts, bar graphs, pictographs, and other infographic representations. However, of all the information visualization methods, perhaps maps are the most frequent in picturebooks, with atlases even constituting a specific subgenre in non-fiction. *Mapy* (Maps) [21], perceived as the work which marked the

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start of a new trend of contemporary non-fiction children's books [22], includes a series of inaccuracies and omissions that could be obscured by an initial sense of reliability associated with maps. Some of them are common to geographical projections, such as the historically Eurocentric tendencies in their representation, or the inaccuracies derived from the impossibility of translating a spheroid into a two-dimensional image [23]. However, others can be interpreted as manifestations of the bias of the creators of the book, such as the choice of the countries to be represented, or the way in which the information is selected and located in relation to the map. Books such as these can be seen as examples of how the expressive potential of the picturebook allows for a degree of flexibility in the representation of information which, in other contexts, could be considered to challenge the reliability of the content.

3.3. Informational Publications and Spaces

3.3.1. Contextual Overview

In conveying or communicating truthfulness, illustrators of children's books have occasionally looked to establish connections, visual or otherwise, with spaces or publications which have historically been associated with the organisation and sharing of information. This has largely involved institutions and publications which originated during the modern era, such as museums, newspapers or encyclopaedias. As products of the Enlightened Europe, these have largely shaped how we organise, disseminate and relate to information and knowledge today. The reproduction of their features in children's books can favour an association with the reliable, as these contexts are generally considered to be relatively trustworthy vehicles of information.

Despite its role in contributing to a more informed society, the Enlightenment is often perceived as the originator of systems of oppression, and so the institutions and publications which developed under its precepts cannot be removed from the politics, power dynamics and ideology inherent to them. Museums seem to have particularly been the focus of criticism, being seen as epitomes of institutionalised imperialistic values, which has led their displays and collections to be subject to revision and re-examination [24]. The attention has not been exclusively placed on them, as informational publications have also been challenged due to the Eurocentrism and bias they have historically presented. Although these institutions and publications have been criticised due to the values they embody and views they perpetuated, their connection to the reliability and authority they were originally conceived to symbolise remains in place, still being perceived as symbols of legitimacy. The potential of establishing connections with these institutions and publications has not escaped the attention of the children's books publishing industry, which has led to the incorporation of some of the features from these contexts into children's non-fiction and, with them, their associated reliability.

3.3.2. Newspapers

Perhaps due to the restrictive nature of its layout, the formal characteristics of the newspaper are not often imitated in children's books and, if they are used, they more commonly appear as an exceptional spread rather than in the entirety of the book, since not many topics might lend themselves to the use of this approach. *Robos de leyenda* (Legendary escapes and jailbreaks) [26] and *Grandes fugas de la historia* (Legendary robberies that made history) [27] appear to be an exception to that. These two books compile, in the form of an anthology, newsworthy stories referring to historically notorious escapes and thefts. The books echo the distribution of the information in newspapers through the use of columns, clearly defined headlines and decks, cut lines, and even mastheads. Kress and van Leeuwen consider that the credibility of newspapers '*rests on the belief that photographs do not lie and that 'reports' are more reliable than 'stories'*' [7, p. 149] and, although the images in the book are not photographs nor photorealistic images, they seem to include features reminiscent of the medium. The limited colour palette and textures present in the illustrations are evocative of the restrictive colour range and use of half-tone characteristic of photographs of old. This creates a visual connection with the images that would have been in the front pages of the newspapers which originally featured the events collected in these children's books. In combination with the use of the newspaper layout, the approach to this book does not only confer a sense of credibility to the information depicted, but is also thematically appropriate.

3.3.3. Dictionaries

The presence of illustrated dictionaries in children's books and in the literature surrounding them is scarce [28], as it would appear their function as a language learning instrument has been largely assimilated by books of a similar nature, such as concept or ABC books. Although there is variety in the types of illustrated dictionaries we can find, the characteristics and appearance they present as children's books are not dissimilar from those manifest in their adult counterparts, in both cases using visual and textual resources for the representation, definition, and, occasionally, exemplification of a series of headwords in one or more languages. As dictionaries, their purpose to present lexical information has surrounded them with an aura of authority and objectivity, despite the subjective and culturally biased perspective through which the representation of language is commonly tackled [29]. There is often, however, an intention to reinforce their objectivity, which can manifest in the visual approach adopted. Although dictionaries may present illustrated scenes in which a series of headwords are collectively depicted into the same image, it is not uncommon to represent the concepts individually, removing the background or setting completely and leaving only the main element. Kress and van Leeuwen [7] see in the omission of a setting a compromise with the truthfulness of the image within a naturalistic coding orientation, as this would lower its modality. However, in isolating the image from its context, the illustration can be perceived as prototypical and generic, making this an ideal resource

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for the exemplification required in books such as a these.

Portuguese publisher Pato Lógico released a series of thematic dictionaries, including *Mar* (Ocean) [30], *Teatro* (Theatre) [31] and *Dança* (Dancing) [32], under the collection Atividários – 'actividaries', a *portmanteau* of 'activities' and 'dictionary'. Aside from fulfilling the traditional role of a dictionary, these books include practical activities for the reader to carry out on their own, or in a family or school contexts [33]. The introduction of activities takes the dictionary beyond its original function, leading the reader to actively engage with the content. In addition to this, the definition of the different entries, not limited to the lexical, facilitates the establishment of connections with broader areas of knowledge. The images, which depict a series of highlighted headwords per spread, constitute prototypical examples of that which they illustrate through the removal of a background, while finding a balance between the creative expression of the illustrator, and the visual requirements of the genre.

3.3.4. Encyclopaedias

The incorporation of visual characteristics associated with encyclopaedias, whether this refers to the approach to images or to the layout, appears to be one of the most prominent ways of introducing features from informational contexts into non-fiction children's books. The way in which this is done is not dissimilar from that of dictionaries, probably due to the similarity of their purposes, with dictionaries presenting information about language, and encyclopaedias about the world [28]. Kress and van Leeuwen concisely summarise some of the visual characteristics that appear in classificational representations, claiming that the elements '*are often shown in a more or less objective, decontextualized way. The background is plain and neutral. Depth is reduced or absent. The angle is frontal and objective. Frequently there are words inside the picture space*' [7, p.77].

The European encyclopaedic tradition is abundant and, as such, has manifested differently in contemporary children's books. This means that, apart from incorporating the aforementioned characteristics in their images, some have looked to recover the aesthetic approach associated with the first encyclopaedias. *In Paisajes perdidos de la Tierra* (translated as How Life on Earth Began in the English edition) [34], illustrator Aina Bestard sought to imitate the visual appearance of early illustrated plates on palaeontology, paying homage to the artistic works used for educational purposes in the 19th century, as it is indicated in the book's original afterword. This approach to image-making manifests in the black and white illustrations of fossils that appear throughout the book, which adhere to the notions presented by Kress and van Leeuwen [7], but also in the full-colour panoramic images, which constitute the most conspicuous connection with the plates Bestard is referencing. The use of lines, dots and textural pattern in her mark-making seems to respond to an attempt to imitate the characteristics and qualities of early lithographs of scientific subjects. This enhances the connection to early encyclopaedias and the credibility associated with them not only through the layout, but through the defining features of the medium used to create their original images.

3.3.5. Museums

Museums share with encyclopaedias an enthusiasm for learning and instruction, with the mandate to '*collect, display, preserve and teach*' being present in both [35, p.114]. The similarity of these purposes with those of the non-fiction book, and the connection the museum as an institution holds with education [24, 25], has led them to be visually referenced in informational children's books.

The inspiration drawn from museums can result in a literal depiction of the inside of a building, as it is the case of *Animo Museum* (Animal museum) [36], which shows the different rooms of a natural history museum, including its visitors and personnel. However, the museum has most notably been used as a means to structure and organise the information inside the book. Big Picture Press has focused on the development of a series of non-fiction children's books under the title *Welcome to the Museum*. This best-selling collection tackles different disciplines, such as botany, history, astronomy, anatomy, or palaeontology, with currently nine titles conforming it. In this series, rather than providing a literal depiction of the space, the book becomes a metaphor of the museum as a physical location, with a narrator welcoming the reader and encouraging them to '*wander through the pages*', '*pause to inspect each exhibit carefully*' and to '*tour its galleries*' [37]. Although the collection is thought of as a museum, with each title conceived as a gallery, the visual strategies employed are similar to those present in books with encyclopaedic approaches. While most of the titles are illustrated by different artists, the stylistic approach across the books is reminiscent of early scientific illustrations and vintage taxonomical plates, with some spreads showing structures which could be identified with museum displays. To reinforce the connection with the museum, the titles include divider pages to separate their different sections, translating the spatiality of the museum into the book form, thus establishing connections with the physicality and organisation of information from these spaces.

4. Conclusions

Reliability can be visually expressed in non-fiction children's books through the use of conventions typically associated with the real and the true. Using naturalistic representations, introducing data visualisation methods, or borrowing stylistic and design elements from informational spaces and publications are resources which can be perceived to enhance the reliability of the presented information in the genre. The use of strategies which highlight the credibility of the content, alongside a manifest presence of the illustrator's voice in the visual representations, accentuates the singularity of children's non-fiction as both a creative and an informational form.

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O papel da ilustração botânica na etnobotânica - as plantas bravias do Vale do Côa

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[Ilustração / Illustration]

Abstract

Scientific illustration allows communicating science faithfully, not neglecting the aesthetic sense. Its potential can play an important role supporting the community, acting as a vehicle for transmitting scientific knowledge to the population and promoting their participation and involvement in science. Botanic illustration makes possible understanding the anatomy and morphology of plant species, given is capacity for synthesis and interpretation. Beyond its descriptive function of new species, it also allows the review of known groups and the creation of catalogues for species identification. However, it faces some challenges, like to enlighten some plants species to which we do not always give the deserved attention. The principal purpose presented here is to present the work developed for the creation of an herbarium book of the wild plants that can be found in Vale do Côa. Its pages are filled with detailed botanic illustrations that can captivate and elucidate the public about their medicinal, food and cultural value, while aiming at the preservation and enhancement of these species.

1. Introdução

A presente ação foi desenvolvida e faz parte de uma estratégia de concertação de interesses centrados na divulgação dos recursos botânicos regionais do Vale do Côa. É dirigida às populações locais no sentido de as sensibilizar e tornar mais permeáveis à necessidade de determinados recursos naturais estarem sob medidas de proteção ou conservação. Foi materializada na edição de um livro-herbário que tem como objetivo maior, mostrar 22 plantas bravias de entre 500 espécies diferentes que foram inventariadas durante o projeto CoaMed Plants, sob direção da Drª Célia Cabral (Univ. de Coimbra). "O meu Herbário de Plantas Medicinais do Vale do Côa" é um livro profusamente ilustrado, em que em cada plano de duas páginas apresenta um arquétipo de uma espécie da flora do Vale do Côa, ao pormenor (hábito, folhas, ramo vegetativo, florífero e frutífero, com sementes), com recurso ao poder documental e estético das estampas botânicas, cientificamente rigorosas e corretas. Os destinatários desta obra enquadram-se dentro de público de não-especialistas, cosmopolitas (edição em português e inglês), que, muito provavelmente, estarão

familiarizados com algumas das espécies mais emblemáticas, identifican-do-as rapidamente no campo, muito embora e para várias outras terá de se socorrer deste mini-guia botânico para chegar à identificação correta da espécie. É o caso das giestas ou das cenouras-bravas, que morfologica-mente são muito parecidas, e onde o livro funciona como precioso auxiliar nessa destrinça, ao reunir todas as pistas visuais, não só para espicaçar a curiosidade e para a descoberta, como também para promover a correta diagnose e identificação daquele organismo. Por fim, além de poder servir como guia botânico, ensina também como fazer um herbário de plantas conservadas por secagem e como etiquetar essas testemunhas reais da es-pécie — procedimento similar aos protocolos de inventariação realizados por especialistas botânicos. Desta forma, cultiva-se o saber popular, o sa-ber e práticas científicas, promovendo em simultâneo a cultura e literacia científica, bem como a defesa dos valores e recursos endógenos através do cultivo de atitudes e comportamento de identificação, advindos de um sentido de apropriação (promotores de maiores valores de defesa incidente sobre o que identificamos implicitamente como nossa pertença, mesmo que virtualmente).

A ilustração científica (IC), enquanto área do conhecimento humano que surge da conciliação entre Ciência e Arte, se bem que subordina-da à primeira, é uma ferramenta essencial e de enorme potencial na divulgação do conhecimento científico. O principal objetivo centra-se na Comunicação de Ciência através da imagem desenhada/pintada, isto é, transmitir, com rigor e de forma simples e intuitiva, o trabalho de investigadores e os inúmeros conceitos e processos científicos complexos relacionados com a natureza, através da imagem adaptada a diferentes públicos-alvo (desde especialistas a não-especialistas). É, portanto, uma ferramenta fidedigna e de grande utilidade no processo de aprendiza-gem e/ou investigação. O produto final resultante do processo de ilustrar ciência, tornando-a visual, deverá ser fácil de compreender por si só - e transcender qualquer fronteira cultural ou linguística [5].

> "...a ilustração científica é assim um modelo de comunicação, capaz de narrar a complexidade da vida selvagem (biológica), geológica ou humana (antropológica), através da imagem desenhada: clarificando, complemen-tando e suplementando o discurso científico descritivo/discursivo (oral ou escrito)." [9].

Correia [6] define a IC como materialização gráfica de um conjunto de ideias que traduzem a forma como a ciência compreende o mundo natu-ral, e que são válidas à altura em que são realizadas. É, pois, um recurso imagético construído que permite uma melhor visualização entre o orga-nismo extante (contemporâneo) e o extinto, e a descoberta de estruturas que são, normalmente, de difícil compreensão [18] ou invisíveis (inferidos por observação direta, na dimensão microscópica, ou indireta, na dimen-são submicroscópica, como sejam as estruturas celulares, moleculares ou atómicas). Para que uma ilustração possa ser considerada científica é importante que tenha um compromisso absoluto com a honestidade e a

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veracidade das informações científicas atualizadas à data - todos os detalhes devem ser observados, medidos e contextualizados [16].

Categorização das ilustrações científicas

Divide-se por várias categorias, cada uma com as suas regras e especificidades, de entre as quais se destacam a ilustração zoológica, botânica, médica, paleontológica, entre outras, sendo que dentro de cada uma destas áreas é possível encontrar outras ramificações. Em suma, tudo o que pode ser objeto de um estudo científico [3].

Podemos classificar a IC como uma atividade investigativa, a qual requer domínio de técnicas, acuidade visual e conhecimento científico. O papel do ilustrador científico deverá passar por realizar uma revisão sistemática da informação ao dispor, criação de uma hipótese gráfica que responda ao problema/necessidade apresentados, primar por criar um equilíbrio entre rigor, correção e honestidade científicas e a estética a imprimir para que a imagem seja apelativa e impactante, capaz de prender a atenção do observador e conduzir a leitura para que a mensagem codificada da imagem seja facilmente interpretada, compreendida, assimilada e memorizada pela audiência à qual se dirige [5].

Podem ser distinguidas três tipologias de ilustrações cientificas: i) os desenhos descritivos, que reúnem em si o máximo de informação pertinente, como são exemplo as ilustrações taxonómicas (em que o ilustrador pode ter apoio de um investigador ou ser ele próprio ser o cientista); ii) os desenhos interpretativos que têm como função interpretar ideias e que, portanto, necessitam que o ilustrador tenha formação em ciência, para interpretar corretamente a ideia e convertê-la em objeto gráfico simplificado, sem descontextualizar; iii) e por último os desenhos imaginativos que fazem mais uso da criatividade, alguns sendo metáforas, mas que não existem no mundo físico ou se visualizam diretamente como sejam os gráficos de dados, os átomos e moléculas [8].

A ilustração científica e o modelo representativo - o arquétipo

Numa figuração ilustrada de um organismo, o objetivo será demonstrar uma realidade que vai para além da que é obtida através de uma fotografia (apresentação daquele indivíduo singular, naquele espaço e naquele tempo precisos), isto é, pretende "representar" aquele individuo numa forma "ideal" [5]. Essa representação, enquanto modelo que reúne e sintetiza informação científica em imagem, vai reunir em si todas as características taxonómicas que o tipifiquem e, no conjunto, facilitem a sua identificação direta com o conceito de espécie – o chamado arquétipo. Neste sentido para ilustrarmos a realidade, recorre-se à padronização de um modelo que apesar de comparável à realidade, é uma criação "artificial", mas com sentido e significado [5]. A imagem criada, mesmo que estática, tem a capacidade de conduzir o leitor sobre uma direção de leitura ou sequência, recorrendo à retórica visual imposta através de uma sucessão de eventos, estrategicamente ordenados, fazendo uso de regras de composição que no conjunto, constituem uma unidade didática capaz de impulsar o crescimento ou consolidar e memorizar a aquisição de conhecimento [8].

2. Ilustração botânica

De entre as diversas áreas sobre as quais a IC incide e se multiplica, a ilustração botânica, contribui para a divulgação de conhecimentos científicos relacionados com a flora em geral [18]. O seu valor assenta na criação de uma consciência sobre as plantas como organismos vivos, e da importância da sua diversidade no equilíbrio ecológico com os restantes seres vivos de uma comunidade e/ou ecossistema, bem como dos serviços por eles prestados. Esta é uma forma de representar a natureza e, ao demonstrar a sua singularidade utilitária e estética, contribuir para a sua preservação em ações de conservação e proteção, promovendo o respeito pelo meio ambiente e a responsabilidade socioambiental [18], em campanhas estruturantes de sensibilização e/ou consciencialização.

Este tipo de ilustração surgiu da necessidade de reconhecer espécies de plantas ditas "úteis", permitindo a sua identificação e das suas propriedades medicinais, alimentares ou mesmo culturais para o Homem. Essa motivação para criar repositórios de memória deu início à documentação das plantas e dos seus usos, tendo assumindo grande importância na época das grandes explorações europeias e expedições científicas, que trouxeram a descoberta de novas espécies, cujas descrições eram complementadas pela ilustração [4].

De facto, estas ilustrações estimulam a consolidação do conhecimento intrínseco sobre os "seres verdes", uma vez que autores como James Wandersee [19] reconhecem a botânica como uma área pouco atrativa e sobre a qual a sociedade no geral tem pouco conhecimento, em comparação com o estudo sobre os animais. Wandersee denomina este fenómeno de "cegueira botânica" que define como *incapacidade de alguém ver ou reparar em plantas no ambiente que o rodeia, o que conduz a: (a) incapacidade de reconhecer a importância das plantas na biosfera e nos assuntos humanos; (b) incapacidade para apreciar as características biológicas, estéticas e únicas das formas de vida pertencentes ao reino vegetal; (c) a classificação antropogénica incorreta de que as plantas são inferiores aos animais, levando à conclusão errónea que não são dignas de consideração humana.*" [19].

Ainda segundo este autor, esta dificuldade generalizada em criar uma empatia duradoura com as plantas, ao contrário do que acontece com espécies animais, deve-se principalmente a um conjunto de fatores relacionados com a perceção e cognição visual humana. Destacam-se a inabilidade de reparar nas plantas no ecossistema por falta de conhecimento sobre as mesmas. No geral, teoriza que as pessoas tendem a saber menos sobre plantas do que sobre animais e que apenas conseguimos reconhecer visualmente aquilo que possui significado para nós; também a falta de elementos preponderantes como a presença de flor, o facto de as folhas serem mais discretas ou existir homogeneidade cromática e espacial contribui para que passem mais despercebidas; o facto de as populações de plantas crescerem normalmente na proximidade umas das outras, o que pode levar ao agrupamento de diferentes espécies, apelidando-as simplesmente de plantas; devido ao facto de serem autotróficos imóveis, ocupam menos espaço, tempo e pistas visuais como cores para se destacarem aos olhos dos humanos; mais ainda, os humanos tendem a

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não percecionar as plantas como seres potencialmente perigosos, dado o hábito visual e a sua familiaridade a nossa atenção consciente é diminuída perante as mesmas, o que pode contribuir para a falta de atenção a possíveis perigos que estas possam constituir [19].

Mais recentemente, Parsley [14], [15] defende, perante a teoria de Wantersee, que o termo "cegueira botânica" pode ter uma conotação negativa ao ser associado a uma incapacidade (neste caso a cegueira), considerando que incapacidade de ver não poderá ser a mesma coisa que falta de atenção perante as plantas. Posto isto propõe que o termo seja atualizado para "disparidade de conhecimento vegetal" que, defende, é mais preciso e inclusivo, mantendo o conceito que deu origem ao termo original [14], [15]. Parsley [14] afirma que este novo conceito permite enfatizar que as plantas não são de facto completamente invisíveis, mas sim colocadas em segundo plano quando comparadas com outros organismos com mobilidade e capacidades de expressão (vocal, gestual ou outra) ou até comportamental, como os animais.

Esta disparidade de níveis de atenção também acontece entre diferentes espécies de plantas. Por exemplo, no grupo de plantas que foram selecionadas para representar neste trabalho, existem espécies que, ao contrário das giestas e cenouras-bravas referidas anteriormente, quando vistas em visitas de campo, parecem visualmente menos interessantes (ou porque estão sequiosas ou foram parcialmente comidas por herbívoros selvagens, como coelhos ou cavalos selvagens, ou domesticados pelas artes da pastorícia, como cabras; ou porque a altura do ano não é propícia à floração ou frutificação), são, contudo, alavancadas pelas outras mais vistosas e impactantes — suscitando desafios de redescoberta, aprendendo a olhar para elas com outros olhos de ver (observar e analisar), ou até pertinentes considerações: — não sendo esta esteticamente tão interessante porque foi escolhida? Em que é que se destaca? Tem algum uso importante para além de poder agradar à vista? Parece assim evidente que para combater a disparidade de consciencialização entre grupos e espécies diferentes é preciso um maior grau de estratégias cumulativas para garantir esse enfoque e atenção e até alteração de atitude. Estas passam pelo procurar e uso de fatores promotores de empatia, sejam eles de ordem consciente ou subliminar, o que desemboca em processos de reeducação e/ou novas vias de promoção das entidades fotossintéticas, procurando o cultivo do fascínio e a descoberta do maravilhoso, sem nunca abandonar o trilho da objetividade científica. A IC, tem dado mostras que encerra em si todo um potencial capaz de contribuir para alavancar esse desígnio e novo paradigma atencional.

3. Execução de uma estampa botânica

Quando se inicia um trabalho de IC, antes de mais, é necessário obter uma contextualização informativa, coletando e sistematizando o máximo de informação fidedigna. É importante seriar as características com valor de diagnóstico, capazes de contribuir para a diagnose específica que confere a sua identidade. Esta informação basilar permite compreender

melhor a planta, o seu hábito, a sua estrutura e seus diferentes órgãos. Permitirá também reconhecer quando uma determinada planta possui caraterísticas que não são típicas e que, por isso, poderá não ser representativa da sua espécie [13]. É importante compreender também, através da observação direta ou indireta, as formas das suas estruturas, os tipos de caule, a disposição das folhas e a variedade das flores.

De acordo com a convenção generalizada e protocolada para uma aproximação consolidada à espécie, respeita-se uma ordem lógica: começar das estruturas maiores para as mais pequenas; das estruturas basais para as apicais; das estruturas externas para as internas; das estruturas vegetativas para as estruturas reprodutivas [12] garantindo assim que todos os detalhes serão analisados e considerados.

Para a criação de uma ilustração botânica (IB), o material de referência, resume-se a três tipos: i) material fresco (o mais indicado para obter uma melhor noção da tridimensionalidade da planta, assim como da cor de cada estrutura observados numa planta com vida; ii) o material de herbário prensado e seco, onde não se observam as anteriores características, mas é bastante útil para procurar analogias com a informação taxonómica já documentada, permitindo comparação e o estudo de estruturas diminutas com acesso a instrumentos de ampliação; iii) as amostras em preparação para microscopia ótica de transmissão, que serão mais indicadas quando é necessária a representação de aspetos histológicos [12]. O ilustrador também pode recorrer a imagens, criteriosamente selecionadas e bem identificadas, para compreensão de detalhes, aferir padrões de cores em isolados geográficos, etc.

Na representação gráfica, desde a década de 90 do século XX, que é cada vez mais usual recorrer-se a técnicas digitais, que, para além de possibilitarem criações policromáticas ou a uma só cor, possuem a mais valia de serem editáveis (possibilitando a criação de morfo-tipos; de subespécies a partir de uma espécie-tipo (por adições e/ou subtração de detalhes, ou ainda ligeiras distorções conformacionais, correções ou alterações de cor, textura ou padrões), sem danificar o trabalho durante o processo [7]. Permitem também que se repita e manipule elementos que sejam semelhantes numa estrutura, o que pode agilizar bastante o trabalho. A flexibilidade das técnicas digitais permite continuar a explorar novas ideias através da edição [7].

Seja qual for a técnica escolhida, e concluída a arte final, o último passo consiste em procurar a validação de um especialista da área.

4. Estudos de caso – metodologia e método

De entre as várias IB realizadas para o livro "O meu Herbário de Plantas Medicinais do Vale do Côa", seguiram-se todas as convenções e trâmites acima enunciados. Sendo que é uma obra cujo parque imagético é de natureza coletiva (feito por uma equipa de ilustradores, sob supervisão de F. Correia), foi necessário: i) criar um vocabulário e sintaxe/gramática visual comum a todas as estampas botânicas, para garantir a homogeneidade, consistência e coerência de todas as estampas e sua formatação/composição; ii) criar e sustentar uma imagem identitária para caracterizar aquela

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obra em particular e garantir que o público-alvo as possa interpretar e descodificar sem deturpações de entendimento, de forma clara e concisa [16], facilitando comparações sempre que necessário entre a planta (hábito) e suas parte ou órgãos.

Pelas facilidades relatadas a escolha da técnica recaiu sobre as técnicas digitais.

Após aprovação do esboço é possível passar para a arte final na técnica escolhida, garantindo que, quaisquer alterações que sejam necessárias após o desenho final ser concluído, sejam inexistentes ou minimizadas ao máximo. O protocolo de execução seguido é uma adaptação linear do método descrito por Barrocas e Correia [2] e [7].

Quaisquer das ilustrações que compõe a IB deve estar indexada a uma escala métrica (essencial para que o observador final possa ter noção do tamanho real da planta e suas estruturas) [12].

Dada a impossibilidade de observar espécies vivas, *in situ*, as referências utilizadas foram essencialmente fotografias, recolhidas e facultadas pelo biólogo que acompanhou o projeto, assim como referências já existentes na Flora Ibérica. A metodologia seguida permite imprimir uma ordem lógica na investigação e desenvolvimento da imagem: das estruturas maiores e mais basais para as mais pequenas e apicais, das estruturas vegetativas para as reprodutivas.

O posicionamento do hábito e restantes estruturas da planta, foi pensado para traduzir o maior número de características diagnósticas da espécie, em equilíbrio com uma estética que a enfatize [10].

A composição dos diferentes elementos deve ser ponderada por forma a utilizar os valores tonais das cores, as sombras próprias e luzes incidentes, as texturas e curvaturas naturais para induzir a ordem e linha condutora de leitura para que esta imagem muda possa narrar o conhecimento científico que se quer transmitir. Não sendo uma regra rígida, geralmente e se a estampa ocupa uma única página, o hábito é centralizado e no bloco mais à esquerda coloca-se o ramo vegetativo e no bloco mais à direita, de cima para baixo, os elementos floríferos e os frutos/sementes, etc.. Se em dupla página, o hábito troca com o ramo vegetativo assumindo a posição mais à esquerda.

4.1. Azedas-das-paredes (*Rumex induratus*)

Esta é uma espécie herbácea, perene e de caules nodosos, com flores hermafroditas e muito ramificada [11]. As folhas foram dispostas para se perceber a variabilidade no recorte foliar e pelo menos uma evidência a face inferior (denotando diferenças em valores tonais entre as duas superfícies foliares). Como estratégia para a tornar esta IB esteticamente mais atrativa e visualmente enfática, optou-se por uma abordagem cumulativa em termos fenológicos, que ocorre na natureza embora seja pouco comum. Numa só planta é apresentado todo o seu ciclo de vida recorrendo a diferentes ramificações (Fig. 2), cada qual com várias fases da flor e fruto (as estruturas numa fase mais imatura ocupam posições mais apicais e as mais maduras (o fruto já seco e com a semente saliente, por exemplo), situuaram-se nas zonas mais basais dos ramos.

4.2. Estudo de caso presentativo - as cenouras

Outras duas espécies selecionadas para serem retratadas na obra já editada pela Imprensa da Universidade de Coimbra foram, a Cenoura-brava e Cenoura-de-folhas-miúdas, respetivamente *Daucus carota* e *Daucus crinitus*. Pertencentes à mesma família caracterizam-se por possuir hastes eretas e ascendestes, glabras, ramificadas desde a base e com flores basais penatissetas. Ambas apresentam flores normalmente brancas, com diferentes tipologias e reunidas em umbelas, que dão origem a frutos ovais e longos com algumas fileiras de espinhos [17]. Morfologicamente, ambas são bastante semelhantes, mas existem diferenças claras que permitem diferenciar estas espécies e era preciso demonstrar: i) as folhas da *D. crinitus* possuem segmentos sésseis, ao contrário da outra (Fig. 3); ii) as umbelas de ambas são bastante pedunculadas, no entanto existem duas diferenças que nos permitem distingui-las; iii) na *D. carota* existe uma flor de cor purpura (Fig. 4) que se encontra no centro da umbela e que é estéril (inexistente na *D. crinitus)*; iv) o próprio formato da umbela, exibe uma forma mais concava na *D. carota*, enquanto na *D. crinitus* assume uma forma convexa ou plana, que se mantém na fase da frutificação (contrário da *D. carota* que se contrai) (Fig. 5); v) uma outra diferença reside nos frutos (mericarpos), com cinco fiadas de espinhos menos numerosos e mais grossos que exibidos nos mericarpos de *D. crinitus* (Fig. 6).

Mais uma vez era importante demonstrar o ciclo de vida através da floração e frutificação nestas espécies, reunindo as diferentes fases numa mesma estrutura para o qual se optou por criar um hábito com três ramificações (Fig. 3), no sentido basal para apical, correspondentes à fase mais imatura e com as flores ainda em botão, seguido da fase com as flores abertas, mas não fecundadas e ainda uma última fase, pós fecundação, já com fruto formado.

5. Conclusão

Uma ilustração científica deverá informar como também induzir uma influência positiva nas decisões e atitudes, principalmente quando em causa estão matérias sensíveis como a conservação e proteção de recursos endógenos de um património natural peculiar - a flora do Vale do Côa.

Neste caso e dado o sucesso obtido com base na receção entusiástica da obra editada, assente numa profusão e diversidade de IB, pressupõe que estas desempenham um papel importante na divulgação científica desta espécie de projetos. Acumular ainda a função de promotora da literacia e culturas científicas para com pessoas que não sendo cientistas, doravante se sintam mais motivadas em envolver em ações com raiz nas

Fig 1. Evolução ao longo do tempo, do botão florífero ao aquénio trigono, rodeado por três valvas membranosas e já seco, passando pelo ovário já fecundado e sem estames e anteras.

Fig 2. Hábito de azeda--das-paredes (Rumex induratus), planta com valor condimentar.

Fig 3. Hábito de cenoura-brava (Daucus carota).

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ciências naturais. Simultaneamente tornou mais visíveis certos elementos da natureza aos quais nem sempre prestamos tanta atenção e é mais um contributo positivo de combate à cegueira botânica. Em síntese, a IB pode funcionar como ferramenta essencial para aproximar comunidades com diferentes conhecimentos, sejam elas especialistas ou não [1] e facilitar a aquisição de novos conhecimentos que permitirão alimentar, de forma profícua e informada, a discussão sobre temas importantes para a sociedade e bem-estar humano e animal, ou ainda o progresso científico e a medicina.

Fig. 4. Tipos de flores presentes nas umbelas de D. carota. (a. flor central estéril; b. botão de flor; c. flor interior da umbela; d. e e. flor estéril do interior da umbela; f. e g. flor do exterior da umbela).

Fig. 5. Evolução das umbelas ao longo do tempo, do botão florífero aos mericarpos dispostos para facilitar analises comparativas entre D. carota (à esquerda) e D. crinitus (à direita).

Fig. 6. Evolução do mericarpo da D. crinitus.

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A possibilidade da superação do preconceito contra o imigrante japonês e seus descendentes no Brasil por meio do design de personagem – Akemi, em Olho Puxadinho

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[Ilustração / Illustration]

Abstract

This article aims to discuss the potential influence that character design has on public opinion, by studying the case of Japanese immigration in Brazil. From the first political cartoons of the first half of the 20th century, which were openly derogatory, to more contemporary representations with more sophisticated sign strategies, tinged with humor, but still stigmatizing. In contrast, with the work of designer and illustrator Erika Mitie Nakamura, and her character Akemi, who seeks to show, with truth and sweetness, how much it hurts to suffer prejudice because of one's ethnicity and appearance.

1. Introdução

Este artigo é o desdobramento, 4 anos mais tarde, do Trabalho de Conclusão de Curso intitulado "Olho Puxadinho" [1], da designer e ilustradora Erika Mitie Nakamura. Mesmo após esse intervalo, infelizmente, o tema tratado pelo livro continua atual e coloca luz sobre um aspecto da sociedade brasileira muitas vezes encoberto, o do preconceito racial, mais especificamente aquele que se manifesta como "racismo recreativo" [2] contra os imigrantes japoneses e seus descendentes no Brasil.

No exíguo espaço deste artigo, fruto de uma pesquisa de natureza qualitativa, exploratória, por meio de revisão bibliográfica e pesquisa documental do quadro teórico composto por autores como Santaella (2012); Moreira (2019); Takeuchi (2008); Sakurai (2008); Mori (2021); Lesser (2008); Souza (2017); Miliacava (2008); Haslam (2007) além de entrevista semiestruturada com a autora e designer da personagem protagonista, buscou-se mostrar o poder político da imagem e como o design de personagem pode contribuir, ainda que singelamente, para reversão de uma situação de preconceito racial, ao menos das gerações futuras, haja vista tratar-se de um livro voltado para o público infantil.

O artigo se divide em duas partes principais sendo a primeira, de caráter historicista, que busca resgatar registros históricos acerca das reais reações de determinados estratos da sociedade brasileira em relação à imigração japonesa ao Brasil e a estratégia empregada para se construir uma imagem pejorativa e fomentar um sentimento antinipônico nos de-

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mais setores da sociedade brasileira, baseada fortemente pela veiculação de charges políticas e, na segunda parte, o relato de uma tentativa contemporânea de se educar para quiçá, contribuir para reverter este quadro.

Em síntese, espera-se que o resgate histórico resulte em maior compreensão acerca desta situação na atualidade e as reflexões geradas possam resultar em uma tomada de consciência dos designers e ilustradores sobre o potencial transformador de seus trabalhos na sociedade.

2. O design de personagem como um fator causador e reparador de estigmas e preconceito racial

A chegada dos primeiros imigrantes japoneses no Brasil em 18 de junho de 1908, trazidos pelo navio Kasato Maru que primeiramente aportou na cidade de Santos, no Estado de São Paulo, marca o início da imigração japonesa ao país. Durante os próximos anos novas colônias se formaram em assentamentos ou terras adquiridas em cidades principalmente dos Estados de São Paulo, Minas Gerais, Paraná e Pará [3].

Entretanto, para alguns proeminentes membros dos meios político, militar e acadêmico a presença nipônica não era bem-vinda. Pode se admitir que essa aversão se deu, em parte, pela diferença de aparência física e costumes dos japoneses, longe do ideal do homem branco europeu, em parte pela política imperialista do Japão, na Ásia [4].

Durante os anos da Segunda Guerra Mundial, os imigrantes japoneses (assim como os imigrantes alemães e italianos) sofreram severas restrições por parte do governo brasileiro com a limitação de atividades culturais, proibição da circulação de periódicos em língua japonesa, fechamento de escolas e até confisco de bens.

Entre os anos 1920 e 1940 o discurso antinipônico ressoava principalmente em algumas instâncias da sociedade brasileira contudo, para que esse sentimento xenofóbico atingisse outras camadas da população era necessário que a imprensa lançasse mão de meios mais eficazes, que personificasse esse inimigo e o estigmatizasse ao exagerar em determinadas características físicas, ridicularizar seus costumes e imputar intenções irreais para configurar a opinião pública – as charges políticas [5].

2.1 A imagem como elemento de estigmatização de uma etnia

A linguagem não-verbal, tida aqui como ilustração de personagens, tem um alto poder comunicacional por se tratar de uma forma mais instantânea e holística de percepção que requer processos cognitivos mais acessíveis e universais em sua interpretação, ao se comparar com a linguagem verbal. Ademais, as ilustrações de personagens, por sua potencialidade de síntese, têm o poder de comunicar valores e expressar emoções de modo bastante eficiente.

> [...] Na elaboração de informações imagéticas, domina o lobo cerebral direito, que é a instância responsável pela elaboração das emoções [...] do mesmo modo, a capacidade de memória varia no contexto de informações imagéticas ou linguísticas. As imagens são recebidas mais rapidamente do que os textos, elas possuem um maior valor de atenção, e sua informação permanece durante mais tempo no cérebro [6].

A POSSIBILIDADE DA SUPERAÇÃO DO PRECONCEITO CONTRA O IMIGRANTE JAPONÊS E SEUS DESCENDENTES NO BRASIL POR MEIO DO DESIGN DE PERSONAGEM – AKEMI, EM OLHO PUXADINHO   **339**

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Essas charges políticas podem ser vistas nas reproduções a seguir. A primeira, publicada no jornal Folha da Noite, de 1945, de autoria do cartunista e chargista paulistano Benedito Carneiro Bastos Barreto, o Belmonte que retrata o imperador Hiroito vestido de gueixa com suásticas em suas vestes, em situação de queixa diante de Franklin Roosevelt que empunha um punhal [₄]. A segunda, capa do livro: A ofensiva japonesa no Brasil, de 1942, [₅] que ilustra personagens japoneses distorcidos com expressões que podem ser tidas como amedrontadas, dissimuladas, lascivas ou desesperançadas. À direita, a terceira ilustração, publicada na revista Careta [₄], em 28 de outubro de 1944, intitulada "Não Adianta", do cartunista Djalma Pires Ferreira, conhecido pelo pseudônimo Théo, que compara, verbal e imageticamente, um soldado japonês a um macaco.

Fig. 1. Representações estigmatizadoras da etnia japonesa.

Essas representações imagéticas, carregadas de conotações pejorativas, transferiam para o japonês do cotidiano esses estigmas e contribuíram para a construção de uma imagem negativa. Segundo a historiadora Marcia Yumi Takeuchi:

> A imagem de símio era repercutida entre os japoneses no Brasil, sendo comuns relatos de imigrantes que se queixavam de ser ofendidos nas ruas, especialmente no período da Segunda Guerra Mundial, com epítetos, para os homens, de "cara de macaco", e de "pata de vaca", para as mulheres, por elas utilizarem os tamancos tradicionais que separavam o polegar do pé dos demais dedos [4].

O período pós Segunda Guerra Mundial é marcado por uma fase de integração social e ascensão econômica dos imigrantes japoneses e seus descendentes no Brasil, momento em que ingressam nas Universidades, no mercado de trabalho, na política, nas artes e cultura. Atualmente, há mais de 114 anos da imigração japonesa, segundo dados da Embaixada do Japão no Brasil estima-se que há mais de dois milhões de japoneses e descendentes, o que configura a maior população de origem japonesa a viver fora do Japão [7].

Contemporaneamente, a situação desta parcela significativa da população está longe de estar harmonizada. Robson Hideki Mori sugere que a condição dos nipo-brasileiros no contexto das relações étnico-ra-

Fig. 2. Representações estigmatizadoras da etnia japonesa.

ciais é ambígua: ora são vistos como "brancos", quando suas características "positivas" como trabalhadores, estudiosos, responsáveis, confiáveis são ressaltadas, ora como "não-brancos" quando são vítimas de diversos tipos de racismo, como o racismo recreativo, termo cunhado pelo jurista Adilson Moreira em 2018 em livro com o mesmo nome, por meio de piadas com características fenotípicas e trocadilhos com nomes próprios, por exemplo. A esta condição pendular, o autor denomina de etnicidade fluida [8].

Apesar do avanço do nível de consciência da sociedade atual sobre o tema do preconceito racial, ainda é comum representações [10] pejorativas, embora amenizadas com toques de humor, como pode ser visto na imagem a seguir que ilustra campanha publicitária da marca de eletroeletrônicos Semp Toshiba, de 2004, cujo mote era "Fingir ser japonês é fácil. Difícil é fazer um computador com tanta tecnologia" no qual as vestimentas, trejeitos e características fenotípicas eram tratadas com humor depreciativo e estigmatizador.

Imagens como estas reforçam os estereótipos estigmatizadores da população japonesa e seus descendentes, ao inculcar na mentalidade brasileira uma percepção distorcida que legitima e perpetua atitudes racistas que se manifestam em comportamentos hostis de naturezas distintas e que causam dor e sofrimento a essa população que busca superar as adversidades por um mecanismo tão bem descrito pela autora:

> [...] promover um esforço de esquecimento, mesmo dentro da comunidade nikkei, dos dramas vivenciados pelos seus antepassados. Optou-se em valorizar o sucesso profissional e a ascensão social como forma de se superar os traumas e os conflitos antes e depois do fim da guerra [4].

2.2 A personagem Akemi como uma resposta criativa à situação

Não obstante terem nascido no Brasil, todas as gerações de descendentes de japoneses são comumente tidos como japoneses, não brasileiros, os "japoneses do Brasil" [9].

Esta condição ambígua que favorece as manifestações racistas foi a maior motivação de Erika Mitie Nakamura, autora de seu Trabalho de Conclusão de Curso intitulado: Design Editorial - Olho Puxadinho: Livro ilustrado sobre preconceito sofrido por asiáticos no Brasil, apresentado em novembro de 2019, como parte dos requisitos para obtenção do grau de Bacharel em Design, da Faculdade de Arquitetura e Urbanismo, da Universidade Presbiteriana Mackenzie.

Para Souza, "a literatura infantil, além da magia e do sonho, ajuda a criança a entender que o mundo tem obstáculos, mas que é possível transpô-los. Ao mesmo tempo, permite a construção de valores como solidariedade, compaixão e amizade" [11].

O projeto do livro é voltado, portanto, para o público infantil, mais especificamente para crianças da fase pré-escolar entre três e seis anos de idade, fase propícia para o início do desenvolvimento do pensamento crítico acerca do assunto. Miliacava afirma que, "Quando a criança,

Fig. 3. Capa do livro na qual figura a personagem Akemi.

Fig. 4. Retrato de situações comumente vividas pela grande maioria dos descendentes de japoneses no Brasil.

desde pequena tem contato com o livro infantil aprende a viver em seu contexto social com mais reflexão e opinião" [12]. O livro conta a história da personagem principal, a menina Akemi, cujo nome **é muito popular entre os descendentes no Brasil** e significa, em uma tradução livre "aquela que brilha" ou "beleza brilhante" que, de tempos em tempos, vivencia situações que a deixavam triste e até mesmo insegura de si, situações essas análogas à de muitos nikkeis que foram entrevistados para realização do trabalho.

Mais ainda, segundo entrevista concedida pela autora do livro por ocasião da escrita deste artigo, importante revelar que a história é autobiográfica haja vista que as situações retratadas, até mesmo a aparência da personagem, foram baseadas em fatos reais. A única ressalva fica a cargo do nome, não igual ao da autora mas o nome de sua irmã.

No decorrer do livro, a autora Erika Nakamura retrata outras situações quotidianas enfrentadas por esta população que vai desde questionamentos inoportunos sobre o formato alongado de seus olhos (olhos orientais) até mesmo agressões verbais às quais a personagem segue enfrentando com sentimentos de intensidade crescente como resignação, raiva e dor, conforme ilustrações a seguir.

Esses sentimentos aversivos e emoções estão fortemente representados pela expressão facial e corporal da personagem ilustrada com alta carga dramática sem, entretanto, perder a doçura que lhe é peculiar e que favorece a identificação e desperta a empatia nos leitores/visualizadores. Nas palavras da designer:

Fig. 5. Retrato dos sentimentos e emoções experienciadas pela personagem.

> *O livro tem dois públicos específicos [...] é voltado tanto para crianças descendentes de japoneses, que tem sua história e suas características valorizadas quanto para as não descendentes, pois objetiva ensinar que não é certo se comportar de determinadas maneiras e que determinadas falas podem magoar (NAKAMURA, entrevista concedida ao autor em abril de 2023)*

2.3. Estudos para desenvolvimento da personagem

O desenvolvimento de personagem requer profundo conhecimento dos sentimentos que o envolvem para que a concepção possa se expressar adequadamente na linguagem gráfica, ou seja, na sua ilustração. Haslan afirma que "... o leitor capta a posição emocional que permeia o design, enquanto absorve o conteúdo. O design expressivo raramente é definitivo ou inteiramente racional" [13]. Assim, a sensibilidade do designer e a sua capacidade de traduzir os sentimentos em ilustrações tornam-se poderosos.

Conforme a autora, todos as ilustrações foram realizadas digitalmente e, para o desenvolvimento da personagem, prescindiu-se das tradicionais fases de concept-art uma vez que, finda a fase de pesquisas e de elaboração da história, procedeu-se a realização do storyboard que determinou exatamente quais situações seriam relatadas e como a personagem seria retratada.

Para o desenvolvimento da personagem, empregou-se as sete etapas da metodologia proposta por McLoud em seu livro Desvendando Quadrinhos [14], a saber: (i) definição da forma básica, ou seja, formas predominantemente arredondadas para ilustrar uma menina por volta dos 6 anos de idade; (ii) estrutura; (iii) detalhes como cabelo curto e roupas e acessórios que ajudam a compor a personalidade "brincalhona" da Akemi; (iv) expressões que variam com o passar das situações; (v) movimento que oscilam entre o dinamismo das brincadeiras e a paralisia, frente à situações de descontentamento e tristeza; (vi) personalidade, espontânea e comunicativa e (vii) história.

Fig. 6. Esboços iniciais
da personagem

Fig. 7. Esboços iniciais
da personagem

Por fim, no tocante à simulação da técnica de ilustração/material (virtual) empregados, foi escolhida a simulação do tipo crayon (giz de cêra) por proporcionar a textura, saturação e transparências pretendidas além de ser mais um elemento de identificação com os leitores/visualizadores por ser um material habitualmente oferecido para as crianças desta faixa etária.

3. Considerações Finais

Uma imagem tem poderes muitas vezes maiores do que os próprios designers de personagens tem consciência. Por compor uma síntese de mensagens o desenho de um personagem tem alto teor comunicativo a

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ser processado de maneira imediata e intuitiva e pode, como foi visto, manipular a opinião pública sobre determinado assusto. Desta forma, ao criá-lo, o designer precisa ter em mente da responsabilidade social que a atividade implica. Ademais, é fudamental que se firme um posicionamento de responsabilidade social em um momento da humanidade onde nota-se um recrudescimento das demonstrações de intolerância e violência.

Especificamente no caso do Brasil, em um país onde se alarda o acolhimento e a convivência pacífica de todas as etnias, trazer à luz da consciência para questões como a aqui tratada é o primeiro passo para sua dissolução.

Superar tabus, romper o silêncio e ilustrar com responsabilidade para tratar o tema com a delicadeza e precisão requeridas são os objetivos do projeto do livro "Olho Puxadinho" para, oxalá, melhorar a realidade vindoura de muitos brasileiros, descendentes de japones, assim como já mudou a realidade de sua própria autora, que se sente "aliviada, autoconsciente e mais segura de si" ao ver o seu projeto finalizado.

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A mulher monstro do figurado de Barcelos

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Abstract

Although monsters' stories are mostly shared through generations in Portuguese rural areas as they were intended as a means to educate the population of dangers, they still perpetuate and carry social norms. Figurado is a series of pieces of ceramic that illustrate characters from the imagination of artisans that used to live in rural areas in Barcelos, now their descendants keep the craft in the city, within in it three artisan families were chosen to be analyzed and interpreted, with intent of opening a discussion of the stereotypes given to these creatures and experiment how can it be reverted, while creating a space for the cultural heritage to be preserved.

1. Introdução

Este artigo foi desenvolvido na sequência da conclusão do projeto de Mestrado em Ilustração e Animação, que propôs a criação de um bestiário de figuras de mulheres-monstro do imaginário popular português. A utilização de monstros como um veículo pedagógico popular, especialmente nas áreas rurais, faz parte das histórias compartilhadas entre gerações com o objetivo de explicar fenómenos climáticos e alertar para os perigos da natureza. Apesar de serem criaturas imaginárias, acabam por perpetuar estereótipos da sociedade portuguesa, como a habitual representação de bruxas como mulheres velhas e feias, o que leva a um afastamento social de um grupo de mulheres, enquanto os monstros masculinos têm uma representação mais variada.

Embora façam parte da cultura popular, estas histórias estão em risco de desaparecer. Este projeto surge do interesse da mestranda sobre o imaginário popular e em como, do ponto de vista da ilustradora, podemos representar as criaturas e ajudar a preservar essa herança cultural, tendo em conta a desconstrução de estereótipos estabelecidos. Este artigo explora uma vertente da narração de histórias que, na sua origem, foi principalmente concebida por mulheres: o figurado barcelense. Considerando que o mestrado em ilustração e animação funciona na cidade de Barcelos, cidade património da UNESCO em Artes e Ofícios, a influência da cidade e as suas tradições no projeto foi inevitável. A diversidade de artesãos no território apela à inovação e à variedade de temas, no entanto,

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o nosso enfoque, foi, desde o princípio, o estudo da relação entre a mulher representada e a mulher que cria.

Para a elaboração deste artigo, foi consultada e utilizada bibliografia sobre a origem do trabalho popular no barro, originando figuras ícone da cultura portuguesa. Também foi realizado trabalho de campo, começando com visitas ao Museu de Olaria de Barcelos, assim como, posteriormente, ao seu acervo, procurando figuras enquadráveis na temática definida. Com o mesmo objetivo, foram realizadas visitas às feiras de artesanato da zona norte do país, nas cidades de Barcelos, Vila do Conde, Viana do Castelo e Matosinhos. Foram selecionadas duas peças de interesse para interpretação: a mulher antropomórfica e a Diaba.

Após a seleção das figuras, o objetivo foi a análise e compreensão do método de trabalho e criação das mesmas. Para isso, foram realizadas três visitas a oficinas de artesãos, pertencentes a famílias com legado no figurado e/ou que representam as figuras escolhidas.

2. O Figurado de Barcelos e o Imaginário Popular

Nas palavras de Angélica Lima Cruz, o barro é um material que define a comunidade galega, na sociedade portuguesa rural as profissões ligadas à cerâmica eram consideradas de baixo estatuto em relação à agricultura, e acabam por ser uma atividade de família [1]. As peças utilitárias eram a parte mais relevante da produção cerâmica de Barcelos. Dentro do seio da família barrista, o figurado aparece inicialmente como uma forma de aproveitar barro, faziam-se peças pequenas que representavam animais ou pessoas e que, por norma, teriam um apito, consideradas brinquedos para crianças que apenas tinham uma função lúdica.

Na tradição do trabalho do barro existe uma divisão de géneros, os homens trabalhavam unicamente a roda de oleiro, enquanto as mulheres faziam o figurado, tanto ao nível de produção como a sua venda, juntamente ao trabalho doméstico de cuidar da casa, dos filhos e da horta, a "fim de assegurar a subsistência do agregado familiar". [1]

Em 1960, o figurado barcelense começa a valorizar-se, um fenómeno causado pelo interesse de estudantes e professores da Faculdade de Belas Artes do Porto, que compram as peças, não em feiras, mas diretamente "nas casas das próprias barristas". [1] Como consequência deste fluxo de interesse, deram-se várias mudanças: as peças começam a ser assinadas, a sua escala aumenta e perdem o apito, os consumidores deixam de ser crianças de classe social baixa e tornam-se adultos de uma classe social elevada, o local de venda torna-se a loja, a galeria e, como já referido, a casa da artesã, "os preços aumentam substancialmente, (...) se bem que estejam longe de atingir os valores da arte erudita"[1], com a perda da função de brinquedo e tornam-se objetos de contemplação e apreciação estética [1].

Consideram-se como artesãs mais importantes do figurado: Ana Baraça (1904-2001), Maria Sineta (1915-1996), Rosa Cota (1901-1983) e Rosa Ramalho (1888-1977), sendo a última o nome com mais destaque. Salienta-se também Domingos Mistério (1921-1995), uma exceção, pois é um homem numa arte associada à mulher, e é recorrentemente mencionado no início da ascensão figurado. Numa era em que a roda era um

trabalho de prestígio e o figurado menor, Angélica Lima Cruz reflete que Mistério era um dos homens que tinha condições que o dirigiam para o figurado, durante a infância era uma criança doente e vive sem pai, num ambiente familiar feminino [1].

As condições económicas e sociais das barristas influenciaram a criação, vivendo num meio rural, as temáticas contêm forte simbologia e superstição local, ilustrando por vezes contos ouvidos nos seios familiares, passados de geração em geração. O galo de Barcelos, como um exemplo popular, foi uma imagem criada a partir de uma lenda local, um peregrino ao qual a sua inocência é provada por um galo cozinhado que canta à meia-noite. A cobra e o sardão são elementos que aparecem várias vezes nas peças devido aos significados que lhes é associado. No livro "Artes de mulheres à altura das suas mãos" (2009), a autora explicita que apreendeu os simbolismos, cobra é pecado e tentação, um símbolo aliado à mulher; enquanto o sardão é atribuído como o protetor do homem, é utilizado como metáfora para a perda da virgindade ou adultério no casamento [1]. As representações da sexualidade eram em número reduzido, mas quando se começa a representar o quotidiano, as artesãs começam a modelar temáticas que outrora eram rodeadas de preconceito, como partos, pecados mortais e diabos.

> "Através da sua arte, estas mulheres barristas estão também a afirmar os seus direitos de uma forma que não é comum na cultura rural portuguesa. Quando fazem peças representando os sete pecados mortais ou os diabos e o Cristo com cornos, as barristas estão a lutar pelo direito a expressarem a sua sexualidade, o direito a terem prazer" [1]

O figurado barcelense ocupa um lugar de destaque na cultura portuguesa, sendo a figura do galo de Barcelos utilizada como um ícone português, a sua ascensão começa nos anos 50, mas é através de um cartaz da festa das cruzes de 1955, pela mão do pintor Gonçalves Torres, que o sucesso aumenta "A partir dessa altura, a venda do galo disparou", sendo a figura do galo negro com os corações vermelhos uma versão popularizada durante o Estado Novo," A partir daí, em pleno Estado Novo, o galo transformar-se-ia num ícone nacional" [2]. Apesar de, no início, o grupo do figurado ser composto maioritariamente por mulheres, o sucesso levou a que, atualmente, no contexto da rota do figurado, são apresentados 55 barristas, dos quais 31 são homens e 24 são mulheres, sendo que, dos nomes anteriormente mencionados como precursoras do figurado, a continuidade é feita por homens da família, que mantêm o apelido da figura inicial, como o caso de António Ramalho, bisneto de Rosa Ramalho e os Irmãos Baraça, netos de Ana Baraça. Esta continuidade utiliza as mesmas temática e características estilísticas da modelação, mas também procura adicionar inovação e outras figuras aos imaginários das suas famílias.

2.1. Os Sete Pecados da Família Ramalho
A família Ramalho destaca-se com Rosa Ramalho (1888-1977), pela "marca da sua personalidade" [3], as suas figuras, tinham uma sensibili-

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dade fora da norma. A sua caracterização, principalmente na questão da proporção do corpo onde cabeças gigantes habitam em corpos magrinhos, destacou-a entre a produção de figurado.

Inicialmente as peças eram apenas pintadas depois de uma cozedura, mas através de um pedido de um cliente, começa a vidrar as peças, que por sua vez dão origem ao característico vidrado castanho que é recorrente da família. O reconhecimento do seu talento inicia-se com as visitas de António Quadros, um professor do ensino superior artístico, que, com os seus alunos, começa a adquirir e a divulgar as peças de Rosa. Este acontecimento leva a uma rutura na tradição, o figurado torna-se uma peça de autor e as peças começam a ser assinadas com siglas ou carimbos, devido ao analfabetismo dos barristas "A fama da artesã rapidamente atingiu tal dimensão que é consensual dizer-se que no figurado de Barcelos há um antes e um pós-Rosa Ramalho: o figurado sortido, arte menor, dá lugar ao figurado de autor com assinatura reconhecida." [4].

No contexto do tema do projeto é pertinente abordar uma coleção de peças, os sete pecados capitais, atualmente produzida pelos descendentes de Rosa, um conjunto de figuras antropomórficas com elementos humanos associados ao sexo feminino, repletos de simbolismos e superstição. A partir do Catálogo da Exposição "O Figurado de Rosa Ramalho na Coleção do Espanhol" percebeu-se a origem das peças, são sete figuras modeladas a partir de desenhos de Juan Rodriguez, um jurista espanhol que se inspirava pela mitologia grega. As peças representam os pecados mortais: Ira, Ganância, Luxúria, Gula, Preguiça, Avareza e Soberba. Os imaginários de Rodriguez e Ramalho juntaram-se em várias outras peças presentes na coleção privada, mas Juan autorizou que Rosa continuasse a produzir a coleção dos pecados [5].

Numa entrevista, durante a investigação, António Ramalho[4], bisneto de Rosa, explicita que os seus significados só poderiam ser explicados pelo autor dos desenhos, mas partilha algumas das suas leituras: a Preguiça é um burro com um burro pequeno a dormir porque "quem dorme são os preguiçosos" ; a soberba é um pássaro que segura espelhos e está coberto de colares que simboliza a vaidade do animal; a inveja é um sapo que carrega pássaros porque têm inveja da beleza deles; a ira é uma mulher com cabelos em pé, com uma cobra a sair da boca, que está a estrangular quatro homens pequenos "fora da frente das mulheres quando elas ficam iradas". Assim, a construção destas personagens é feita através da apropriação de características animais, exceto a Ira que representa uma mulher a estrangular quatro homens com uma cobra, elemento associado ao pecado, uma peça que alude a uma tradução social de determinado comportamento da mulher.

O barro é uma tradição de família e Júlia Ramalho sucede à avó. Cresce, trabalha e acompanha nas vendas das feiras, é a autora de uma peça icónica da família Ramalho, a Medusa. Encontrou imagens da figura mitológica num livro e interpretou-a usando uma base redonda para o corpo, a cabeça têm a construção estética da família com um nariz empi-

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4 Entrevista realizada dia 30 de janeiro de 2023, na oficina de António Ramalho.

Fig. 1. Gula, Avareza, Luxuria, Ira, Inveja, Preguiça, Soberba, de Julia Ramalho

Fig. 2. Medusa de Júlia Ramalho

nado triangular e sobrancelhas salientes. Mas para além de cobras como cabelo da Medusa, acrescentou braços extra, segundo António "em princípio seriam só dois braços, não é? Mas a minha mãe por uma questão de estética da peça meteu muitos braços". Esta forma de trabalhar as peças torna o trabalho da família Ramalho não só é pertinente pela temática, como também existe uma forte compreensão de composição e harmonia. É visível na proporção das cabeças e dos corpos, como também no uso de texturas em contraposição com espaços lisos, ação que permite que o vidrado se acumule nas ranhuras para as acentuar, logo desnecessário o uso de cor para facilitar a leitura dos elementos.

A continuidade do imaginário da família Ramalho é realizada atualmente por António Ramalho, filho de Júlia Ramalho, que continua a modelar os pecados e Medusa, mas também é autor de novas peças para o imaginário familiar. Apesar da família Ramalho conter um universo fantástico próprio durante as várias gerações, não foi selecionada nenhuma das suas personagens para o trabalho prático executado durante o mestrado, mas poderão ser utilizadas numa futura produção.

2.2. OS Mistérios de Mistério.

Domingos Mistério foi um precursor das figuras de bestiário, sendo a família de artesãos famosa pela representação do Diabo. O seu imaginário era repleto de criaturas híbridas de ambos os sexos, do seu trabalho destaca-se a figura do lagarto antropomórfico e a personagem da Diaba, que foram selecionadas como criaturas abordadas na parte prática do projeto.

Como foi referido previamente, Mistério foi um caso de exceção numa arte feminina, é filho de mãe solteira e é criado pela avó, que o ensina a trabalhar o barro. Nasce em 1921 com o nome Domingos Gonçalves Lima, vive como uma criança frágil e recebe a alcunha de Mistério pelo mistério de como conseguia sobreviver até à idade adulta. O uso de alcunhas era comum num ambiente rural, e no caso de Mistério acaba por ser usado como assinatura nas suas peças. Com a valorização do figurado deixa o trabalho prévio do uso de moldes e começa a modelar totalmente as peças. Sobre o seu imaginário os filhos revelam que partia da sua imaginação: "Ele via muitas coisas. Dizia que fazia peças em sonhos e nós acreditávamos. Como ele passou muita fome, se calhar também fazia peças horrorosas, porque a fraqueza era tanta que ele às tantas imaginava essas coisas" [2].

O lagarto antropomórfico é uma peça que se encontra no Museu de Olaria e está acompanhada por outra criatura híbrida: um porco com cabeça de mulher. Numa entrevista com os filhos de Mistério[5], Manuel e Francisco, que continuam a tradição do figurado como Irmãos Mistério,

5 Entrevista realizada dia 27 de janeiro de 2023, na oficina da família Mistério.

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Fig.3. Diaba de Busto (1984), de Domingos Mistério.

Fig. 4. Lagarto Antro-pomórfico (1962-1963), de Domingos Mistério.

Fig. 5. Peça modelada pelos Irmãos Mistério, inacabada, uma diaba a amamentar (2023)

afirmam que a peça é fruto da imaginação do pai, que é uma mulher pelo uso de brincos, e consideram que seja uma crítica que só Mistério poderia explicar, referenciam que no caso de outra peça conseguem perceber que a mulher porco, é uma crítica à higiene de uma mulher. Salientam que o trabalho da família está conectado à sátira e que consideram as peças abertas para interpretação. Tendo em conta a análise do sardão no figurado, consideramos interessante para interpretação uma mulher híbrida com o animal que lhe é atribuído como o seu inimigo. Estas duas peças não são produzidas pelos filhos, só em caso de encomenda, sendo notável a evolução da modelagem, as feições humanas tornaram-se mais caricaturadas, mais expressiva e com maior detalhe.

Sobre a origem da peça da Diaba, os Irmãos Mistério explicitam "como há diabos também há diabas", ou seja, ambos os sexos estão dispostos a tornarem-se "o pior lado do ser humano" e que é uma imagem que representa "o interior feio do humano". Denota-se a diferença de representação entre o pai e os filhos, a diaba pelo pai é criada da mesma construção formal que o diabo, sendo a diferenciação causada pelo uso de ícones femininos como, por exemplo, vestidos e brincos, ou pela mode-lação de seios, já os filhos procuram adicionar elementos como cabelo e exagerar o corpo da mulher com seios e rabos destacados, visível a influência de ícones de sexualidade atuais.

Assumem "que o inferno é na terra" e por essa razão utilizam o diabo sem complexos, com o intuito de criar alegorias para as suas críticas, explicam que por vezes o público pode não estar recetivo a estas ideias, consideram-nas ofensivas e entram em conflito.

Uma peça da família Mistério é caracterizada pela sua paleta de cores definida por Virgínia, esposa de Domingos e mãe de Manuel e Francisco. Os descendentes já procuraram desviar-se e acrescentar outras cores, mas acabam limitados pela resposta do público que valoriza a continuidade. Apesar de assumirem que os cânones de representação foram "herdados do pai", como o nariz e orelhas grandes, é visível o aumento da complexi-dade da modelação, impressionante também é a capacidade de represen-tar o corpo sem imagem de referência.

No final da entrevista, os Irmãos Mistério intitulam-se como os cria-dores do Diabo e da Diaba no figurado de Barcelos, apreciam usá-los para fazer peças de carácter político, ou a caricatura do povo português.

2.3. O novo olhar de Mina Gallos

Estudar o figurado não se focou apenas no passado ou na continuidade da tradição, mas procurou-se entrar em contacto com uma artesã que pertence a uma nova geração de artistas, realizou-se uma entrevista a Mina Gallos[6], que está no figurado há oito anos, o seu trabalho é caracterizado por temáticas profanas e os pelos seus "bichos feios, mas bonitos". Pinta as suas peças com uma palete reduzida com destaques nos verdes e vermelhos, tanto a cor como os padrões decorativos das peças são inspirados no trabalho de uma artista uruguaia que fez residência na sua oficina.

Destaca-se esta artesã pela sua coleção de diabos e diabas. A entrevista focou-se em explorar o processo da peça "aflições do mundo", uma Diaba em cima de uma cabra. Começou a trabalhar a cabra, e quando começa a figura não tenciona definir se é um homem ou uma mulher, a cabeça é de homem porque tem barba, mas depois "pôs-lhe as tetas, para torná-lo sexy". Com esta figura queria explicar que o mundo estaria do "avesso", e tenciona provocar uma gargalhada no público. Por baixo da pata da cabra está uma cobra morta, sobre essa questão apresenta uma leitura da cobra como objeto de representação positiva, a cobra não é um símbolo da tentação, mas um símbolo de "coisas fartas", são sinónimo de abundância e luxuria porque "onde à cobras não há miséria".

As figuras não são criadas para provocar repulsa ou medo, mas o objetivo é provocar uma gargalhada no público, "para muitos é uma arte, e para outros vai ser um escândalo", representa "o que lhe vai na alma", mas procura a ternura no grotesco, "um monstro amoroso e ternurento". Aquando confrontada com a questão da ternura do diabo, explica que o diabo "só é mau para quem o chateia, se não o incomodar, ele é bom", assume a figura como uma faceta da pessoa e que ela também pode ser diabo perante acontecimentos.

Fig 6. *Aflições do Mundo (2022) Mina Gallos*

Fig 7. *Casal de diabos (2022) Mina Gallos*

3. As Bestas

Para pensar como poderia responder à pergunta de investigação, como pode ser influenciado o pensamento crítico sobre a representação da mulher monstro, surgiu como ideia o projeto prático ser um conjunto de objetos que ilustrassem as personagens do folclore português. Tendo em conta que tipos de objetos já existem ou foram criados sobre estas temáticas, surgiu a ideia de um bestiário, um livro de bestas.

A decisão sobre os suportes a utilizar limitou-se ao uso do papel e da cerâmica, a última como consequência da influência que o figurado de Barcelos tomou no trabalho.

6 Entrevista realizada no dia 26 de janeiro de 2023, na oficina de Mina Gallos.

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Com este projeto, pretendeu-se ter em consideração as problemáticas e perceber através da ilustração e da cerâmica se é possível abrir uma discussão sobre a iconografia atribuída às personagens, sem as invalidar e perpetuar estereótipos, também criar um espaço em que possam ser preservadas como uma parte da cultura portuguesa.

Com inspiração nas famílias anteriormente exploradas, procurou-se aplicar coesão das peças em dois fatores: na paleta das cores, como mencionado em Mistério e Mina Gallos, e nas decisões estilísticas de representação, como na família Ramalho. Na cidade de Barcelos procuraram-se cores que aludissem ao que é a identidade portuguesa, o azulejo do Palácio dos Condes de Barcelos foi a primeira fase da palete, variações de azul com apontamentos amarelos, acrescenta-se depois o vermelho com o mesmo objetivo de salientar elementos. Quando mencionamos decisões estilísticas referimo-nos aos cânones de representação, a mestranda e autora decidiu que as figuras têm pés e mãos desproporcionais ao corpo, são grandes e os nós dos dedos são exageradamente demarcados, as faces são estilizadas com elementos geométricos: os olhos são uma oval inclinada preenchida sem alusão à íris, ligeiramente inclinados, as pestanas são retângulos ou triângulos que acompanham a forma do olho; as bocas são grandes e com curvas geometrizadas; os narizes quando representados frontal são marcados com um triângulo.

A representação do nu no espaço natureza retira às personagens a sua temporalidade, assim a besta não tem nenhum indicador do ano em que são encontradas, são intemporais.

Sendo que este trabalho é influenciado pelo objeto Bestiário, decidiu-se no caso da ilustração adicionar molduras numa tentativa de apropriar a gravura medieval, e na cerâmica aplicar os mesmos padrões decorativos nas bordas dos objetos, uma preocupação de coesão nos objetos.

3.1. A mulher lagarto

Partindo da figura da família Mistério, foram elaboradas duas máscaras e dois pratos em cerâmica que representam o lagarto antropomórfico. Para isso, foram explorados vários desenhos de observação com perspetivas diferentes, focando-se especialmente na cabeça da figura, que continha ícones que generalizavam a peça para o género feminino.

O interesse em caracterizar a mulher lagarto estava em representá-la como um todo, desconstruindo a ideia de um animal com a cabeça de alguma coisa. Para isso, foram associadas quatro espécies de lagarto a um *moodboard* (iguana, sardão, camaleão e dragão barbudo), reinterpretando características como tamanho, escamas, espinhos e posição de olhos.

Fig. 8. Pratos da mulher lagarto (2023).

Fig. 9. Máscara mulher lagarto (2023).

Fig. 10. Máscara mulher lagarto (2023).

Os pratos apresentam um corpo de lagarto, sendo um uma adaptação do sardão no seu comprimento e o outro pensado mais como um camaleão, com cabeças que têm como ícone de feminidade o cabelo comprido. As máscaras focam-se na representação facial, com um elemento repetitivo sendo o uso de maçãs do rosto circulares e a ilusão de escamas, semelhante à iguana.

3.2. Diaba

A personagem da Diaba parte de uma convergência das ideias dos artesãos Mistério com as ideias de Mina Gallos.

Ambas as representações da Diaba mencionadas anteriormente apresentam-na como uma pessoa do género feminino devido aos seus seios. É comum associar a Diaba à transsexualidade, pode associar-se a uma história popular portuguesa na qual Deus, durante uma discussão entre o diabo e uma mulher, decapita-os, "deus cortou as cabeças do diabo e da mulher e trocou-as quando as pôs no sítio (por isso é que a mulher tem a cabeça leve)" [6], ou seja, a mulher ficou com a cabeça do Diabo e o Diabo com a cabeça da mulher.

No entanto, levanta-se a questão da associação de uma conotação negativa à sexualidade, a Diaba é o resultado de duas fórmulas: um Diabo ridicularizado via atributos femininos ou de uma figura feminina com tipologias corporais associadas à sedução, como seios grandes e pele vermelha.

Fig. 12. Mascara Diaba (2023).

Fig. 13. Ilustração Diaba (2023).

Como resposta a essas questões, a Diaba foi representada através de uma máscara de cerâmica e uma ilustração. A figura é apresentada como a criadora do Diabo, ou seja, a mãe, contendo elementos denotativos da figura, como dentes grandes e afiados e chifres, mas inspirados no veado. A quantidade de chifres simboliza a sua idade. No corpo da figura, procurou-se não destacar nenhuma característica incomum, para evitar conotações negativas.

Conclusões

O figurado de Barcelos é uma forma de preservar a cultura portuguesa. Sendo uma arte popular, representa o pensamento da artesã e do artesão, e do ambiente em que estão inseridos, é um trabalho que parte da tradição familiar e, por essa razão, perpétua temáticas e iconografias. Inicialmente era um artesanato maioritariamente feminino, mas o seu sucesso levou ao crescimento do número de homens no setor.

O desafio do trabalho prático residiu na dificuldade de representar a mulher monstro sem integrar estereótipos que isolam um grupo. Consideramos a aparência do género feminino como uma construção social, mas uma mulher não tem necessariamente de cumpri-lo, por essa razão, ela não pode ser pensada apenas como um corpo com mamas e cabelo com-

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prido, uma imagem generalizada, uma vez que, e mais na contempora-
neidade, não retrata a diversidade das definições e representações visuais
do que é uma mulher. No entanto, atribuir características inusitadas ao
conceito social impõe a ideia de adversidade, ou seja, ela é considerada
monstruosa por essa característica. Esta etapa do trabalho explicita a
problemática da iconografia feminina e masculina usados como forma
de ridicularizar, especialmente na representação da Diaba e do Diabo, a
figura andrógena como grotesco.

As peças apresentadas neste artigo fazem parte de um conjunto que
pretende abordar outras criaturas monstro e levantar outras questões de
representação. Por essa razão, na totalidade, podem responder às proble-
máticas com uma maior distinção de possibilidades de corpo. Pretende-se
continuar esta temática da mulher monstro no futuro tendo em conta a
vasta panóplia de criaturas que está presente no artesanato português e
a sua riqueza plástica. A possibilidade do trabalho em cerâmica inicia-
-se neste trabalho, mas a curiosidade obriga a uma nova aventura pelas
localidades de Galegos para aprofundar o conhecimento das tradições
familiares de trabalhar o barro e dos seus imaginários próprios.

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The Canary in the Coalmine: Retransmitting Apocalyptic Warnings through Dystopian Narrative

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[Ilustração / Illustration]

Abstract

This is an analysis of a contemporary adaptation of Afro Futurist novelist Octavia Butler's dystopian, speculative novel The Parable of the Sower, the first of a trilogy of books she wrote. Illustrator John Jennings and writer Damian Duffy have created a striking and unsettling Graphic Novel adaptation in response to Butler's novel that has the potential to influence and expand the awareness of new and younger audiences, encouraging them to explore challenging political and environmental subject matter that they might otherwise overlook. There is a slew of graphic novels that have acquired a higher status in recent years overriding historic perceptions of the form in which they were considered to be at the lower end of the literary hierarchy. Theorists including Linda Hutcheon and Kamilla Elliot in their analyses of adaptations question whether or not absolute loyalty to the original source is essential for them to have value. The theme of educational value for contemporary audiences is also explored.

Introduction:

Contemporary adaptations of classic novels have the power to influence new and younger generations of readers in which seeds may be planted that can enrich and expand their current knowledge of a range of issues that they may not yet be familiar with. Adaptation theorist Linda Hutcheon suggests that '*Adaptations are so much a part of Western culture that they appear to affirm Walter Benjamin's insight that "storytelling is always the art of repeating stories"*. [1] Children often enjoy the repetition of reading a particular story until knowing it intimately so perhaps in a similar way, adult audiences might enjoy engaging with source narratives in adapted into different forms to become more familiar with them, internalising them so that they might then understand the narrative from multiple perspectives.

Adaptations allow a familiar story to be retold, sometimes honouring the source as closely as possible and at other times deviating from it whilst retaining core themes. This analysis explores the work of black novelist Octavia Butler and an adaptation of one of her most popular novels. Butler's work is notable for her representations of black characters and in particular, black female protagonists and at the time she began writing, such characters were a rarity. Looking to the past in black African culture,

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stories containing characters who were as close as one could get to being heroes were passed on through the oral tradition by Griots who were the elders in the community. Through time , the role of the Griot began to shift and diminish and with it the tradition of passing on these stories with black heroes.

Dystopian futures

Parable of The Sower, a challenging dystopian novel written by Octavia Butler, who was auspiciously titled the mother of Afrofuturism has recently been adapted as a graphic novel and is currently being developed as a film for the big screen. The prescient novel, written in 1993, is underpinned by themes including climate change, the collapse of American society, slavery, homelessness, corporation owned cities and Big Pharma. In this dystopian world, water costs more than food and many of those living outside of the privileged gated communities are addicted to 'Pyro', a drug which causes its users to derive pleasure from starting fires. Such themes explore some of the concerns of the time and now 30 years later, these have become ever more pressing. Butler's novel was adapted by African American illustrator and academic John Jennings and comics afficionado and author Damian Duffy, who were also responsible for adapting '*Kindred*', Butler's most popular novel as a graphic novel and are currently working on a third title. *Parable of The Sower* is an exploration and analysis of contemporary American society as Butler imagined it to be in the 2020s. The author of an article published by *Callaloo* claims that the novel is not postmodernist as some theorists have suggested, but instead 'post Fordist.'

In addition to illustrating *Parable of The Sower* academic John Jennings is also the author of the '*The Blacker the Ink, constructions of Black identity in comics and sequential art* 'and in his analysis provides some fascinating but troubling insights into the subject. He begins his investigation with an overview of the history of censorship in relation to comics and graphic novels with an example of the racism inherent in publishing at that time, writing that in 1955, the head of the CMAA (comics code – a system similar to the Hays Code used to rank film censorship) Charles F. Murphy rejected a story put forward for publication in the comic book series **Incredible Stories**. *'Murphy's personal objection is said to have been, "You can't have a Negro" in the story* '[2] .
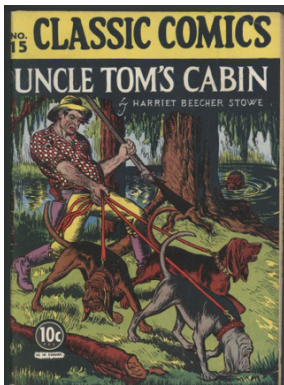
It's worthy of note that black people had, in fact appeared in Comic books before that time – Herge's *Tin Tin in The Congo* for example, published in 1930 includes visual representations of black men portrayed in subservient roles such as sedan bearers for white masters, these visual representations being highly caricatured in ways that would be perceived

Fig I: Classic Comics.

as offensive today. Another challenging representation appears on the cover of an issue of Classic Comics, in which an illustration inspired by Harriet Beecher Stowe's controversial novel *Uncle Tom's Cabin* depicts a slave owner handling three vicious dogs on leads hunting for an escaped slave who is hiding in a river.

Those faced with the task of adapting novels can experience challenges with the process and decisions need to be made as to how closely one might stay true to the original form, but when interpreting words and translating them as images there is the possibility that the adaptor might miss nuances within the original narrative and omit important information as an outcome of their personal and often unconscious biases. Adaptation theorist Linda Hutcheon has defined the process of adaptation as:

> *'An acknowledged transposition of a recognizable other work or works*
> *A creative and an interpretive act of appropriation/salvaging*
> *An extended intertextual work engagement with the adapted work '*[3]

As Jennings and Duffy's adaptation of *Parable of the Sower* was undertaken after Butler's death, the author's input and feedback was absent from the equation.

Earthseed

It could be claimed that the graphic novel form sits somewhere between that of illustration and film and is a bridge between both. Within the context of both graphic novels and film, the process usually starts with a storyboard of some kind. The graphic novel is often, but not always a combination of words and static images, the words either being contained within text boxes or captured within speech bubbles. Sometimes text is integrated within the image, unbounded by a frame. As certain theorists have pointed out, adapting novels into other forms results in a new entity existing in its own right, although related to the original. Adaptation theorist Linda Hutcheon takes the position that there is value in the process and outcome :*'You might tell me that through images film conveys a vast amount of information that words can only attempt to approximate, and you would be right, but approximation is precious in itself, because it bears the author's stamp more than the book, and that the same would be true of the film.'* [4] The term 'approximation ' could be seen as a useful way to consider any adaptation and is certainly relevant to Duffy and Jennings' graphic novel.

It is the character of Lauren first described in both Butler's original novel and the graphic novel that '*as Murray Smith has argued'* is '*crucial to the rhetorical and aesthetic effects of both narrative and performance texts because they engage receivers' imaginations through what he calls recognition, alignment and allegiance* '[5] Butler created her protagonist, the highly empathic teenager Lauren Olamina (a Yoruba surname her father assumed in the '60s) as a conduit through which to explore and question key themes within the novel including those of religion, climate change, politics and the increasingly dystopian world in which she inhabits, and she does so through writing in her personal journal. We are introduced

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to Lauren's philosophising through her journal entries, both within the context of the novel and graphic novel adaptation, these being written in the first person and consequently, the reader begins to internalise the questions that Lauren is grappling with. Jennings' response to visually translating the diary entries was created through the inclusion of scans of lined exercise book pages, onto which Lauren's hand-written manifesto for EARTHSEED is written.

The choice to include captions written onto lined paper sourced from an exercise book, visually connects with and reinforces the concept of the personal journal into which Lauren both records events and proposes her manifesto. As a visual strategy, it enables large bodies of text sourced from the novel to be integrated within the pages and also reduces the number of images - at almost 300 pages, the adaptation is lengthy, and such a strategy may have been harnessed to reduce time. The use of ruled paper through-out the graphic novel references Lauren's writing in an exercise book and is also used as a device through which to include text. This allows more text to be included than is often seen in most graphic novels. Another innovation Jennings employs is the inclusion of digitally captured maps of Los Angeles to provide context.

Fig II Jennings, J, Duffy, D Parable of the Sower.
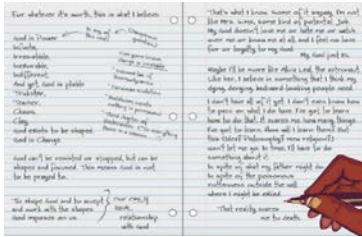
Lauren, as a strong young black female protagonist reflects both physical and biographical characteristics that could be identified with those of Butler herself. There are clear parallels between certain themes woven into the narrative of *Parable of The Sower* and those of Butler's own life. We learn that Lauren is the daughter of a Baptist minister which mirrors Butler's personal experience of having been brought up within the Baptist religion, although both later rejected this path and as the story progresses, Lauren instead creates her own philosophy or manifesto titled EARTH-SEED, which is documented within the pages of her journal.

The first page of Butler's novel commences with a passage from Lauren's manifesto 'EARTHSEED 'and is followed by a paragraph whereby Lauren describes a recurring dream in which she is learning to fly. After several pages of imagery designed to set the visual tone of his adaptation, Jennings created a panel depicting a celestial map of the stars, followed by another in which Lauren levitates above the floor. The map of the stars alludes to Lauren being asleep and dreaming, but as the narrative unfolds it transpires that this is also a reference to key themes connected to her 'EARTHSEED 'manifesto and her growing awareness of the necessity for humans affected by climate change and the breaking down of civilization to colonise other worlds. In addition to learning how to fly in her dream Lauren also possesses the trait of hyper empathy, meaning that she experiences pain as acutely as the person in which it originates.

The language of Butler's novel spares no detail of sometimes violent and shocking events unfolding which subsequently evokes searing imagery in

Fig III: Jennings, J Parable of the Sower.

one's mind. The language she uses to describe traumatic events, in its directness is often hard to digest, and somehow more potent than Jennings 'images, which at times border on the grotesque, whilst at other times evoking a sense of menace and foreboding. Lauren lives with her family in a gated community and as the narrative unfolds, we learn that societal anarchy reigns beyond the boundaries.

Hyper Empathy

Occasional trips between the increasingly threatened safety of their enclosed community to the chaotic world beyond is initially visually conveyed through the use of graffiti covered walls, dominating early panels. As the family and friends venture outside, they and the reader are also confronted by grotesque visual representations of beheaded humans, maggot ridden faces and amputated limbs and these traumatic injuries are alluded to once again in a series of 3 panels on page 9 in which Lauren is seen cycling on her bike through the streets herself bearing horrific physical wounds. The visual reference here to the physical traumas witnessed in the earlier panels, is an allusion to the fact that Lauren's physical traumas mirror those of wounded individuals and this is Jennings' solution to visually conveying Lauren's hyper empathy. Tones of red are the overriding palettes used throughout these panels which connote the bloody trauma and pain that Lauren viscerally experiences when witnessing the physical suffering of others.

In another series of panels Lauren's hyper empathy with an injured and dying dog is depicted both through her body language, facial expression and clusters of reverberating red jagged marks around the upper part of her body which visually represent pain and trauma. The juxtaposition of two final panels at the bottom of the page, simultaneously depict a moment in time when the dog finally dies a violent death and Lauren also experiences the life leaving the animal. These two panels are connected by a roughly hewn bright red border with a division between them drawn in red. Lauren's hair breaches the constraints of the border and connects with the dog, enabling the reader to understand that this is a single moment in time in which both Lauren and the dog simultaneously experience extreme pain. In addition to her ability for hyper empathy, Lauren is also a seer and from the outset of the novel displays a dogged determination to awaken her family and community from their denial with regards to the fragile gated community in which they live to acceptance of the very real possibility of the feral homeless communities living beyond breaching the wall that has kept them safe until recently.

In places images also allude to the identification of certain plants that Lauren discovered through reading her father's books. In the section where Lauren is trying to educate her friend Joanne by introducing her to her father's survivalist books, Jennings has integrated scans from books or newspapers into his visual language. The visual representations of black characters are nuanced and expressive, and colour is often used to height-

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en drama with dramatic lighting and tone. Variations in panel sizes are utilized to show transitions from one environment to another The panels are often panoramic and suggest the dimensions of a cinema screen. In places, Jennings breaks with this visual convention and introduces a series of trapeziums outlined with a red frame to connote danger and violence. Colour is applied strategically to images to communicate shifts from the city to the desert and canyons beyond where the families from the gated community travel by bike.The visual language is expressive, with bold black mark making outlining each form and with an ever- present urban graffiti aesthetic populating backgrounds. Colour is vibrant and striking and palettes shift to represent day and night – it is also used strategically to herald changes in atmosphere and emotional tone.

As the story progresses, the walls of the gated community are breached and a series of burglaries undertaken, until eventually the drug crazed 'red and green faces 'from beyond the wall, high on 'Pyro 'a drug which feeds a desire for setting fires, torch the buildings. Prior to the disintegration of the gated community there existed an oppressive tension and ominous foreboding at the boundary wall, which threatened to erupt at any given time. When this boundary is breached, chaos and anarchy ensue and those from the outside plunder, pillage, murder and rape in an orgy beyond comprehension, forcing the community within to flee and enter the terrible chaos and anarchy of the outside world. Thus, Lauren is forced to navigate a treacherous journey away from her home and mur-dered family. *'Freud argues that, in consequence of the fact that ''instinctual passions are stronger than reasonable interests' ..''civilized society is perpetu-ally threatened with disintegration''* [6] . Butler taps into our deepest fears, perhaps unconscious or at least, residing at the boundaries of conscious-ness, that civilization is woven together with the finest of threads. The dissolution of the wall and the community within is a metaphor for wider civilization breaking down - the wolf at the door has now entered and barbarism unfolds as human's feral instincts, repressed for so long are un-leashed. Butler spares little in her description of the brutality and volatility beyond the wall dismemberment and torture are commonplace and the rape of women and minors a regular occurrence. What Freud would term repression of humanity's darker desires, or in Jung's terminology The Shadow content of the human mind is released, with devastating results. Theorist Sheldon George has explored the troubling perspective that those responsible for slavery in America were acting out their repressed desires upon the black slaves under their control and in parts of the novel, Butler alludes to slavery once again as she did within the context of Kin-dred. *'However, beginning with slavery, what the history of race and racism in America has shown is the possibility of civilization grounding itself on these very instincts of aggression and destruction whose repression in Freud's theory seem so essential to social progress'.* [7]

Slavery

Butler alludes elsewhere in her novel to the theme of slavery, for example with regards to the conglomerate Kagimoto, Stamm and Frampton who,

later in the narrative approach one of the floundering American cities with a proposal for 'corporate – civic Collaboration'. Lauren's father is adamant that they should resist the company town, who on the promise of safety offer low wages and as one of the protesters against the company points out also the potential for debt slavery. On page 96 of the graphic novel Lauren's father says that 'this sounds half antebellum revival and half science fiction'. As Butler points out, cities being controlled by large corporations are commonplace in science fiction literature and again this reinforces the prescient nature of her writing. '*Indeed, I suggest that what starts to develop through capitalism and slavery is "a society founded" on the master's discourse ...the very purpose of which is to mask the division of the master by presenting the objects of his possession as proof that he does not lack* ' [8] This quote also alludes to a moment in the graphic novel in which Lauren makes a reference to slavery in Antebellum America and the connection with a character who is wealthy enough to be in a polygamous relationship with three formerly homeless beautiful black women who are financially dependent on him. As the narrative progresses, there is another reference to slavery alluding to a character in the novel reading in secret and we learn that his mother worked for a man who owned many books which she sometimes smuggled to her son to enable him to read.

Fig IV: Jennings, J Parable of the Sower.

Fig V: Jennings, J Parable of the Sower.

This is highlighted visually through the use of 2 text boxes, in which the text is in the form of hand- writing on lined paper *'The son of a cook marrying one of the maids ... Like something from another era'. [9]* There is an acknowledgement here of themes of slavery both in the past and in the present time.

After her father goes missing, Lauren ventures out with her brother and another friend and comes across a shocking revelation, which is visually depicted by Jennings to striking effect. An amputated black man's arm hanging from the tree dominates the page and resonates with former memories of lynchings that historically occurred in the deep south. The image of the arm cuts a compositional diagonal and forces a confrontation for the reader with the shocking sight of the arm. The composition of the page, colour and rendering of the pyro addicts brandishing weapons and lit torches reinforces a sense of chaos and fear as they plunder the community. The introduction at this point of an expressionistic style deviates from the more representational style seen elsewhere and heralds a shift in the heightening of drama. The boundaries of panels are breached and fragmented, mirroring the fragmentation and collapse of the community. Facial expressions of the invading 'paints '(people whose faces are decorated with paints) high on the drug Pyro are contorted and exaggerated, conveying a primitive and tribal like set of facial characteristics. The

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following page continues with the expressionist style, digitally rendered but in places, seemingly alluding to a woodcut or lino cut technique, conveyed through bold mark making.

Jennings continues to create more experimental imagery and below he pushes the boundaries of more conventional panelling through flipping from a two -dimensional appearance over to an illusory three- dimensional physical space, at once a pathway on which Lauren walks then segueing to an environment resembling a series of deep trenches in which she is situated. Following this the panels are reverted once again to a more conventional visual treatment.

As Lauren continues onwards to her escape to the north, in a search for sanctuary she begins to share her EARTHSEED manifesto with a few other travellers escaping the fires and chaos. An earthquake further complicates the situation and causes more fires and riots. She then meets with the character Bankole, a doctor with whom she forms a romantic relationship, and he comments that Lauren's EARTHSEED manifesto is a 'combination of Buddhism, existentialism and Sufism.' [10]. It transpires that Bankole has land further up north where they could set up a new and safer community and he invites Lauren to go with him. Towards the end of the narrative the landscape depicted within the panels are mostly filled with images of fires from a recent earthquake and from torchings and these engulf and dominate the landscape. On reaching their destination they discover a well on the site of Bankole's land and carefully stored in her survivalist pack, Lauren has retained seeds which can be planted to create crops which will be harvested for food. As civilization beyond the new encampment collapses further, society appears to revert back to slavery and power structures seemingly alluding to the distant past of Antebellum America.

Conclusion:

As has been discussed earlier, perceptions of Graphic Novels have been elevated in recent years and in the case of Duffy and Jennings' adaptation of *Parable of the Sower* and *Kindred* have been the recipients of important literary awards. Such developments challenge perspectives both held and dictated by a more traditional canonical hierarchy through which value is attributed. Theorist Robert Stam, for example, would probably frame the graphic novel as being at the lower end of the value hierarchy: *'For some, as Robert Stam argues, literature will always have axiomatic superiority over any adaptation of it because its seniority as an art form. But this hierarchy also involves what he calls iconophobia (a suspicion of the visual) and logophilia, a love of the word as sacred)'.* [11] Octavia Butler was a pioneer who through the creation of narratives such as *Parable of The Sower* was able to shed light upon themes of a political, social and racial nature. Such historically important novels are currently taught within some American school curricula. Through the vehicle of their graphic novels Jennings and Duffy (also both academics) further disseminate such challenging subject matter to marginalised audiences who may not necessarily be comfortable reading novels. Critics of the genre have questioned the value of

comic books and graphic novels and even suggested that they corrupt the minds of those deemed unable to read them with a discerning mind. As Jennings points out in his analysis of the genre in *'The Blacker the ink, constructions of Black identity in comics and sequential art '* there were those who went as far as claiming that the form was potentially dangerous and could seriously damage the minds of those reading them !

'...in winter 1954, Fredric Wertham, a Bavarian-born psychiatrist and "liberal progressive concerned about the poor and disadvantaged," published Seduction of the Innocent, a four-hundred-page screed on the social evils and psychological dangers involved in reading comic books '[12]

From a historic perspective graphic novels and comic books have been perceived as a low brow form inferior to the novel, and which as critics such as Wertham claimed, had the power to corrupt the minds of those considered vulnerable. However, contemporary adaptations of highly regarded novels challenge such perceptions and certain scholars through their analyses of these adaptations, suggest that certain graphic novels are of real value, to the reader- indeed in recent years Jennings and Duffy's adaptation has received the highly regarded Eisner award. In response to Wertham's proposal that comics would corrupt the poor and marginalised in society Jennings cites those who have challenged such hyperbole but also cites those with an opposing perspective: *'Wertham's text was "pompous, polemical, and sensational" and "aimed to impress a popu- lar audience with professional expertise and moral outrage" (Wright 157–158). Despite some protest from the comic book industry and a few concerned supporters, "Wertham affirmed parents' worst fears: that comics were rotting our brains and turning kids into potential degenerates",* [13] .Jennings goes on to explain how as a consequence of such dramatic claims, at that time strict guidelines were constructed as a means to protect the minds of the young : *'By August, a number of concerned publishers had formed the Comics Magazine Association of America (CMAA), which decided to adopt a strict code of self-regulation, the Comics Code Authority, patterned somewhat after the Hollywood studios' Hays Office of the 1930s.'* [14]

Adaptation theorist Linda Hutcheon has explored motives for adaptation in depth and proposes a number of theories for the practice, including monetary gain and to further disseminate social and political perspectives. She suggests that certain contemporary comic book artists create new work with a view that these will be further adapted as films but goes on to suggest that an adaptation might also be the catalyst needed for children to then seek out the original source of the adaptation. *'Adaptations of books, however are often considered educationally important for children, for an entertaining film or stage version might give them a taste for reading the book on which it is based. This is what novelist Phillip Pullman calls the ''worthiness argument '.* [15] As Pullman points out, the engagement with an adapted format can be a worthwhile pursuit for children and can also be the catalyst for further learning.

In his analysis of adaptation, Gordon E Slethaug highlights a series of questions developed by Timothy Corrigan which are designed to gage how faithful an adaptation really is to the original. Such questions explore

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whether the characters are similar to those described in the original, if the contexts remain the same, if the transfer to another medium translates a similar set of meanings and finally, if it is authentic. He goes on to say *'This privileging of the original over the adaptation is based on cultural conceptions of morality '*. [16] This implies an almost religious insistence on truth. Robert Stam has expressed annoyance at historic, moralistic perspectives of adaptations and of those scholars who used terminology such as *'vulgarization' 'desecration '*, *'infidelity'* and *'violation'* [17] in their descriptions of the process. He goes on to point out that both Foucault and Barthes have suggested that an author is *a 'function of discourse '*[18] and that their voice is '*one among many* [19] that they have been influenced by multiple sources which also have cultural and historical influences and that the relationship between author and reader is dynamic. Such a perspective challenges the notion that any form and in particular, the novel, is a pure act of originality, unsullied by external forces and influences and therefore morally superior. Christopher Booker, in his lengthy analysis *The Seven Basic Plots* proposes that all stories are derivative and culminate from root sources in the form of seven archetypal themes underpinning them. If we are to support this claim then perhaps it could be suggested that all stories, in whatever form they are transmitted, are adaptations.

'As Kamilla Elliott has astutely noted, adaptation commits the heresy of showing that form(expression) can be separated from content (ideas) – something that both mainstream and semiotic theories have resisted or denied ... beginning to theorize

..in both academic criticism and journalistic reviewing, contemporary popular adaptations are most often put down as secondary , derivative ,''belated, middlebrow, or culturally inferior''. [20] As the form of the graphic novel has also been historically perceived as a low brow pursuit , and add into the mix that Butler's novel has been defined as fitting within the genre of science fiction , it might also be construed that Duffy and Jennings' book had all the odds stacked against it in terms of perceptions of value, however when considering Walter Benjamin's earlier comment about storytelling, and the notable fact that both the Graphic Novel and Butler's original novel have won prestigious awards ,this is proof of alternative perspectives suggesting otherwise. Virginia Woolfe, commenting on early cinema, suggested that it was a 'parasite' on novels but did also add that it could bring another perspective, notably that of emotion that might be lacking in words alone. Indeed, the idea of the adaptation as being parasitical on other 'purer 'forms is in alignment with perspectives that perceive the process as immoral and of debasing the original. In the case of Duffy and Jennings' adaptation, the translation of her novel decades after Butler wrote it , ensures that the story continues to be disseminated to young and contemporary audiences who are now faced with some of the pressing issues outlined in the book , including climate change . Key themes embedded within the graphic novel remain intact, so it might be argued that this is justification for the adaptation and as theorist Linda Hutcheon has pointed out,'*...teachers and their students provide one of the largest audiences for adaptations. Many of us grew up with the* **Classics**

Illustrated *comics or the animated cartoon versions of canonical literature.* [21] The graphic novel could be seen, for younger and marginalised readers, as a more palatable form through which to initially access narrative themes explored through novels and if such engagement piques their interest in challenging and important concepts that they may otherwise have avoided, then surely that is, as Pullman says, a worthy pursuit.

In an article published in the journal *Callaloo* the author suggests that 'Butler's Earthseed novels *'can be read as cautionary tales, warning us of the regressive nature of nostalgia for the future frequently produced out of the confrontation with post – Fordism.'* [22] It might, therefore, be fair to surmise that Jennings and Duffy's reimagining of Butler's powerful story, is a way of passing important and timely messages on to new generations, much in the way that stories of the oral tradition have historically been disseminated using new and evolving media and technologies. (The graphic novel is available both in analogue and digital formats). In addition to the text, Jennings' imagery conveys atmosphere, tone, character and sense of place, all of which visually impact the reader and support with an understanding of worlds perhaps previously unknown. This could be particularly potent for a demographic of younger readers unfamiliar with such content. It could be argued that Octavia Butler wrote stories in part because she wanted to see black people reflected in them – in a similar sense, illustrator John Jennings and Damian Duffy are keeping Butler's stories alive and bringing them to the attention of new audiences. In these books we see positive role models for young black people, who are defined not as mere bystanders, but characters who have agency and power.

As Sheena C. Howard points out, the comic book genre can offer sanctuary for those black children and teenagers seeking out more positive role models with whom they can empathise. 'Blacks are seldom recognized and celebrated for their exceptional historical contributions and achievements beyond sports and entertainment, Black children often turn elsewhere to fuel their imaginations. The fantastical worlds of comic strips, cartoons, and comic books have the powerful potential to weave imaginary narratives that offer possibilities for seeing Black heroism. Nonetheless, it is possible to engage with these worlds and walk away with little understanding about either how Blacks have contributed to these genres or how Blacks have used these genres to transmit positive, political messages to consumers.' [23]. Howard also looks to the historic past of those pioneers of black comics such as George Herriman, a Creole man living in New Orleans who became widely known with the publication of his comic book Gooseberry Sprig and went on to create Krazy Kat which featured characters who would transition between black and white, the book being cited by scholars to contain commentaries on racism. Following on from Herriman in 1935, black comic book artist Oliver Harrington created a number of publications, including Dark Laughter, and like Herriman his work often embedded political commentaries which highlighted racist themes.

Octavia Butler's books are now included as part of the school curriculum in some American states, which has the potential for encouraging

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healthy debate and discussion around such challenging themes. In addition to contemporary critical analyses of comics created by black artists, for example as seen in Jennings' The Blacker the Ink and Sheena C. Howard and Ronald L. Jackson's Black Comics there is currently a growing awareness of mediums through which black academics and artists are contributing to a deeper understanding of their pasts, presents and futures and ways in which they might harness these mediums to impact upon and influence the debate further and disseminate important political, social and cultural messages to new audiences.

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Technicians of Human Dignity Bodies, Souls, and the Making of Intrinsic Worth Attribution
Gaymon Bennett.

Bennett (Arizona State Univ.) provides an overview of the ways in which the term "dignity" has been used, in three official settings, in the late-20th and early-21st centuries. His three case studies are The Pastoral Constitution on the Church in the Modern World, developed by the second Vatican Council; the United Nation's Universal Declaration of Human Rights; and the reports of the US's President's Council on Bioethics (later The Presidential Commission for the Study of Bioethical Issues). He sets all of these documents in historical context, and looks at the differing ways that each attempts to justify or define what "dignity" means and how that dignity can be best safeguarded, promoted, or protected. In doing this Bennett provides careful readings of Foucault's work on governmentality and pastoral power. Dignity has been a contested concept in both philosophy and theology, and Bennett's work does much to show the changing nature of the concept and the different ways it has been conceived of and talked about, as demonstrated in three particular settings. The book is dense but worthwhile for its careful analysis. Summing Up: Recommended. Graduate students, researchers, faculty. --Aaron Wesley Klink, Duke University

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Technicians of Human Dignity Bodies, Souls, and the Making of Intrinsic Worth Attribution

Gaymon Bennett.

Jouissance and discontent: A meeting of psychoanalysis, race and American slavery
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289. DOI:10.1057/s41282-018-0105-0
Our current political climate has given rise to fears over the future of
America. Many find emanating from the political sphere new license to
discriminate against racial others, license that they fear will lead to
a dissolution of American values, and even, potentially, of the nation itself.
I suggest, however, the greater danger may be that this license has little
destructive impact upon the broad structure of our civil society. Race and
racism hold a fraught relation to what Sigmund Freud had called civilization.
Our current political climate has given rise to fears over the future of
America. Many find emanating from the political sphere new license to
discriminate against racial others, license that they fear will lead to
a dissolution of American values, and even, potentially, of the nation itself.

Freud argues that, in consequence of the fact that "instinctual passions are
stronger than reasonable interests," "civilized society is perpetually threatened
with disintegration" (p. 112). However, beginning with slavery, what the
history of race and racism in America has shown is the possibility of civilization
grounding itself on these very instincts of aggression and destruction whose
repression in Freud's theory seem so essential to social progress

Hampered by what we must recognize as a racism that causes his reluctance to align primitive instincts
with civilized white nations, Freud is shocked by the frightening ubiquity of
aggressive impulses when they are no longer directed at racial others. As Jacques
Lacan (1997) specifies in his rereading of Freud's theories, Freud is appalled
most specifically by the "horror of the civilized man," whose brutality seems
newly unveiled by war (p. 194). But Lacan's own rearticulation
Sheldon George

Confronted after the First World War with
a wasteland of death and destruction, T.S. Eliot (2001) voices a question that
would characterize the sense of alienation and uncertainty that plagued the
times: "What are the roots that clutch, what branches grow / Out of this stony
rubbish?" (p. 5). Eliot articulates a search for substantial meaning that, in some
sense, would be supplied by psychoanalysis, in the form of a reified notion of the
self as fragmented between consciousness and a now visible unconscious
brutality.
Sheldon George

Indeed, I suggest that what starts to develop through capitalism and slavery is "a society founded"
on
the master's discourse (p. 126), the very purpose of which is to mask the division
of the master by presenting the objects of his possession as proof that he does
not lack (p. 103)
Sheldon George.

This quote relates to the part of the graphic novel in which Lauren makes a reference to slavery (which page ?) in Antebellum America and the connection with the character who has enough wealth to be in a polygamous relationship with 3 formerly homeless beautiful black women who are financially dependent on him.

Slavery attempted to unveil the slave's true psychic condition of lack by making the slave's social positioning mirror his or her psychic reality. It did this by reducing the slave to the status of a signifier, as a mere commodity in an exchange system, a signifier within a chain of meanings. This signifying chain incorporated the hierarchal structure of the Great Chain of Being in an articulation of the slave as a paradoxical nonbeing, whose erasure facilitated his or her redeployment as a signifier for the master's own recuperated being.
Sheldon George

Despite the fact that, as Patterson (1982) argues, slavery attempted to situate the slave as "a social nonperson" with "no socially recognized existence outside of his master," part of what slaves were able to do was construct a discourse of the self that shaped religious beliefs into folk narratives reflective of their personal and communal world views (p. 5). Through folk practices like storytelling, slaves attempted to create not only a counter-narrative to that facilitated by the master signifier of whiteness, but also, and more basically, a narrative of self that simply made life livable, a narrative that recuperated for them a semblance of being, resuturing their fragmented selves, and producing their own surplus jouissance.
Sheldon George

Indeed,
in the very first novel published by an African American, the escaped slave William Wells Brown paints a telling image of America as split between two fully integrated but divergent modes of accessing surplus jouissance. Brown (1853/2004), in 1853, fictionalizes the then popular and now validated claim of Thomas Jefferson's sexual exploits with his slave-mistress in a tale Brown titles Clotel or, The President's Daughter.8 While rendering this daughter as a slave who escapes her pursuers by jumping to her death from the center of a bridge joining the "capitol of the Union," Washington, DC, to the slave state of Virginia, Brown contextualizes slavery within a revisionary origin-narrative that ties the birth of the nation to the trafficking of two ships (p. 184). Both arriving in 1620, one ship is the "May-flower anchored at Plymouth Rock," and the other is "the slave-ship in James River" carrying the "first cargo of slaves on
George Sheldon

The theme of power resonates through Butler's work and is interwoven within the pages of ' The Parable of The Sower .'
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LAUREN J LACEY research paper on Octavia Butler and Power
Look at Foucault on Power.

Embodying my Alter Ego:
exploring authenticity within illustration

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Abstract

This report relates a personal search to rekindle passion for working as an illustrator, via an alter ego. I explored how creating a fictional persona can aid authenticity, or owning of parts of the Self, by removing the pressure illustrators face of matching their work to their personal identity. I use data collection of Instagram stories as a method to uncover what themes have been stifled by a professional practice taken too seriously, and discuss the obstacles found when developing a methodology of play. I explain the reasons behind shifting from a practice-based approach into practice-led, and share the solution I have found of fully immersing in the fictional persona of Adam Fiasco, my alter ego.

1. Context

A substantial number of articles on how to be a contemporary illustrator encourage creatives to search for 'Authenticity' within their work [1],[2],[3]. Recent books on the subject encourage creatives to keep true to themselves by showing their 'true voice' in the work they do [4],[5]. This encouragement unintentionally feeds a connection between the work and the creator's identity, transforming visual outcomes into a symbolic representation of the creative's "I". No longer is an illustration simply a measure of the illustrator's monetary value, now it has the potential of also measuring self-value, as an extension of that "I" [6]. Professional illustrators expected to project their authentic selves onto their work, especially commercial ones, must also meet the client's expectations, regardless of the client presenting them with a briefing or buying their artwork 'as is'. This contemporary cult of the artist seems to no longer seek a mysterious and tumulted creative, but one who is stable, forthcoming and truthful, while being commercially proficient by producing creative outcomes at high-speed.

Putting this amount of pressure on an illustrator can be castrating. In my case, it contributed towards a burnout. Because illustration symbolised my self-worth, I wanted to prove capable, even if it meant ignoring physical and mental limitations by not sleeping enough and dealing with overwhelming stress and anxiety. It is not uncommon to hear of illustrators who have had burnouts and, to avoid quitting altogether choose to make drastic changes to their practice by working on what they perceive to be at the core of their burnout. For some illustrators, like Lisa Congdon, the focus is on making lifestyle changes for a better work-life balance

[7]. Others, like Jon Burgerman, shift their focus towards the fun of the creation process. In Burgerman's case specifically, rebranding himself from 'illustrator' to 'professional doodler' [8] signalled a focus shift to the outside world.

In her essay 'Sketchbook as Therapist: Self-Authorship and the Art of Making Picturebooks" (2020), Caroline Pedler explains how she reinvented her way of working on picturebooks by placing greater focus on the process, through mark-making experiments and greater analysis of what was created in the sketchbook phase. Pedler concludes that this was her path to "visual self discovery", relating it to authenticity [9]. So, what is authenticity and why is it still important to an illustrator's practice, even when avoiding all other requirements? To Caroline Pedler it is "a genuine visual language or an authorial voice" developed through regular mark-making and reflection [10]. Pedler considers consistency important, which is where our approaches differ. My stance on what 'Authenticity' means seems to be in line with Heidegger's concept of authentic selfhood [11], or *ownedness* [12], regardless of how controversial a figure he is. The search for authenticity found in this project, or of being authentic when referring to authorship, is not focused on finding a 'true self' because it is looking at the *Self* through a Jungian lens. According to Jung, the Self cannot be fully experienced, however, we can connect to parts of this totality by creating myths, using symbols and stories [13]. A search for authenticity in this instance is not focused on searching for a unique truth, but knowing that there are many parts, many "I", and wanting to explore the one that will avoid another burnout.

From previous experiments I have found that avoiding a burnout, for me, means steering the focus away from taking myself too seriously within a mostly digital practice, into fun and challenging ways of image-making with analogue materials which I refer to as playfulness. Because being this bold is scary, especially when it clashes with a carefully constructed professional identity, I found a solution to overcome this fear and to own the boldness by creating an alter ego.

2. Alter Ego

Foucault argues that although the work is never fully separate from its Author it should not be overshadowed by the Author's biography [14]. Not using my real name would allow me more freedom, less pressure and fewer consequences: if the work was lacking or deemed offensive, it could be argued it was all just a joke. Looking at one of the most relevant writers in Portuguese culture for guidance, Fernando Pessoa (1888-1935) created regularly through the use of alter egos, or heteronyms. These heteronyms were known for each having a distinct style of writing, derived from their individual personalities and background stories. Pessoa was influenced by Oscar Wilde's defence of lying in art, either through myth-creation or by wearing masks [15]. In Wilde's collection of essays Intentions (1913), he argues that by wearing masks a person reveals their true self. Using the example of Shakespeare, Wilde theorises that the characters the playwright invented tell truths by presenting as fictional [16]. Creating an
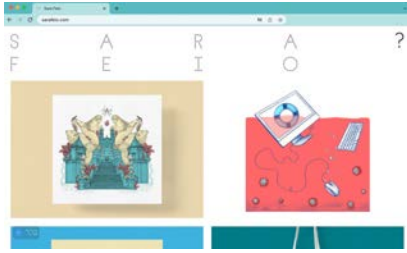
openly fictional persona as a means of exploring a part of the Self that might not align with one's existing persona appears an exciting alternative to professional reinvention. So, how did I set out to do this? Before creating this persona, I had to analyse the work in my professional portfolio [fig. 1], and pinpoint what parts were problematic. I found 3 issues:

-The amount of detail added to each piece of illustration. I measure the value of my work by the amount of physical labour put into it, which invites clients to do the same and push back when this is not visible.

-Creating elements that resemble reality. I achieve realistic drawings solely by tracing from photographic reference. Using these crutches has led to a fear of drawing without photo-tracing and a loss of compositional fluidity.

-Working digitally from start to end. For the body, it created problems such as developing chronic pains from prolonged stiffness. For the creative mind, it promoted perfectionism and an undervaluing of the importance of playfulness and happy accidents for idea generation.

It was also important to identify cherished characteristics that could be transferred into an alter ego. These are the surreal combinations of elements and the vibrant colours.

3.Adam Fiasco

Part 1 – What is in a name?

The first step in creating a fictional persona was to come up with a name. Choosing to use an anagram, much like Edward Gorey's several variations, or Harry Potter's Lord Voldemort, I collected all the letters in my full name to create an alternative one, later discarding some parts of the new name to generate a shorter version.

The full name, Sara Cadima Feio, generated Rei Adam A. Fiasco, with 'rei' meaning 'king' in Portuguese. I kept only Adam Fiasco, a name I am quite happy about as it sounds not only English-friendly, but male. There is no obligation to make an alter ego out of one's own gender and I have always been curious to test if there would be a shift in the way my work is perceived, or even how I am approached, if people think I am a man rather than a woman. A study from 2015 on the perceived association between masculinity and creative thinking suggests there would be a difference, as men tend to be seen as more creative outside the box thinkers than women, even when the results are identical [17]. When creating an Instagram profile for Adam Fiasco – any contemporary illustrator needs to have an online presence – I used close up photographs of my brother's hands, pretending to draw on my sketchbook, to anchor the idea of the male illustrator. Upon further reflection it seemed more fun to fully

Fig. 2. Adam Fiasco Logo

embrace the lie I was telling by hiding the symbol of fake online identities in plain sight. This is how the catfish logo came about [fig. 2], warning the audience: Adam Fiasco is a catfish. It just might be the case that, even with having an openly fictional male persona, the audience will fail to notice Adam Fiasco is female, as sometimes happens to Rosin O'Donnell and her fictional illustrator character Steven Fritters [18].

Part 2 – Data collection

Finding Adam Fiasco's voice demanded investigating which themes I was suppressing from my illustration practice because they did not fit with my existing visual language. Over the years I have shared many different sources of content on my Instagram stories, from serious topical issues to cat memes, without illustrating any of these themes. It could seem contradictory to be willing to share content with an audience of over four thousand people but not to illustrate it, however, looking at the 3 issues I previously pointed out, my current practice does not lend itself to quick drawings.

Using the Instagram stories archive as a source of raw insight into themes that interest me, I planned to collect data on the content shared between January 2021 and January 2022, a year within the Master's degree at Falmouth University. I followed Giorgia

Fig. 3. Sample of written data collection for the month of January 2021.

Fig. 4. Results of the written data collection from all 840 Instagram stories.

Lupi's and Stefanie Posavec's approach to collecting material for the book Dear Data (2016), where both extracted information on the everyday and used it to create hand drawn infographics that stand out in opposition to stiffer vector-based data visualisation [19]. I gathered data on 840 stories' themes and range of moods [fig. 3]. After first having written down the content of each story, I went back to add different coloured letters that signalled a theme, mood or aesthetic I remembered having seen repeated throughout. Counting these categories uncovered a recurrent habit of sharing other artist's work, as well as a tendency towards humorous content and educational insights [fig. 4]. These results raised more questions, and so a new collection was made of a smaller sample of 300 stories, adding new consideration to the data collection methods:

-All stories sharing my own work were to be ignored;
-It was essential to include stories before January 2021 when the content was not tainted by academia;
-I was to collect both written and visual information: adding to the previous method of creating a written description of each story, I was to draw the content, taking no longer than 5 minutes per story [fig. 5].

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Fig. 5. Sample of drawn data collection for 300 Instagram stories: Double-spread with 8 stories.

By combining these two methods of collecting data it provided a holistic understanding of the content that was lacking in the previous collection. Through the written information I found out facts, and by reinterpreting these stories through mark-making I was able to "defamiliarize subject matter" and see it from a new perspective [20]. I was able not only to do an initial explorative approach to a new tone of voice, but also reinterpret content and start to play with visual delivery. Having completed individual sketches on 300 stories, I was then interested in choosing a smaller selection that could be developed into finished illustrations. Analysing the data to see what the most common approaches were (humorous, cute, educational, from the everyday), I took these into consideration when selecting the drawings that had brought me joy and a sense of mischief to sketch. These traits cannot be seen in written data but can be felt as "calor na barriga", which directly translated from Portuguese would be a pleasant feeling of warmth inside the belly, or less poetically referred to as a gut feeling.

Part 3 – Methodology of Play

The last, and most challenging step, was to develop a methodology of play for the alter ego. This practice-based methodology was to focus on creating a fun and analogue work process, while keeping in mind the essential characteristics of an illustrator's toolkit such as communicating context, relying on narrative and working on composition to deliver a finished outcome. Although I would be following the usual steps in professional methods of image development, such as researching the subject-matter and creating thumbnails, I was to use the materials at hand to allow for happy accidents and to provoke new ideas. Hoping this new methodology would provide body movement, in opposition to digital development, I decided to avoid drawing patterns or excessive details as they contribute to a stiff posture. For the initial 10 chosen subjects it was necessary to limit the materials and techniques used, because of time and monetary constraints. The analogue techniques had to allow for easily attainable materials so I chose drawing and collage, both of which require focus without being too demanding. For drawing, the chosen materials were colourful dual tip pens that allowed for happy mistakes with colour overlay; for collage, I asked a risoprinting studio for their scraps of printed paper, to have textures to play with.

Searching for a playful work process felt surprisingly uncomfortable. The lack of digital tools forced a shift in my thinking process where I now had to take the plasticity of materials into consideration. To explain the difficulties encountered while testing this methodology, I will focus on the development of one particular theme: the middle ages gargoyle from Spain [fig. 5]. Choosing the rude gargoyle was one of the aforementioned 'calor na barriga' feelings. When drawing the first quick sketch it re-

minded me of another medieval gargoyle in Braga, north of Portugal, that is spreading its butt cheeks towards the general geographical direction of Spain. The research drawings were fun to do, and while playing with the characters I focused on my favourite Portuguese gargoyle rather than the Spanish ones, following the feelings of joy instead of my analytical brain. The collage, however, was where my frustrations began and this was a problem I found across all 10 chosen themes. Through analysis of the full body of work, it is clear the drawings flow freely but not the collage, and I believe this is directly connected to how I perceive these two techniques. Because the drawings are implicitly still sketches, there is no pressure for them to be perfect. Collage, on the other hand, is a technique I see as having the potential for a finished illustration, and therefore, in my unconscious mind, it must be taken seriously. The difference of pressure I was putting in these techniques while developing all 10 illustrations was made visible by, on one hand a fun and playful drawing, and on the other, a very stiff collage [fig. 6].

The reluctance to switch from digital into analogue image-making, when valuing results above process, is one of the challenges Brian Cairns identifies in his case study 'The Value of the Handmade in a Digital Age' [21]. I had not succeeded in separating my professional self from this new persona,

Fig. 6. Final drawing in contrast with final collage for the gargoyle theme.

demanding client ready outcomes from a methodology of play. This new approach did not break away from the previous work process and it became a priority to find a methodology that truly distinguished itself from a well-developed and overused serious approach to illustration.

4. Collaboration

In hope of finding a way to stifle Sara Feio's organised professionalism, to give way to Adam Fiasco's chaotic playfulness, I looked for alternative solutions. Similarly to Fernando Pessoa with his heteronyms, I was interested in providing a dialectic discourse between these two parts, so that Adam Fiasco could emerge. I created the stage for this visual argument between my apollonian and dionysian sides [22] by retrieving a digitally drawn self-portrait and deconstructing it manually, creating a set of reimagined versions that were more energetic than the original one and a step in the right direction towards reinvention [fig. 7]. With these collaborative portraits I was no longer making changes in procedure, but creating a 'domain-shift' [23], repurposing my digitally drawn illustration and rebuilding it through touch and play, to provoke a deeper metamorphosis within my practice. Distortion turned the visual symbol of Adam Fiasco's work, in opposition to the previous attachment I had of creating accurate depictions.

Although this approach worked well as a method it could not be made into a formula, as it would create dependency on my old self for raw materials. These portraits' value was not visual, but rather symbolic. With this destructive action and distorted rebuilding, I signalled a shift to

my Jungian Self, a change to the whole, not just the alter ego. Instead of focusing on a practice-based methodology, I was accepting a practice-led approach, refusing to focus on client-ready results and eradicating the pressures previously exerted on image-making. There is value in creating expressive illustrations that are unpolished, as proven by the double-coloured gargoyle drawing [fig. 6]. What is lacking in my methodology is a method of anchoring this carefree mindset.

Fig. 7. Digital self-portrait (left) in contrast with one of the reimagined outcomes in collage (right).

5. Dressing the part

In exploring ways to maintain the mindset of mischief fun, I discovered two studies that investigated the benefits of dissociating when performing a task [24],[25]. Both studies demonstrated an increase of perseverance and playfulness in task performance, when the subjects imagined they were superheroes rather than themselves. Although the subjects were young children, this 'Batman Effect' could most likely be applied to an adult illustrator seeking to part from their dominant self, as suggested by the BBC in an article on musicians' alter egos [26]. In order to embody this fictional character of Adam Fiasco, he needed a background story. To keep with the humour, I used a word play between illustrators having a practice, thus making them practitioners, and a general practitioner or GP, creating the Fiasco Clinic, the fictional practice of Adam Fiasco. This was where my professional self could have whatever was stuck up her butt removed – Adam Fiasco's words, not mine. With this clinic in mind, I drew a variation of the Adam Fiasco logo for the clinic, where the catfish character has its nose sticking out of the surgical mask. I then created a set of artifacts around the idea of Adam Fiasco performing surgeries to remove general up-the-butt stuckness [fig. 8]. The possibilities of play are endless with this theme:

I use a knife for collage that resembles a surgical scalpel and have enjoyed exploring embroidery (stitching). These tools combined create an emergency kit, a toolset to aid in the removal of stiffness (or up-the-butt stuckness) by stepping away from the digital realm. Then for my head, a surgeon's hat, but instead of a standard shape it's shaped like the catfish logo drawing. The universal white coat has an official name tag from the clinic, ordered from the same company that does many NHS badges, and a patch sewn to the sleeve to reinforce who I am embodying. There is also a plaster made of durable canvas material with a coat of beige paint, an easily replicated format, on which I can write words according to what my creative mood is, with a few options being 'make a mess' and 'chaos is fun', reminding myself to focus on that aspect when illustrating.

Whenever the outfit is on, I commit fully to the alter ego self, separate from my professional self. This performative metamorphosis allows me to focus on playfulness and being present with the process, rather than focus-

Fig. 8. Outfit for embodying my alter ego, Adam Fiasco.

ing on the outcome. Similarly to Caroline Pedler, I feel confident that through a reflective practice I have enough tools in my toolkit to be able to explore the process without the fear of creating work that is too far removed from the discipline of illustration. But unlike Pedler, and maybe more like Jon Burgerman, I am no longer aiming for a finished client-ready outcome, but rather to be able to make this temporary transition into my playful self without interference from my professional self. When I change into Adam Fiasco's clothes, my methodology changes from focusing on results into one that values the symbolic ritual of getting into character. By disassociating from the self that has caused me a burnout, into a self that is still exploring the possibilities of being playful with both material and delivery, I hope to be able to explore visual communication, narrative and composition more freely. I can now use this to develop my practice into a different direction than initially expected, with playfulness no longer being a means to an end, but the aim.

6. Conclusion

In creating an alter ego, I believe I have found an authentic path for exploring a playful part of my practice. I come away not with a reinvented visual language, but with a collection of wearable artifacts that help me become and explore my other self, Adam Fiasco. Exploring this alter ego is an ongoing project, it is a work-in-progress that demands constant action through image-making and constant reflection on what is being created, to then create and reflect more. Much like Batman or a Drag Queen, the performative act of dressing up to become Adam Fiasco gives me the sense of being unrestricted creatively. This symbolic ritual of dissociation allows me the freedom to explore various analogue techniques and materials; to formulate humorous and maybe even rude narratives; to create distorted fluid composition; and to communicate visually with a minimalistic approach to the elements used. The complete outfit is a motivator to stay in the moment, and a constant reminder to not take myself too seriously.

I am also curious to try the "Batman Effect" studies on other illustrators during workshops and learn from their experiences. I hope that, over time, some of the knowledge I gain from being Adam Fiasco can flow into my professional illustrator self, so I can separate the work I create from my self-worth. In the long term I am to feel that "calor na barriga" in freelance work too, not just when dissociating – but for now I am excited about exploring Adam Fiasco and the mythology around him further.

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Leal da Câmara e a representação da polícia n'*A Marselheza* e n'*A Corja!*

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Abstract

During the last two decades of the Portuguese Monarchy, the press was heavily scrutinized by the regime and the police played an instrumental role in implementing the censorship apparatus. During this period, radical republicanism was one of the most prominent factions in the political struggle against monarchical institutions and their actors, and the republican press was also one of the most affected by political persecution, having been the target of seizures, convictions, and imprisonment of many of its supporters. In this context, while working for the caricature newspapers A Marselheza and A Corja! (1897-98), the press illustrator Tomás Leal da Câmara, as he published illustrations that represented different aspects of political life at the time, insisted, in parallel, on a set of strategies that circumvented the prohibition of representing the king, and he represented in a variety of ways the agents of the Civil Police of Lisbon in charge of monitoring the press.

This article frames the representations of the police as a way of denouncing the censorship promoted by the monarchical regime; argues that Leal da Câmara's ridicule of the police was made at a time when relations between the police and the population of Lisbon were already difficult; and proposes that the illustrator's insistence on representing the king and the police constitutes an effective communication strategy to demoralize the regime in which, on the one hand, he provoked the authorities by violating the prohibition of representing the king and, on the other hand, he denounced the actions of the censorship, writing about them and ridiculing the police repeatedly in the pages of these two newspapers.

1. Introdução

Os desenhos publicados por Tomás Leal da Câmara (1876-1948) nos jornais humorísticos *A Marselheza* e *A Corja!* constituem um conjunto particular de estratégias pictóricas que respondem às circunstâncias da censura durante os últimos anos da monarquia portuguesa. De novembro de 1897 a outubro de 1898, período que abarca o seu percurso nestas duas publicações, os desenhos que aí publica vão desde um ataque cerrado à vida política e personalidades do regime até às formas provocadoras que encontra para contornar a proibição de representar o rei D. Carlos,

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que acabariam por levá-lo ao exílio. Se no final do século XIX a imprensa portuguesa já contava com uma tradição sonante em denunciar os actos de censura do regime [1] [2] [3], a participação de Leal da Câmara nestes dois jornais humorísticos parece ter trazido a denúncia da censura para o centro da sua estratégia de comunicação. Neste sentido, os inúmeros desenhos que surgem representando a Polícia Civil de Lisboa são a forma mais recorrente de mostrar que o jornal estava sob constante vigilância das autoridades – ao longo dos vinte e cinco números em que colabora com *A Marselheza*, apenas um número não tem qualquer representação visual de elementos das forças policiais; e, ao longo dos dezassete números d'*A Corja!*, há apenas dois.

Durante o período em que Leal da Câmara trabalhou para *A Marselheza* e *A Corja!*, Portugal encontrava-se numa época particularmente tensa nas relações entre as instituições políticas e a imprensa periódica. Ainda durante os últimos anos do reinado de D. Luís, a imprensa tinha tido um papel determinante na amplificação de um ideário que apontava para um decadentismo cultural e político, iniciado na Questão Coimbrã e levado a cabo nas campanhas democráticas da Geração de 70 [4]. Foi, no entanto, a partir do Ultimato Britânico (1890), encarado como uma humilhação nacional, da reação que se deu no Porto, a 31 de janeiro de 1891, e ainda com a crise financeira que se instalou alguns meses depois, que uma nova geração republicana passou a liderar o descontentamento de vários quadrantes da sociedade, denunciando a inaptidão do regime monárquico para gerir a crise nacional. Tratava-se de uma geração republicana mais radical que a anterior, um republicanismo revolucionário contrário a qualquer colaboração com partidos monárquicos [5]. Se anteriormente já se criticavam a instabilidade política, o caos no parlamento, a falta de união nos partidos e a sua incapacidade de levar a cabo reformas de fundo, bem como uma série de escândalos de corrupção que chegaram ao conhecimento público [6], após o Ultimato, o descontentamento foi violentamente amplificado e o republicanismo passou a monopolizar a insatisfação nacional.

Neste movimento, as publicações periódicas tiveram uma importância fundamental. No seu papel de reguladora do funcionamento das instituições liberais, a imprensa teve um apogeu do seu desenvolvimento durante o período compreendido entre a fundação do Diário de Notícias (1865) e a Implantação da República (1910); durante esse período criaram-se mais e melhores jornais e o seu grau de influência na vida social e política foi bastante expressivo [4] e, entre outras correntes políticas, a imprensa republicana estava na vanguarda das exigências colocadas ao poder político. Como referiu José Miguel Sardica:

 Governar deixou de ser administrar um país tranquilo e rotineiro e uma balança rotativa que funcionava em circuito fechado entre as elites e passou a ser ter de enfrentar críticos e adversários que faziam ruído com os livros que publicavam, com os jornais em que escreviam, com a oposição que moviam ao sistema, a partir de dentro ou cada vez mais fora dele, em grémios, clubes, associações, lojas maçónicas ou comícios de rua. [6]

Pouco depois da sua coroação, em 1889, o jovem rei "D. Carlos I, o

último", como se lhe chegou a referir Rafael Bordallo Pinheiro[2], não teve a vida facilitada. E, como consequência, o seu reinado foi marcado por uma tensão algo paradoxal entre os valores liberais defendidos pelo regime e as práticas restritivas que procurou impor [5]: em março de 1890 surgiu a Lei de Lopo Vaz, que determinava "suspensão de jornais em caso de abuso e a supressão por reincidência" [3]; e em fevereiro de 1896 surgiu a então chamada *lei dos anarquistas*, que permitia um julgamento sumário sem a presença de júri como garantia jurídica e consequente deportação para o Ultramar [7] [8] que acabou por levar Leal da Câmara ao exílio nos últimos meses de 1898. Apesar do nome com que ficou conhecida, esta última lei serviu mais para controlar a imprensa republicana do que para vigiar o movimento operário ou evitar atentados[3].

2. A Marselheza, A Corja! e os problemas com as autoridades

Depois de ter angariado reconhecimento nos jornais *O Inferno: Jornal de arte e crítica* (1896), *D. Quixote* (1896-97), quinzenário de literatura e crítica, e n'*Os Ridículos* (1897), um bissemanário humorístico, a 28 de novembro de 1897 saiu o primeiro número de *A Marselheza: Supplemento de Caricaturas*, com desenhos do jovem Leal da Câmara, um suplemento afeto ao diário *A Marselheza*[4], dirigido por João Pinheiro Chagas. À data em que saiu o primeiro número do suplemento, o jornal principal já tinha tido problemas com as autoridades. De acordo com Samuel Calvelas Vicente:

> Desde a comemoração do 1º Aniversário da vinda a público do jornal *A Marselheza*, efusivamente comemorado no Restaurante Leão de Ouro em Lisboa, onde se reuniram os mais directos colaboradores, que o Delegado do Governo, o famigerado Juiz de Instrução Veiga, instalado na Travessa da Parreirinha, que esta folha republicana não deixou de ter descanso. Foi um verão bem quente para este órgão de imprensa diária a quem o censor oficial não dava tréguas [10].

Fosse por responsabilidade própria ou por contágio, a primeira versão do suplemento de caricaturas apenas durou cinco números até a polícia proibir a sua publicação [11] [12]; para garantir a sua sobrevivência, foi necessário renegar a ligação do suplemento ao jornal principal [12], e o sexto número surgiu com um título diferente, *Marselheza: Semanário de Caricaturas*, em que o artigo "A" da versão anterior foi substituído por um polícia em posição semelhante ao *A* (fig. 1); independentemente desta desvinculação, o jornal completou duas séries de vinte e quatro números e ainda iniciou uma terceira que foi interrompida. Leal da Câmara apenas colaborou até ao nº 25 (22 de maio de 1898), pouco tempo depois de ter sido intimado a ser julgado em tribunal. A última página do nº 22 (1 de maio de 1898) dá conta de uma intimação entregue pela polícia a Leal da Câmara nas instalações do jornal, informando-o que comparecesse no

Fig. 1. Cabeçalhos dos números 1 e 6.

2 *Pontos nos ii*, 2 de janeiro de 1890, p. 8.

3 Como o comprova uma análise à correspondência entre o chefe do governo Ernesto Hintze Ribeiro e o juíz de instrução Francisco Maria da Veiga [9].

4 *A Marselheza*, publicou o seu primeiro número a 4 de agosto de 1896 e terminou a 8 de janeiro de 1898.

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Governo Civil devido a um processo instaurado ao nº 20, por conta de caricaturas que fez do rei ("As attribulações d'um 'Guerritta'"). A partir do nº 26, foi substituído pelos ilustradores Chico Lisboa e Trindade Correia, que levaram o jornal até ao número 57, até que "a polícia novamente lhe botou a luva, acabando, então, com a raça das 'Marselhezas', com 'A' e sem 'A', como já tinha acabado com o jornal de João Chagas" [11].

O jornal *A Corja!* foi fundado e dirigido por Leal da Câmara, teve o seu primeiro número a 29 de junho do mesmo ano e a sua curta vida foi igualmente fustigada por problemas com as autoridades. As apreensões traziam problemas de sustentabilidade financeira, os problemas com a polícia trouxeram dificuldades para encontrar tipografias que imprimissem o jornal e, ao cabo de dezassete números, o jornal foi apreendido uma última vez [13]. No mês seguinte, a 27 de novembro, o nº 54 da *Marselheza: Semanário de Caricaturas* informava os leitores que Leal da Câmara estava exilado em Madrid, "para não ir jazer no Limoeiro"5 e evitar deportação para o Ultramar.

3. Representando a polícia para denunciar a censura

A ilustração de capa do nº 1 da *Marselheza: Supplemento de Caricaturas* foi "praticamente, um convite à mobilização republicana" [12] e mostra uma multidão empunhando armas e bandeiras, encabeçada pela figura feminina de barrete frígio vermelho, *Marianne*, a alegoria da Liberdade e representante da República. O editorial termina dizendo "A Marselheza, propõe-se destruir, antes de mais nada – as instituições". Este número do jornal foi impresso a negro e vermelho e, por trás do cabeçalho, vemos três polícias civis impressos a vermelho, lendo o jornal, anunciando-o, distribuindo-o. A presença dos polícias parece ilustrar o *slogan* logo abaixo do cabeçalho, "O supplemento da 'Marselheza' é o jornal de maior circulação em todo o... Governo Civil", que é utilizado apenas do nº1 ao nº 25, o período em que Leal da Câmara permanece na *Marselheza*. Quando, mais tarde, cria *A Corja!*, Leal da Câmara leva o *slogan* consigo. Sobre a inclusão da figura do polícia, numa entrevista feita em 1929, Leal da Câmara refere:

Nestes tempos, já lá vão trinta anos, nem eu nem os que me auxiliavam na confecção da *Corja* e da *Marselheza* descansávamos. Éramos constantemente presos. Bati mesmo o record das perseguições, de que João Chagas se julgava o detentor. Havia duas figuras em que eu insistia: o polícia de bigodes façanhudos, manápulas grosseiras, catana em riste – e o rei. O juiz Veiga mandava apreender os jornais e prender os vendedores. Depois chamavam-me pedindo para lhe mandar as páginas antes de impressas. Eu que não sou tolo, disse-lhe – 'Corte o que tem a cortar nas litografias'. Assim fez! Publiquei então a caricatura antes e depois de censurada. Sensação no público. Veiga tornou-me a chamar, entregando-me um papelinho com as coisas honestas, elegantes ou pitorescas (palavra dele) que podia caricaturar6.

Ao longo destes vinte e cinco números, a figura do polícia surge em

Fig. 2. Capa. *A Marselheza: Supplemento de Caricaturas*, nº 3, 12 de dezembro de 1897.

Fig. 3. Polícias dançando. *A Marselheza: Supplemento de Caricaturas*, nº 4, 19 de dezembro de 1897, p.4.
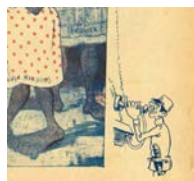
Fig. 4. Polícia na margem da página. *A Marselheza: Supplemento de Caricaturas*, nº 3, 12 de dezembro de 1897, p. 3.

5 O *Limoeiro* foi o principal estabelecimento prisional de Lisboa entre os séculos XVII e XIX, onde eventualmente passavam todos os condenados a deportação para o Ultramar. Em 1896, o jornalista Faustino da Fonseca fez publicar o relato da sua experiência nesta prisão em *Três Mezes no Limoeiro (Notas da Prisão)*, com ilustração de capa de Leal da Câmara.
6 Entrevista publicada no *Diário de Lisboa*, 24 de outubro de 1929. Citado em [14].

diferentes localizações: há um número significativo de ocorrências no cabeçalho; aparece inúmeras vezes espalhado pelo jornal, ora ilustrando notícias relacionadas com censura (fig. 2), ora sem relação com o texto mais próximo (fig. 3); surge também em pequeno formato nas margens do jornal (fig. 4), como uma narrativa decorrendo paralelamente aos temas específicos de cada publicação. A par da diversidade na localização, os polícias são representados em diferentes acções, nomeadamente a correr atrás de ardinas; a fazer rondas; surgem à paisana a espreitar, escondidos atrás de uma esquina; podemos vê-los a ler jornais, a distribuí-los, a apreendê-los, a fazer telefonemas a outros polícias, entre outras situações.

A atenção que Leal da Câmara dedicou à polícia não foi uma estratégia isolada; desde o início da década de 90, com o cerco feito pelo governo à imprensa, a acção da polícia foi frequentemente denunciada por vários jornais que viam as suas publicações apreendidas e os seus trabalhadores presos. Na imprensa ilustrada ocorreu o mesmo, com vários ilustradores a associarem a acção da polícia à limitação da liberdade de imprensa (fig. 5). A este propósito, a diferença entre Leal da Câmara e outros ilustradores de imprensa está, talvez, na insistência com que o fez. A avaliar pela quantidade de vezes que representou a polícia ao longo dos doze números da revista D. Quixote (fig. 6), ainda antes de trabalhar para A Marselheza, percebemos que se trata de uma escolha programática.

Numa primeira análise, entende-se que Leal da Câmara insistiu em representar a polícia como forma de denunciar a censura, as perseguições e as apreensões. Desde que a Monarquia Constitucional abriu caminho para a criação de uma imprensa livre, várias circunstâncias políticas contribuíram para que esse caminho não fosse livre de obstáculos, e os jornais fizeram pressão para mostrar essas dificuldades. Por exemplo, em 1826 e 1827, no jornal O Portuguez, diário político, litterario e commercial, onde escrevia Almeida Garrett, os cortes da censura foram tornados visíveis por decisão editorial de deixar os espaços de texto censurado em branco [3]. Muitas vezes, o próprio jornal anunciava a apreensão dos seus números pela polícia, ou chegavam mesmo a ser outros jornais que, em solidariedade, denunciavam as acções policiais. Na imprensa ilustrada, os sucessivos avanços e recuos na regulação da liberdade de imprensa deixaram um historial de práticas iconográficas e hábitos de representação relativos à censura. Refira-se a este propósito, durante o governo de Costa Cabral, na década de 40, a imagem de um apagador de velas que tanto surgia a extinguir o cabralismo dictatorial como, por outro lado, figurava a força opressora a extinguir a liberdade de imprensa [2]. A imagem do cutelo surgiu também de modo ambivalente, ora "simbolizando a liberdade a decepar a mão do despotismo, como a opressão que corta a cabeça, a inteligência da imprensa" [2]. A famosa imagem da rolha, que deu origem à expressão *Lei*

Fig. 5. *Pontos a baixo!*. Ilustração publicada logo após a Lei de Lopo Vaz. Manuel Gustavo Bordalo Pinheiro, *Pontos nos ii*, 10 de abril de 1890, p. 114.

Fig. 6. *No hotel da imprensa*. Leal da Câmara, *D. Quixote*, nº5, 23 de agosto de 1896, p. 76.

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da Rolha foi também um tema recorrente associado à censura7. Outros elementos iconográficos alusivos à censura foram ainda as personagens com indumentária usada pela inquisição, a prensa (que esmaga ou é esmagada), o garrote, a tesoura, o lápis partido, o cabo de aparo partido, o boião de tinta, os borrões de tinta, a prisão, a polícia.

O próprio Leal da Câmara usou algumas destas práticas iconográficas. No entanto, como refere o próprio na entrevista ao *Diário de Lisboa*, a sua estratégia de comunicação passava por desenhar inúmeras vezes o rei D. Carlos, por um lado, e os polícias, por outro. Assim, quando lemos *A Marselheza* e *A Corja!*, temos a sensação de estar a ler múltiplas variações sobre os mesmos tópicos que evoluem narrativamente, e o tom é o de desafio. Como referido anteriormente, o primeiro número d'*A Marselheza* lança o mote, começando com uma espécie de convite à mobilização republicana; ainda no mesmo número, vemos o rei D. Carlos como um vendedor de tâmaras; no segundo número, vemos D. Carlos como um bonacheirão dançando com traje ribatejano e chapéu à mazantino (fig. 7); no mesmo número ainda, vemo-lo como ajudante carregador de uma comissão estrangeira. Enquanto tudo isto ocorre, há polícias desenhados um pouco por todo o lado; no nº 3, já a polícia surge a correr atrás de um ardina, com o título "Apprehensão de Domingo" (fig. 2); na capa do nº4 vemos o rei vestido de palhaço, de costas, para criar a dúvida no censor; no mesmo número, por trás de uma grande bandeira monárquica, vemos o chapéu à mazantino e uma mãozinha a estalar o dedo, em posição semelhante à do rei que dança (fig. 8); nos números 5 e 6 não há ilustrações jocosas ao rei; no nº 7, vemos o rei, de costas, em cima de uma caixa discursando, enquanto um membro do governo dá corda à caixa; na última página do mesmo número lemos uma "declaração", dizendo que a polícia apreendeu o número anterior por se ter representado o rei, mas o jornal argumenta sarcasticamente que aquele não é o rei, mas o administrador do jornal, Theodoro Ribeiro; a ilustração de capa do nº 8 surge, uma vez mais, com um polícia que leva preso um ardina; quase todo esse número é sobre as apreensões d'*A Marselheza*; na penúltima página, há uma ilustração composta que, sob a proibição de representar o rei, Leal da Câmara desenha o chapéu à mazantino, o charuto, o bigode, etc. (fig. 9); daí em diante, há uma espécie de exercício estético abraçado por Leal da Câmara sobre como representar o rei, não o representando. Há, naturalmente, tópicos que se reportam aos acontecimentos do país e do mundo – como, por exemplo, a dívida externa, a divisão do continente africano pelas potências europeias, a guerra hispano-americana, alguns comentários sobre políticos nacionais – mas esses tópicos são constantemente intercalados com um jogo do gato e do rato, cujos intervenientes são o rei alegre e tonto, os polícias que andam sempre a rondar, e o próprio jornal, ou o ilustrador, que desafia o poder.

Fig. 7. Capa, *A Marselheza: Supplemento de Caricaturas*, nº 2, 5 de dezembro de 1897.

Fig. 8. *Synthese da Situação, A Marselheza: Supplemento de Caricaturas*, nº 4, 19 de dezembro de 1897, p. 2-3.

7 Veja-se, por exemplo "A Liberdade de Fallar", por autor anónimo, publicado a 1 de fevereiro de 1850 no Supplemento Burlesco ao Patriota; veja-se, ainda, "Pum, cá está a Lei da Rolha" da autoria de Rafael Bordallo Pinheiro, publicado a 10 de abril de 1890 no Pontos nos ii. Em 2005, no âmbito das comemorações do centenário da morte de Rafael Bordalo Pinheiro, a Hemeroteca Digital de Lisboa organizou a exposição A Rolha. Política e Imprensa na Obra Humorística de Rafael Bordalo Pinheiro (1875-1905), que esteve patente na Galeria de Exposições dos Paços do Concelho entre 21 de março e 29 de julho de 2005 [1].

Fig. 9. *A' Policia, A Marselheza: Supplemento de Caricaturas*, nº 8, 16 de janeiro de 1898, p. 3.

Fig. 10. *Aos Leitores da 'Corja', A Corja!*, nº 5, 31 de julho de 1898, p. 4.

Embora Leal da Câmara não se tenha referido ao jornal, ou a si próprio, na entrevista acima citada, o jornal (ou ele próprio) é uma peça determinante no conjunto – a causa primeira que desencadeia toda esta narrativa, que começa no primeiro número d'*A Marselheza* e acaba no último número d'*A Corja!*, com a sua fuga para Madrid. Ler *A Marselheza* e *A Corja!* não era apenas ler e ver humor sobre as últimas novidades do reino e o seu lugar no mundo, era também ler sobre as novas peripécias entre a equipa do jornal e as autoridades censórias; era ler uma variação narrativa do conflito entre o engenho audaz e a força bruta. Ao longo dos sucessivos números, o leitor ia lendo as aventuras de um triângulo composto pelo autor (o herói audaz), o rei (cuja representação é proibida, mas que o herói audaz contorna pelo bem comum) e a polícia (os brutos que o perseguem).

Desde o primeiro número d'*A Marselheza*, o tom dos editoriais é pessoal, feito na primeira pessoa do plural, e, a partir do primeiro número d'*A Corja!*, começaram a ser publicadas caricaturas do próprio Leal da Câmara como personagem do jornal. Inicialmente, o autorretrato surge na animada troca de telegramas e telefonemas com o correspondente do Porto, Sebastião Sanhudo, e posteriormente como o personagem que lida diretamente com a polícia, como acontece na última página do nº 5, onde o personagem Leal da Câmara aparece numa narrativa de página inteira explicando que o jornal não tinha saído no domingo anterior por culpa do juíz Veiga e que, por ter um polícia destacado só para o seguir, refere, "o nosso amigo 372 tanto andou, tanto andou, até que se travou de namoro com a própria criada da minha namorada e d'ahi por diante nem namorar, o maldito me deixava"(fig. 10).

4. Os polícias nas margens

Desde a criação da Polícia Civil de Lisboa, em 1867, o perfil do agente policial foi marcado pela ruralidade. De acordo com um estudo de Maria João Vaz, mais de 90% dos polícias que entraram ao serviço nesta instituição entre 1875 e 1906 eram provenientes de fora do distrito de Lisboa; entre estes, a maior parte era oriunda de freguesias e concelhos rurais pertencentes aos vários distritos nacionais, com maior incidência nos distritos de Viseu, Guarda, Coimbra e Santarém. Antes de ingressar na polícia, mais de metade dos seus agentes teve profissões ligadas à actividade rural marcadas pela precariedade (jornaleiro, trabalhador), e os restantes tinham sido lavradores, criados de servir, caixeiros, seareiros, pedreiros, pastores. O salário auferido por um polícia não era atrativo para profissionais com conhecimentos especializados (como mestre-de-obras, serralheiro, torneiro, caldeireiro ou tintureiro), mas era apelativo para trabalhadores indiferenciados que, ao ingressarem na Polícia Civil, podiam contar com a continuidade de um vencimento ao fim do mês e com a possibilidade de progressão na carreira [16].

Ao ingressar na Polícia Civil, o agente policial tornava-se um represen-

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tante da autoridade do Estado junto do quotidiano das populações, com a competência de vigiar o espaço público. A criação de uma polícia não militarizada, sem outras ocupações profissionais, cujos agentes "devem ser indivíduos que, pela sua moralidade, honestidade e prudência chamem sobre si as simpatias do público"[8], tem sido muitas vezes vista como uma resposta dos estados liberais às preocupações e valores das elites burguesas e à necessária ordem para o desenvolvimento económico. Por conseguinte, os diplomas legais que serviram de base às instituições policiais que foram fundadas após 1820 tendiam a sublinhar a manutenção da ordem enquanto se salvaguardava a liberdade dos cidadãos; ao passo que os polícias deviam agir com iniciativa segura e determinada, recomendava-se prudência e moderação na sua acção; para levar o polícia a procurar este tipo de atitude na sua relação com a população, o agente policial andava praticamente desarmado, trazendo apenas um terçado, ou chanfalho [9] [16] [17].

Porém, apesar deste cuidado, as relações entre a polícia e a população de Lisboa nem sempre foi a melhor. O tipo de comportamento que o polícia deveria implementar e ser exemplo reflete o cidadão ideal tal como era visto pelas classes dominantes, e não tanto aquele praticado pelas classes populares, o que significa que uma das funções policiais era, em certa medida, o de ter uma acção civilizadora, com o objetivo claro de "erradicar os seus modos vida, expressão e lazer algo brutais, de tornar os seus costumes mais púdicos, de lhes incutir as ideias de respeito pela propriedade privada, de os levar a adotar os ideais burgueses, capitalistas, liberais e consensuais" [17]. Em suma, parte das tarefas dos polícias consistia em disciplinar a população de Lisboa, sobretudo as classes mais baixas, incutindo valores que esta, muitas das vezes, não partilhava. De acordo com Maria João Vaz, nos anos e 1893, 1894 e 1895, o tipo de ocorrência que deu origem ao maior número de condenações foram desobediências e resistências à autoridade que partiam de intervenções no quotidiano, tais como chamadas de atenção a cocheiros e carroceiros que se entendia estarem a interromper o trânsito, advertências a pequenos comerciantes sobre a disposição da mercadoria na via pública ou pela abordagem que estes faziam aos transeuntes, desobediência a chamadas de atenção de estar deitado ou urinar em lugares impróprios, perseguição da embriaguez, etc. Por conseguinte, os agentes eram vistos como um grupo estranho que vinha disciplinar o que parecia aceitável, em vez de combater o crime [17].

Isto significa que a divisão de classes operada por Leal da Câmara naquela pequena cena cómica que acima se descreveu (enquanto Leal da Câmara namora a jovem da casa, o polícia namora a criada) (fig. 10) não se trata de uma mera ridicularização forçada pelo discurso; os agentes da Polícia Civil de Lisboa foram, de facto, por vezes criticados pela sua proveniência social. Sob um desenho de Celso Hermínio[9], foi colocada uma legenda onde se refere que um polícia berrava "Por orde do sr. Juiz Veiga é porivido pensar"; em agosto de 1899, estando Leal da Câmara já em Madrid, o jornal

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8 Afirmação proferida numa comissão parlamentar de 1867. Citado em [9].

9 Celso Hermínio (1871-1904). O desenho em questão está publicado em *A Censura na Iconografia e na Caricatura Portuguesa* (1997), de Osvaldo Macedo de Sousa, na página 22, não tendo sido referido o local onde foi originalmente publicado nem a data de publicação.

O Diabo: Pamphleto de caricaturas semanal publicou um hipotético diálogo entre um polícia e um outro homem a quem o polícia tomou por ser Leal da Câmara, onde o polícia refere "Já le disse que o Sr. chama-se Leal da Câmara", onde o *lhe* é substituído por um *le* e o diálogo termina dizendo que "era mais dura a cabeça d um polícia, que a d um burro". Num desenho de João Amaral, publicado em *O Riso*, a 27 de Setembro de 1908, intitulado "Polícia Civil", na legenda pode ler-se "É um cavalheiro incivil a quem as órdes superiores concedem por meio da desordem manter a ordem" (*órdes*, e não ordens); em todas estas legendas, os aspetos vernaculares da fala dos polícias encontram-se assinalados a itálico.

Para além de a insistência em representar a polícia ser uma forma de denunciar a censura e mostrar a instrumentalização política daquela instituição, é também uma forma eficaz de criticar o regime (uma vez que a polícia é representante da sua autoridade) sem ser necessário deslindar outros meandros das suas políticas. Apresentar as relações entre polícias e jornalistas como um jogo do gato e do rato era uma narrativa simples com a qual muitos se podiam relacionar, dada a severidade com que a polícia era vista pelas camadas populares em Lisboa. Mostrar o que acontecia aos jornalistas era mostrar o que acontecia a todos os que se aventurassem a criticar o regime. Por outras palavras, da mesma forma que a polícia importunava os habitantes em vez de combater a marginalidade, como era seu dever aos olhos de todos, assim o fazia também à classe de jornalistas. De facto, Leal da Câmara parece, assim, aproveitar a onda de descontentamento em relação à Polícia Civil de Lisboa, com o objetivo de a converter em descontentamento em relação ao regime.

Quando, por outro lado, Leal da Câmara utiliza os desenhos da polícia como paratexto, nomeadamente quando os coloca nas margens (figs. 1, 2, 4, 7 e 8), abre-se um campo semântico que parece jogar com as noções de margem (do jornal) e de marginalidade (que a polícia deveria combater). As noções de margem e marginalidade têm uma importância determinante na história e cultura do desenho de imprensa e da caricatura. Ao longo do século XIX, a produção do ilustrador de imprensa foi várias vezes associada a formas de arte vernaculares, como os grafitos feitos por anónimos ou os desenhos das crianças [18]. O garatujo que deforma deliberadamente o real, que encena situações jocosas sem refinamento, esse desenho informal e petulante que afetou a atitude do desenho de caricatura surgiu em posições marginais – nas margens de livros, de manuscritos, nas paredes das casas ou nos muros das ruas – e foi muitas vezes considerada uma prática artística marginal em relação às artes maiores. Antes do período romântico, este tipo de produção gráfica, que tinha sido classificada como bárbara ou sem interesse, passou a ser apreciada devido ao seu valor enquanto área de actuação estética por direito próprio [19] [20] e enquanto documento histórico, a partir da qual se poderia fazer inferências sobre diferentes aspetos do passado [21] [22]. Ao longo da história do desenho de caricatura, houve ilustradores que não esconderam a sua identificação com a atitude destes desenhos marginais. Em 1833, Auguste Bouquet desenhou, para o jornal *La Caricature*, um gru-

po de crianças a desenharem pêras numa parede[10], as mesmas pêras que desenhavam então os ilustradores do jornal *La Caricature* para criticar o rei Louis Philippe; numa ilustração para o livro *Les Cent Proverbes* (1845), J. J. Grandville representou-se a si próprio a escrever o seu nome numa parede ao lado de uma criança (fig. 11); por volta de 1901, Charles Harrison publicava na *Punch, or the London Charivari*, uma série de desenhos infantis assinando, com erro ortográfico proposital, "drorn by Harry's son".

Numa primeira análise ao representar as figuras dos polícias civis nas margens do jornal, a leitura parece ser a de lembrar a cada momento que o jornal se encontrava sob constante escrutínio das autoridades. Por outro lado, parece haver aqui também um trocadilho em jogo, que coloca a polícia (e, por conseguinte, os seus mandatários) num lugar de marginalidade. Esta última interpretação não é totalmente descabida, uma vez que se afirma no editorial do primeiro número d'*A Marselheza* "(...) o público, em Portugal, não é constituido das pessoas que compram os jornaes, mas das pessoas que os roubam", ou seja, o Governo Civil que proíbe e confisca. Neste jogo, Leal da Câmara parece abrir uma dinâmica entre o que é mostrado ao centro e a polícia que vigia nas margens (e restante paratexto) do jornal; um jogo semântico que, ao colocar a polícia num lugar de marginalidade, legitimiza a crítica do poder e da autoridade que se faz no centro das páginas.

5. Considerações finais

O jogo de forças que se deu nas últimas décadas da monarquia portuguesa entre o regime e a imprensa republicana resultou de um ambiente político que, embora não contemplasse a censura prévia, reprimia a crítica às instituições monárquicas. Este foi um período em que, apesar do regime ostentar uma orientação liberal, a liberdade de imprensa foi fortemente restringida e justificada por razões de Estado, tendo a Polícia Civil sido fundamental nesse processo.

Neste ambiente de tensão, quando Leal da Câmara chegou à *Marselheza* instaurou uma estratégia de comunicação onde a denúncia da censura teve, no mínimo, tanto peso quanto a representação dos acontecimentos políticos do reino. Ao longo da leitura dos diferentes números, vamos assistindo ao desenrolar de uma crise entre três intervenientes: o rei, representante máximo do regime que o aparelho de censura proibiu representar; os polícias, representantes do poder do Estado que vigiam constantemente a sociedade; e o próprio jornal, ou a personagem Leal da Câmara, que desafia insistentemente a proibição, explorando formas de representar o rei não o representando explicitamente.

O objetivo de qualquer campanha política é o de chegar a um público o mais numeroso possível e ampliar a sua base de apoio. Um jornal de caricatura, apesar de ser lido pelas camadas mais informadas da população tinha a capacidade de chegar a um público menos letrado. Ao passo que os comentários sobre intrigas e eventos políticos pudessem alienar uma parte da população, as relações com uma autoridade injusta ou abusiva

Fig. 11. J.J. Grandville, *Les Cent Proverbes*, 1845.

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10 Auguste Bouquet, *Voulez vous aller faire vos ordures plus loin, pollissons !*, *La Caricature*, 17 de janeiro de 1833.

tinham a capacidade de falar a toda a gente, sobretudo aos habitantes de Lisboa, que desde a criação da Polícia Civil vinham criticando a acção dos seus agentes. Nesse sentido, Leal da Câmara parece ter compreendido que uma campanha de desmoralização da figura do rei e do aparelho policial que representava a sua autoridade na rua era mais eficaz do que criticar as complexidades dos acontecimentos políticos.

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Sarah Affonso, uma pintora-ilustradora para a infância[1]

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Abstract

Centered on Sarah Affonso (1899-1983), this study highlights one of the lesser-known facets of the diverse artistic work of this Portuguese modernist painter: the illustration for children. We revisit the set of seven volumes for children that she illustrated, between 1925 and 1976, books by Fernanda de Castro, Carlos Amaro, Teresa Leitão de Barros, Sophia de Mello Breyner Andresen, Fernando de Castro Pires de Lima and Madalena Gomes. The main technical-compositional particularities are discussed and registered, as well as the different semantic articulations with the literary texts, thus characterizing the illustrative style of Sarah Affonso, in books especially aimed at children's readers.

1. Introdução

A História da ilustração para a infância em Portugal, ainda a carecer de uma abordagem panorâmica alargada e aprofundada, diacrónica e sincrónica, embora possamos já contar com alguns estudos académicos e com análises parcelares, integra diversos exemplares assinados por importantes nomes da pintura/arte portuguesa. Esta destaca-se, na verdade, como uma das tendências mais relevantes ou mais saliente num período durante o qual a figura do ilustrador "profissional em regime de exclusividade" ou como (co)autor de pleno direito, na verdade, não existia. Alice Gomes (1910-1983), por exemplo, no capítulo «As Figurinhas», incluído em *A Literatura para a Infância* (1979), refere-se entusiasticamente ao trabalho ilustrativo para a infância como «verdadeiras obras de arte» [8], muitas vezes assinadas por Carlos Carneiro (1900-1971), Carlos Botelho (1899-1982), Sarah Affonso (1899-1983), Maria Keil (1914-2012), entre outros, ou seja, por artistas já reconhecidos, antes de mais, pela sua pintura (ou outras expressões artísticas). Na mesma linha, Natércia Rocha (2001) regista o seguinte: «Pintores conceituados aparecem frequentemente a dar colaboração para [sic] livros de literatura infanto-juvenil. Desde Leal da Câmara a Sarah Affonso, de Noronha da Costa a José Escada, de Ofélia Marques à família Roque Gameiro e de Júlio Pomar a Júlio Resende, vários são os exemplos (...).» [15] [17].

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1 Este texto não segue o AO90.

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Efectivamente, no panorama editorial português para a infância, entre as décadas de 20 e 70 (note-se a amplitude deste arco temporal e, portanto, o carácter intermitente ou descontínuo que dele se poderá depreender), o nome da pintora modernista Sarah Affonso (Beato, Lisboa, 1899–Campo Grande, Lisboa, 1983), cuja presença singular na História da Arte Portuguesa tem vindo a ser progressivamente reconhecida [1], surgindo registado em sete volumes[3] especialmente vocacionados para o leitor infantil, emerge, quanto a nós, como muito relevante, conquanto esta se afigure como a faceta menos conhecida da artista.

Sarah Affonso, artista polifacetada, extraordinariamente fértil, continua a merecer, ainda, estudos generosos que, interligando as suas diversas criações, possibilitem o reconhecimento das singularidades da sua arte/obra[4]. Sarah Affonso, que «entrou na pintura por emoção» [13], estudou na Escola Superior de Belas Artes de Lisboa com Columbano Bordalo Pinheiro (1857-1929) – tendo sido a sua última aluna – e expôs, pela primeira vez, em 1923, na Sociedade Nacional das Belas Artes em Lisboa (SNBA). Em 1924, passou oito meses em Paris. A esta cidade regressa mais tarde, entre 1928 e 1929, e é aí que convive, por exemplo, com Lúcia Pecetto Souza-Cardozo (1890-1989) (viúva do pintor Amadeo de Souza-Cardoso), Eduardo Viana (1881-1967), Mily Possoz (1888-1968), Robert (1885-1941) e Sonia (1885-1979) Delaunay e conhece novas formas, técnicas e tendências artísticas. Quando regressou, criou ilustrações para obras infantis – que integram o *corpus* deste estudo – e, por exemplo, para o jornal *Abc-zinho*. Ao longo da sua vida, dedicou-se a actividades tão diversas como fazer bordados, candeeiros, botões de cerâmica, almofadas, colchas, cortinas, tapetes, toalhas de mesa, painéis de azulejo, elementos decorativos e outros pormenores de arquitetura, visíveis na casa onde morou com a família (Quinta da Lameirinha, em Bicesse, Alcabideche) que, com José de Almada Negreiros (1893-1970), criou. A pintura teve um espaço crucial na sua actividade, mas, em 1939, ano da última exposição individual na Galeria do Século, acaba por abandoná-la. A ilustração para a infância representou também uma das suas mais originais expressões artísticas, domínio cuja última criação data de 1976 e que, no nosso entender, merece uma revisitação analítica. Depois de ter abandonado a pintura, como mencionámos, talvez para se dedicar à vida familiar, prosseguiu, assim, a ilustração de livros para crianças. Deste conjunto, que integra sete obras, destacamos o volume da autoria de Madalena Gomes (1928-2010), *O Crocodilo e o Passarinho* (1976), o último que ilustrou. Esta obra, como lembra Alice Gomes, «foi representar a literatura portuguesa ilustrada na feira de Bratislava» [8].

2. Análise do corpus textual

O primeiro livro para a infância ilustrado por Sarah Affonso, datado de 1925,

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3 O levantamento efectuado teve por base a obra *Bibliografia Geral da Literatura Portuguesa para Crianças*, de Natércia Rocha (1987) [16], e a consulta dos registos patentes no catálogo da Biblioteca Nacional de Portugal.

4 Na linha do que é possível reconhecer em [14].
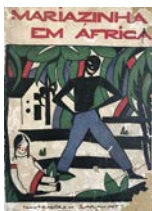
é da autoria de Fernanda de Castro (1900-1994)[5], autora por quem a pintora nutria uma grande amizade: **Mariazinha em África**.

São evidentes as imagens ostensivamente pautadas pelo tempo/contexto em que a obra é escrita, testemunhando concepções (em particular, por exemplo, o colonialismo, o nacionalismo e o paternalismo) e preconceitos comuns na época (hoje, inaceitáveis). Sobre esta obra escreve Natércia Rocha (2001): «Um romancinho de Fernanda de Castro, *Mariazinha em África* (1925), com ilustrações de Sarah Affonso, liga-se ao quotidiano, introduzindo-lhe uma certa tonalidade de exotismo a que um estilo cuidado, misto de ternura e malícia, deu fôlego e impulso para várias reedições. *Novas Aventuras de Mariazinha* prolonga-lhe o êxito.» [17]. Nas ilustrações de Sarah Affonso, em traço e cores fortes, como se observa na capa, predomina o negro. Em certos casos, parecem ter sido influenciadas pela técnica da gravura. Totalizando vinte e cinco, surgem inseridas ao longo dos doze capítulos que compõem o volume e surgem "enquadradas", numeradas e legendadas com brevíssimos segmentos retirados do texto. Deixam transparecer uma tendência para a exploração do exótico e do diferente, plasmados não apenas na recriação da fauna e da flora, mas também de trajes e rituais africanos.

Ainda nos anos 20 do século passado (1927), veio a lume **São João Subiu ao Trono**, de Carlos Amaro (1897-1946)[6], também ilustrado por Sarah Affonso.

Neste «Grande Auto ou Mysterio em 6 Jornadas» [3], como se pode ler na sua capa, uma divertida peça dedicada à filha, em verso de redondilha maior e sempre num discurso fluente e vivo, concilia-se o sagrado, o maravilhoso popular, o profano e o cómico, com ressonâncias da comédia vicentina e, ao nível estrutural, do próprio conto de fadas. A composição visual da obra é, em certa medida, anunciada pela capa, que, a traços finos e algumas manchas de cor (azul, amarela e negra), recria um quadro revelador da galeria de personagens da obra, colocando no trono S. João.

Todas as ilustrações a preto e branco – no total, dezoito –, repartidas diversamente ao longo da obra (ora abrindo cada «Quadro», ora colocadas junto às falas dos actantes), nascem do tratamento cuidado da linha

Fig. 3. Capa de *São João Subiu ao Trono* (1927).

5 Fernanda de Castro foi uma escritora próxima do regime salazarista. Casada com António Ferro, director do SPN (Secretariado da Propaganda Nacional) até 1949, publicou diversas narrativas e colaborou em várias acções ligadas à cultura e à infância promovidas pelo Estado. Depois da morte do marido, Fernanda de Castro assumiu a presidência da Comissão de Literatura e Espectáculos para Menores, a funcionar no local do Secretariado Nacional de Informação (SNI). Esta função pressupunha a censura pedagógica dos livros, peças de teatro, filmes, etc., considerados inapropriados para as crianças. Sublinhe-se que se trata de uma autora que continuará a escrever e a editar até finais da década de sessenta [do século XX], obtendo, em 1990, o Grande Prémio Calouste Gulbenkian de Literatura para Crianças, pelo conjunto da sua obra.

6 Carlos Amaro foi autor de textos dramáticos, jornalista e, sendo partidário das ideias republicanas, veio a participar como deputado na Assembleia Nacional Constituinte de 1911 (primeiras legislaturas republicanas). Colaborou com crítica literária em *Contemporânea* e *O Diabo* e foi responsável pela divulgação da poesia de Camilo Pessanha, ainda inédita em livro, a Fernando Pessoa e outros amigos, através de cópias que lhes fornecia. Estreou-se com a publicação de *Cena Antiga*, peça inspirada no ambiente académico de Coimbra, mas ficou na História da literatura com a obra *São João Subiu ao Trono*, representada, pela primeira vez, em 1931, no Teatro Nacional D. Maria II. Alvo de reedições, é presença assídua nas selectas escolares.

de espessura milimétrica e valorizam as figuras que participam na acção.

No derradeiro ano da década de 20, Sarah Affonso empresta a sua arte a **Bonecos de Estampar**, de Teresa Leitão de Barros (1989-1983)[7], volume n.º 18 da conhecida colecção «Biblioteca dos Pequeninos», dirigida e organizada por Emília de Sousa Costa (1877-1959).

Esta obra integra três narrativas: «Os dez pagens [*sic*] mandriões», «O vèlhinho [*sic*] da corça branca» e «A rosa sem espinhos» [5]. De extensão considerável, com marcas do maravilhoso tradicional e uma acentuada componente ético-moral, os contos evidenciam uma relativa complexidade diegética que contrasta, em larga medida, com a singeleza do traço fino, a negro, em certos casos, quase minimalista, mas muito sugestivo, que distingue as ilustrações de Sarah Affonso. Estas surgem como apontamentos na abertura de cada um dos três textos, a antecederem o seu título, bem como em outros momentos, ao longo da obra, ocupando páginas inteiras (neste caso, com uma espécie de legenda, um brevíssimo segmento retirado do texto). Recriam as personagens que participam das diferentes acções, em especial quando se trata de momentos dramáticos ou pontos culminantes das mesmas (por exemplo, a morte).

Em 1932, Fernanda de Castro volta a dedicar uma publicação ao leitor

Fig. 4. Ilustração incluída em *São João Subiu ao Trono* (1927).

Fig. 5. Folha de rosto de *Bonecos de Estampar* (1929)
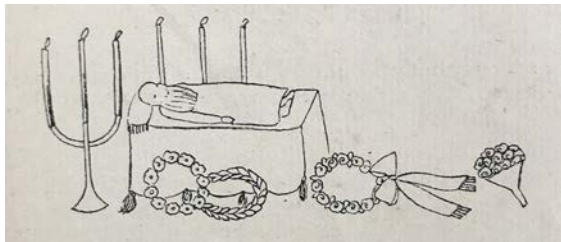
Fig. 6. Ilustração incluída em *Bonecos de Estampar* (1929).

infantil, **O Tesouro da Casa Amarela**. Neste volume, cujo título corresponde ao primeiro texto dramático de um conjunto de cinco («O tesouro da casa amarela», «As borboletas e o bicho de seda», «O az dos caçadores», «A recompensa» e «o estrangeiro e o portuguesinho» [7]), surgem textos dramáticos "de época" ou ostensivamente marcados pela ideologia de um contexto histórico-político muito complexo, o Estado Novo/regime salazarista, sugerindo um "quadro" que integra o colonialismo, o racismo, a punição/castigo, o nacionalismo, entre outros. As contidas ilustrações de Sarah Affonso, de dimensão variável ao longo do volume, mas sempre a linha preta/fino traço, representam as figuras, especialmente as infantis, e as acções que vão desempenhando ao longo da acção, bem como as suas

7 «Escritora de inspiração tradicionalista, publicou vários livros e opúsculos com base em figuras da história de Portugal, um volume de novelas (Silêncio), diversas obras de literatura infantil (Varinha de Condão, com Fernanda de Castro; Bonecos de Estampar; História Maravilhosa Escrita à margem dos «Lusíadas»), viu representada no Teatro Nacional, em 1947, uma peça histórica sobre a Marquesa de Alorna, Alcipe, e deixou inédita uma outra, Homens de Boa Vontade. Durante anos, exerceu proficientemente a crítica de livros na revista Notícias Ilustrado, dirigida por seu irmão, Leitão de Barros. Foi professora do Liceu de Maria Amália Vaz de Carvalho e funcionária de secretaria (biblioteca e arquivo) do Diário de Notícias, jornal em que também redigiu a secção, anónima, do registo bibliográfico. Foi grande amiga de escritoras da sua época – Virgínia Vitorino, Laura Chaves, Fernanda de Castro, Maria de Carvalho, etc. Espírito culto e sensível, marcou um lugar na literatura escrita por mulheres em Portugal, distinguindo-se ainda como tradutora (Diário Íntimo, de Amiel, etc.).» - disponível em http://livro.dglab.gov.pt/sites/DGLB/Portugues/autores/Paginas/PesquisaAutores1.aspx?AutorId=8740.

emoções. Introduzem, na verdade, espaços de leitura visual potencialmente estimulantes para o leitor infantil.

A Menina do Mar, de Sophia de Mello Breyner Andresen (1919-2004) é dado à estampa em 1958, «por intermédio do Serviço de Escolha de Livros para Bibliotecas das Escolas Primárias» [4], com a chancela das Edições Ática e ilustrações de Sarah Affonso.

Alvo de sucessivas reedições, por exemplo, pela Figueirinhas, ilustrada por nomes diferentes, em 2021, a Porto Editora publicou uma edição fac-similada desta obra. Tratando-se de um belo conto [9] [10], sobejamente conhecido, muito por via escolar (e ainda bem que os contos de Sophia nunca foram excluídos do cânone escolar), a primeira edição da obra destaca-se pelo cuidado técnico-compositivo, como se presente, desde logo, a partir da própria capa. Desta sobressaem o título, registado a azul em letra manuscrita/caligráfica, bem como a ilustração dominante, na qual se recria um quadro marítimo povoado de peixes, anémonas, estrelas de mar, búzios e algas. Com uma importante função catafórica, esta imagem cria um «horizonte de expectativas» que o leitor verá confirmado ao longo da leitura da própria narrativa. A obra integra seis estampas policromáticas (ainda que a paleta de cores seja bastante

reduzida, restringindo-se aos tons azuis, verdes, vermelhos e amarelos), em páginas individuais e em dimensão considerável. Os espaços que as ilustrações ocupam no volume e a sua relação com a própria narrativa dão conta de uma composição manifestamente pensada ou reflectida. Por exemplo, logo na primeira ilustração, recriando o momento de descoberta da Menina do Mar e dos seus amigos por parte do rapazinho, acentua-se, a partir de traços leves e finos, que materializam a sugestão de ondulação, por exemplo, a ideia de observação de um ponto de vista exterior de um espaço aquático de dimensões reduzidas e das figuras que o habitam. Predominam os tons suaves, com particular incidência para o azul aquático. Já a quarta ilustração, por exemplo, apresenta-se algo distinta, uma vez que substantiva visualmente uma sequência marcadamente tensa ou dramática. Trata-se do momento em que os polvos, figuras aqui com a função de oponentes, cumprindo ordens da Raia, impedem a Menina de ir, num balde, com o Rapazinho conhecer a terra.

Em contrapartida, na quinta ilustração, aliviam-se os tons e o sol é representado a sorrir. Nesta, recria-se o momento em que o Rapazinho, depois de beber o filtro mágico, vai, agarrado à cauda de um golfinho

Fig. 7 e 8. Capa e ilustração de *O Tesouro da Casa Amarela* (1932).

Fig. 9. Capa de *A Menina do Mar* (1958).

Fig. 10. Ilustração de *A Menina do Mar* (1958).

«preto e brilhante» [4], nadar pelo mar «sessenta dias e sessenta noites» [4] até a uma ilha onde se encontra a Menina à sua espera. O momento do reencontro feliz dos dois amigos surge reproduzido na sexta estampa, que se distingue pela composição colorida e pelos sorrisos patentes nos rostos dos seus elementos. Em síntese, as ilustrações desta obra, compostas a lápis de cor e feitas a traços finos, técnica usada talvez por se afigurar muito próxima da que o leitor infantil habitualmente utiliza, respondem, com elegância e delicadeza, às principais linhas ideotemáticas que a narrativa ficcionaliza e dão simultaneamente conta dos seus espaços ou cenários centrais. As ilustrações de Sarah Affonso distinguem-se pela sobriedade e dão a possibilidade, porque visivelmente contidas nos detalhes que recriam, do receptor, ele próprio, também construir uma imagem mental da história inventada e expressivamente contada por Sophia.

O mesmo poderemos afirmar, em certa medida, relativamente ao registo visual, também da autoria da artista em apreço, da obra **Histórias que o Povo Conta**.

Esta antologia do folclore infantil seleccionada e organizada por Fernando de Castro Pires de Lima (1908-1973), foi publicada em 1960, com a chancela da Editorial Verbo, na reconhecida colecção «Cavalinho Preto». Tratou-se de uma «Edição realizada por intervenção do serviço de escolha de livros para as bibliotecas junto das escolas primárias» [12]. Sem conseguirmos, no contexto deste breve estudo, analisar aprofundadamente o peritexto de abertura assinado pelo antologiador, assinalamos apenas os seguintes aspectos: a) elogio do/enfâse colocada no «alto valor educativo» da «rica» literatura oral portuguesa; b) sugestão/menção assídua a Portugal e ao que é nacional/português e cristão[8]; c) referência directa a Salazar, que é, mesmo, citado; c) valorização do povo; e d) ausência total de referência à composição ilustrativa e à sua autora, talvez escolhida pelo seu apreço pela arte popular [13]. Ora, esta ausência, a nosso ver, é incompreensível, atendendo às apelativas 23 ilustrações dispersas ao longo da obra, além das duas que figuram na sua capa e contracapa. Na verdade, os apurados segmentos visuais de Sarah Affonso, ora, mais extensos e preenchendo páginas inteiras, ora mais reduzidos, ocupando apenas uma pequena parte da página, revestem-se uma importância fundamental ao nível da captação da atenção do pequeno leitor. A este é oferecida a possibilidade de, quer a preto e branco, em traços finos e elegantes, quer a cores (nascidas do recurso aos lápis de cor/ de pau e aparentemente, por vezes, à aguarela), contemplar pequenos quadros que recriam as personagens/figuras e detalhes dos cenários de cada um dos textos apresentados.

Fig. 11. Capa de Histórias que o Povo Conta (1960).

Fig. 12. Capa de *O Crocodilo e o Passarinho* (1976)

8 Cf. «A criança pede a Deus saúde física e espiritual, para quando chegar à idade adulta poder ser um cristão útil à Pátria.» [12].

Já no pós-25 de Abril, concretamente em 1976, Madalena Gomes (1928-2010)[9] publica **O Crocodilo e o Passarinho**, conto igualmente ilustrado por Sarah Affonso.

Nas ilustrações guardadas nesta obra, que tem como temática principal a amizade, ou melhor, a amizade na diferença, observa-se, uma vez mais, o recurso ao lápis de cor e uma paleta bastante variada, forte ou viva, num discurso a lápis de cor, próximo do que se encontra no conto clássico de Sophia de Mello Breyner Andresen e na antologia de Pires de Lima. A representação visual das figuras animais, pautada por uma intensidade cromática, dá conta de certos detalhes físicos. Elementos da natureza (ou do seu habitat) são recriados em pormenor, delicadamente[10], até.

3. Considerações finais

Em 1979, Sarah Affonso, numa entrevista concedida a Soledade Martinho Costa, sugere o cuidado e a seriedade com que encara o livro infantil, uma sensibilidade revelada, como procurámos atestar, nas obras aqui revisitadas. Retome-se, assim, a este título, o breve depoimento da artista:

«Acho que ilustrar livros para crianças é um trabalho interessante e apropriado para mulheres que são pintoras. Ilustrei alguns. Depois estive vários anos sem ilustrar, até que a Sophia de Mello Breyner me pediu para fazer as ilustrações de «A Menina do Mar». Penso, mesmo, que a partir desse trabalho é que eu ilustrei as melhores coisas para crianças. Como já não vou a exposições, já não conheço os pintores novos, os ilustradores. O que desejo é que os editores portugueses percebam, finalmente, que é preciso ter respeito pela pessoa que trabalha o livro infantil. Em Portugal não se tem dado a devida importância ao livro para crianças. Devo dizer-lhe também que em Portugal, as pessoas, duma maneira geral, não estão habituadas a oferecer livros às crianças. Preferem dar uma camisola ou uma capa para a chuva do que livros. Desculpam-se que as crianças os rasgam ou estragam. As pessoas acham que as crianças não precisam de livros, não precisam de ler, o que é um erro muito grande que se torna urgente corrigir.» [2].

O percurso de leitura que levámos a efeito do conjunto de sete obras ilustradas por Sarah Affonso, uma abordagem que – cremos e assim o intentamos – vem preencher uma lacuna nos estudos do seu legado artístico, assim como firmar a sua presença na História da ilustração/literatura para a infância, permite, por conseguinte, concluir, além de um genérico cuidado na expressão ilustrativa: a) a relativa diversidade de técnicas e de elementos (linha, dimensão, mancha, etc.); b) a adequação aos diferentes textos literários ilustrados, aliás, modalmente variados – textos narrativos,

9 Madalena Gomes nasceu em Ponta Delgada, Açores, em 1928, e faleceu, em Lisboa, em 24 de Fevereiro de 2010. Começou a escrever aos 16 anos nos jornais da sua terra natal. Colaborou noutros jornais, nomeadamente no *Diário de Lisboa*, em particular na página «O conto de Domingo». Durante alguns anos, viveu na Argélia e na Tunísia. Só em 1965, apareceu o primeiro dos seus livros para crianças, que era o seu público de eleição. Publica quase duas dezenas de livros em anos consecutivos, destinados ao público infantil: *Fadas e Anões* (1965), *Contos Para a Maria Madalena* (1966); *Zora, a Pequena Árabe* (1967); *O Tesouro do Mendigo* (1969); *A Maria Pequenina* (1970); *Coisas Falantes e Outras Histórias* (1972); *O Leão Vegetariano* (1975); *O Crocodilo e o Passarinho* (1976); *Estrelinha, o Gato Astronauta* (1976); *Uma História em Botão* (1980); *Contos Para a Catarina* (1982); *Um País Chamado Infância* (1982); *A Boneca Refilona* (1984); *Crónicas de Músicos e de Pintores* (1984); *A Reboludinha* (198?); *O Ratinho Piparote* (1987); *Umas Férias na Argélia* (1990). Colabora, ainda, em jornais e páginas infantis. Esteve também ligada ao Instituto de Apoio à Criança e à Associação Portuguesa de Educação Pela Arte.

10 Cf. Ilustração da p. 31 [11].

dramáticos e poéticos; c) a sensibilidade e o respeito pelo leitor infantil notório nas sugestões/implícitos semânticas/os. A linguagem figurativa de Sarah Affonso, na qual prevalece a simplificação do desenho e a singeleza ou contenção da representação, com a preferência pela linha fina e/ou traço negro, distingue-se, por conseguinte, das demais do seu tempo, configurando um acervo estético a ter em conta.

Concluímos, enfatizando o seguinte: na nossa perspectiva, as ilustrações de Sarah Affonso cumprem uma das funções principais da ilustração, ou seja, iluminar o que, por outras palavras, é o mesmo que dizer embelezar, tornar claro ou desvendar, neste caso, destacar aquilo que são os momentos-chave, por exemplo, das diferentes narrativas, deixando, por vezes, elementos sugestivos, valiosos no estímulo à imaginação. Sumariamente, desempenham um importante papel ao nível da captação ou da atracção da atenção do leitor que, por via do contacto com este tipo de composição visual, vai cimentando a sua cultura estética, usufruindo, assim, do que de melhor um livro para crianças pode proporcionar.

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'Don't Push Me Around': An Enquiry into the Origins, Function and Continuing Impact of Illustrated Graphics within 1980's Skateboard Culture

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Abstract

This paper will expand on insights unearthed during a practice-led PhD recently undertaken by the author at University of the Arts, London. The research project is investigating illustrated skateboard deck artwork in order to identify the distinct visual aura the skateboarder conjures within popular culture. Skateboard deck artwork is a kind of illustrated vernacular, principally developed in California during the 1970s and 1980s, to market skateboard products. The imagery is distinguished by thematic concerns aimed at young adult skateboarders. A practice-led investigation will reveal the origins and function of this persistent illustrated language. This approach will rely upon the author's prior experience as a professional illustrator and arts educator to illuminate the significance of visual aesthetics, thereby offering a new lens to survey skateboard's resilient visual culture.

1. Introduction

This paper will begin to address and expand upon the key objectives of a PhD research project recently undertaken by the author. It will employ a practice-led approach which - via a formative process of play, reassembly, and hybridisation - will seek to address the relationship between skateboard deck art and the experience of skating itself. The outcomes intend to engage skateboarding communities and contribute to current popular interest in the practice exemplified by an inclusion in the Olympic Games, a 2023 Smithsonian Museum historical monograph, and a major Design Museum exhibition in London, autumn 2023. This approach builds upon an absorption and fascination with the visual aspects of skateboard culture - a topic the author was first permitted to introduce in Guimarães 2017 – and a passion best summarised by Kyle Beachy at *Pushing Boarders 2019* thusly - "This is what the skate industry did to me: it shaped my dreams, was the algorithm of my desires, and was just *profoundly* instrumental in the way I conceptualize my identity" [1].

An emerging academic community has focused on the skateboarding via an ethnographic and philosophical lens (Borden, 2019. O'Connor, 2019. Beachy, 2021, et al.) but has yet to fully address the distinct visual appeal of the pursuit. That is, how the skateboard deck uniquely integrates illustration with movement and risk. It is a graphic site which implies action and is idealistically designed to be viewed in motion. The research

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Fig. 1. Powell Peralta Ripper skateboard deck. Artwork by Vernon Courtlandt Johnson (1983). Skate One Corp.

Fig. 2. Ripper Tattoo for R. Figueira, by Eduardo Rossoni in Curitiba, Brazil, 2022. Image available at https://twitter.com/ powellperalta/status/ 1524042878892212224 ?lang=fr

contribution focuses on the relationship between the inherent risk associated with the practice and how these sensations are conveyed within images that embellish these objects.

This project was brought about by asking the question where else - in what sport or pastime - does this happen, where the function of an image seems so integral to the act itself? Borden (2019) states "from its earliest days imagery has been central to skateboarding and that skaters wanted to be noticed, but not understood" [2]. O'Connor (2019) expands from this position arguing that "religion is an important part of how skateboarding can be understood, whereby pious true believers display their 'insider' knowledge to form social distinction" [3].

The veneration of totemic imagery is evident throughout skateboard culture and identifiable across a wide range of customised products, fashion apparel, and subcultural forms. The reverence such codified images still hold over skateboard devotees is discernible upon examination of the *Ripper* (1983) skateboard deck graphic (Fig. 1).and its contemporary reinterpretation as a tattoo design (Fig. 2). This comparison points to how skateboard images of this period are frequently appropriated, indicating that such cherished motifs still retain their cache - and remain resilient - within international skateboard fraternities.

2. Historical context

> The essence of skateboarding is an urge for speed and a desire to manipulate the board and the body in a release of energy that combines skill with voluntarily induced danger. Jocko Weyland, 2002. [4].

Weyland's summary of the act of skateboarding evokes the thrilling sensation the practice affords its participants. This acceptance of danger - or as Weyland goes on to suggests "death wish" [5] - informed much of 1980s skateboard culture and was eagerly projected via products, advertising, and combative territorial publications, such as Thrasher magazine. Since this particularly formative underground period, skateboarding has flourished and been cautiously adopted within mainstream society. However, online investigations still expose the psychological command 1980s graphics possess within skateboard culture. This PhD project aims to firstly address how this rebellious aura came about brought about and what prior existing cultural forces established this persistent phenomenon. Gordon and Rogers (2022) point to a particular historical technical development towards the end of the 1970s that instigated the practice –

> As skaters increasingly turned to riding Pools or bowls, skate decks and trucks crew wider to provide increased ability for speed and for grinding along the coping...Initially an unseen space to place the

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> manufacturers logo, the undersides of decks became increasingly visible as skateboard magazines featured shots of skaters riding out of the pool or bowl. Betsy Gordon and Jane Rogers, 2022. [6]

Gordon and Rogers' observation is critical in how any genealogy of deck graphics can be understood, i.e., it was the functional demands of the skateboarders themselves that gave rise to this distinctive graphic site. In order to establish the conditions that gave rise to the emergence of skateboard graphics, tools of inquiry have been sought out to reveal motivations and rationale. Bestley and McNeil (2022) [7] point to Michael Baxendale's *Patterns of Intention* (1985) as a methodological apparatus from which a historian of design can un-pick the machinations that bring a specific designed object into being. This project intends to employ such a schema to address the intersection of opportunities and broader cultural environment from which 1980s skateboarding emerged, inhabits, and still borrows from.

The core thesis of this project will affirm that skateboard graphics sit within a much broader history of American technological and cultural dominance in the twentieth century, and that skateboarding's perceived rebellious roots align with many other highly visual, salacious practices targeted towards the teenage imagination and emerging in the same geographic location, i.e., hotrod customisation, psychedelic graphic design, pulp comics, and B movies.
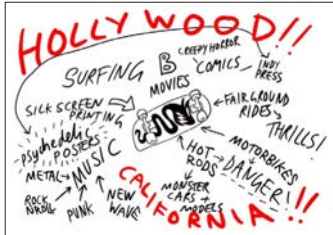
These parallel practices frequently overlapped and informed each other and were instigated by the frenzied ubiquity of U.S. popular culture during that century. As Kyle Beachy (2021) describes thusly "I'm content thinking of skateboarding as a prize America awarded itself after World War II" [8]. It was the hordes of imagistic consumer goods and fads - post WW2 and beyond - that brought forth new markets intent on thrills and excitement for a young generation striving to distinguish itself and asset a new identity in opposition to its polite suburban origins.

Fig. 3. Speculative diagram (by the author) of the cultural forces that informed skateboard vernacular during the 1980s

Critical to the success of this project will be an engagement and dialogue with the intersecting subcultural visual forms loosely alluded to in figure 3. This will help establish a range of insights and positions in relation to the wider contextual history of graphic symbols and styles associated with adrenaline, speed, danger, pop culture, subversion, and movies.

3. Visual analysis

Skateboard artworks are emblems that define customs and codes of practice; as O'Connor (2019) attests "skateboards are lifestyle paraphernalia communicating aesthetics, and orientations of style and identity" [9]. As commercially manufactured toys they disseminate motifs and postures informed by the music, fashion and politics that appeal to discerning

image-conscience skateboarders. This project will be underpinned by comparative analytical procedures to deconstruct, identify difference, and explain the function of this image culture. This goal will be firstly achieved by the surveillance and coding of historical archive material from which to compose typologies to better inspect and understand this unique, resilient graphic language.

Because of the absence of previous scholarly work in this field the research will entail a pragmatic approach based on empirical knowledge mostly gathered from internet archives and private collections. With the exception of Sean Cliver's (2004) exhaustive and indispensable visual survey - Disposable: A History of Skateboard Art [10] - which gathers together high-resolution photographs and candid anecdotes to narrate the arc of deck graphics' evolution, most of the work ahead will involve interviewing skateboard collectors and connoisseurs to access specialist knowledge (details, value, variations etc.) as they can provide a critical viewpoint and position in relation to the objects of study and offer insight into how their curios relate to the wider history of skateboarding.

Due to great feelings of nostalgia and *liebhaberwert* (*Lover's value*) being placed upon skateboards of this era by generational formations that first consumed them, large archival ecologies inhabit social media channels and online depositories. Indeed, the seemingly ephemeral, toylike nature and value of skateboard decks has been surpassed by a monetary value aligned to their subcultural significance as indicators of taste. These collections stimulate much debate as to the origins and peculiarities of skateboard visual history, with ardent enthusiasts and aficionados using these platforms to argue and eulogise over particular models. Online posts frequently employ high-resolution photographic depictions which offer multiple viewpoints and reveal details of the specific skateboard artwork. Utilising this passionate reverence for skateboard designs of the 1980s the initial work will entail raking over these archives to discern points of difference and affinity across the multitude of designs produced during this moment in history.

This material will be arranged according to the particular symbolic connotations or physical properties of the object in question; examples of which could include the skateboard's emblem (be it abstract or representational), popular cultural points of reference, deck shape, year of manufacture etc. By employing images in this resolutely formulaic and codified manner the project will embrace Rose's (2015) definition of a visual methodology "less concerned with the essence of the photograph or the provenance of the image but one much more driven with using images as tools" [11]. The resulting typologies can then be interrogated with X-ray methods (Bestley and McNeil, 2022) [12] to notice familiarities and distinguish stylistic reverberations across the material. This systematic approach will expose the thematic conceits that govern deck art of this period, providing patterns which can then be disentangled and reconstructed by way of practical deliberation.

Initial classification work has already showcased the multitude of distinctive facets that exemplify deck art of this era. Taxonomies currently

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include skulls, rats, dragons, zombies, hypnotic patterns, and many other themes which can all be aligned with conceptions of Gothic formulated by Dr. Gilda Williams in a lecture at Goldsmiths, University, London in 2009 [13]. Williams's lecture accounts for a host of literary definitions, many of which are reflected in the patterns and symbols found under the skateboards of the 1980's. So, Williams' categorisation will be employed as a coding schema with which to distinguish particular visual themes that govern skateboard artwork of the period; exemplifying the celebratory carnivàle aspects, and manifestation of fun and play, that constitutes the tropes within this practice.

4. Skateboard accidents

The immediacy - let's say musicality - of skateboarding offers up a metaphysical means of approach to take forward within this project's practice-led speculations. The improvisational aspect of the activity - that relies on the imaginative repurposing of physical surroundings - has been compared to jazz (Alba, 2021 [14]; Beachy, 2021 [15]), a freeform mode of musical expression reliant on unpredictable patterns, and sometimes risk. Through this lens we can interpret the inevitable skateboard accident as an accepted aspect of the practice, an occurrence which is also fundamentally integral to creative combustion.

The accident is a catalyst for cultural artefacts of various forms, and it is within the indulgent spaces of exploration and experimentation that new insights can be recognised and enlisted as creative tools. Kessels (2016) asserts that "nothing will limit creativity more than sticking to what is appropriate or usual" [16]. This pronouncement not only reflects effective creative advice but also aligns with the reckless nature of skateboarding. So, the work will therefore undertake an experimental, non-linear approach reliant on intuition, an expectance of accidents, and a willingness to adapt.

By placing emphasis on a creative journey rather that pre-defined solutions or targets, the proposed plan of action will employ a multiplicity of directions from which to address the visual vernacular of skateboarding of this period. The playfully diverse strategies set out below will, "as the work unfolds, unearth propositions and potential visual solutions to as-yet undefined questions" (Bestley and McNeil, 2021) [17]. This experiment-led, malleable pattern of research will allow for the evolution of multiple concepts which - as the work continues - be perpetually evaluated and judged as to their clarity - or equally - awryness.

Speaking at the *Pushing Boarders Malmö* conference, Camille Ayme (2019) [18] elucidated upon the material - often painful - feedback between the skateboarder and the surfaces that surround them; the continuous motion of the act presenting a montage of textures for the practitioner to contend with. Ayme depicts these patterns of the city being literally carried on the skateboarder's body, as scars and abrasions. In this same way the work ahead will include the breakdown, disintegration and reconstitution of the visual rhetoric associated with 1980s decks; that by dissecting images, then directing these components

through a variety of unstable graphic processes, the practice of skateboarding can be replicated visually.

The author foresees that printmaking processes could provide a creative apparatus to replicate the risk associated with skateboarding. As a variety of mechanisms translate an original artwork in readiness for duplication, opportunities to enhance - or interfere - with this procedure are brought to light. So, the scope printmaking's mechanical duties afford the mischievous printmaker will offer many opportunities to reveal unforeseen, yet conspicuously intriguing design solutions. This research work will require procedural engagement with this (contestably) redundant technology and perhaps intentional misalignment of graphic components to - in some way- capture the twisted forms and causality riding a skateboard entails; in this way the blurring, distortions, and abrasion left by the city upon the practitioner and their deck can be adapted and reconstituted within the practice-led research.

Another aspect of printmaking processes which parallels skateboarding - and builds upon Ayme's (2019) [18] assertions around the physical marks left on the body and environment - is the emphasis these antique, industrial processes place on the tactile surface. The research will examine how the layered planes of an object can be torn, or ground, and how these interactions distort visual components applied to paper, wood, and a variety of contrasting surfaces. Disfigured images can also ignite curiosity, their ambiguously obscure formations posing questions to the audience (Fig. 4).

Photo-mechanical reproduction mechanisms that modulate the tonalities of the printed images are of particular interest to this project. Half tone, wavy-line screen, and 'saw teeth' hatching are all systems used to transcribe three-dimensional properties across a two-dimensional surface. They have been ubiquitous within a range of heritage cultural forms including comics, posters, tattoos, and because of these associations possess strong semiotic value which speaks of a functional, unpretentious, and pre-algorithmic authenticity. These treatments also can be accentuated and exaggerated to denote a nostalgic reverence for these redundant techniques. Pushed-out beyond their intended scale such images decompose, exposing abstract patterns and moiré forms that recall *#3 Demonic labour-intensive, obsessive and overwrought ('psychedelic') drawings* as defined within Williams' (2009) Gothic definitions [13]. These seemingly hypnotic qualities are highly pertinent to 1980s skateboard artwork that frequently employed similarly hallucinatory arrangements of shapes - possibly to conjure the modulating and sensory experience of riding a skateboard? - intentionally twisting and distorting the deck's surface in ways reminiscent of the weird architectural imagination of Giovanni Piranesi or M.C. Escher's tessellating puzzles.

The author also contends that many of these analogue, process-driven graphic strategies can also be philosophically aligned to understandings of the strange and the weird, notions that were frequently
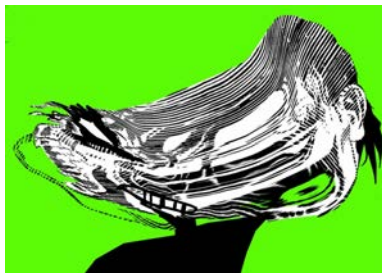

Fig. 4. Speculative print (by the author) employing improvised distortion (or smear) technique made with xerographic office equipment.

assigned to skateboarders of this period in question. Mark Fisher (2015) describes the weird as "a sensation of wrongness" [19], a remark which has parallels with the askew conceptions of spatial etiquette skateboarders enact within their shared urban environment. Ian Borden (2019), recounting the work of Henri Lefebvre, points towards the unusual manner skateboarders envisage architectural form thusly - "where capitalism sub-divides land into a homogeneous commodity...skaters create their own spaces in cities worldwide" [20]. So, it comes as no surprise that skateboarders sought out deck graphics that expounded strange, seemingly confrontational graphics that pronounced weirdness. By utilising and foregrounding the implicit errors print processes can through up - such as mis-registration, technological glitch, moiré pattern etc – practice-led pursuits could allude to Fisher et al.'s definitions.

5. Research direction

The protrusion of gothic characterisations as defined by Williams (2009) [13] will provide a sympathetic template to playfully examine the monstrous manifestations that constitute much deck artwork of this period. This research intends to draw upon many iterations of the gothic, while also being aware of the contradiction such tropes expound, i.e., the carnivalesque, kitsch assemblages of skulls and zombies which adorn skateboards of the 1980's in no way evoke real terror or suspense. Their original function was to appeal to teenage markets intent on affectation and bravado, pronouncing the skateboarder's embrace of danger in the pursuit of thrills. The preeminent skateboard Illustrator Jim Phillips (1997) recites "when a skateboarder falls it's on asphalt and it can be life-threatening. It's a gnarly sport and the art has to reflect that" [21].

This same emphasis on fun and vulgarity is also present in thrilling, stomach-wrenching scream machines that proliferate fairgrounds and amusement arcades (Fig. 5), and it is the reassembly and appropriation of these ubiquitous, frivolous forms - and their joyous absorption within skateboard culture - which continues to motivate this direction of this practice-led research. Gothic and horror archetypes have always been commodified within movies, comics, toys, trinkets; they are even physically manifest in entertainment parks and theatres. These associations with pleasure and spectacle also align with how skateboarding presents itself and skateboard publicity is displayed.

Phantasmagoric light shows, such as those performed by Étienne-Gaspard Robert in Paris at the turn of the ninetieth century (Fig. 6), could also suggest oblique, less orthodox means with which to address the visual

Fig. 5. Gilbert Chadwick Junior's Ghost Train Loughborough Fair evening view. National Fairground Archive, University of Sheffield Library. Reproduced with permission of the University of Sheffield. Image available at https://cdm15847. contentdm.oclc.org/ digital/collection/ p15847coll3/id/78406/ rec/2

Fig. 6. *Fantasmagorie de Robertson*, Engraving, 1831. Image available at https://archive. org/details/mmoires- rcratifss01robe/page/ n7/mode/1up

Fig. 7. Tony Hawk,
Witt's Carlsbad Pipe-
line Demo, CA. Artist:
J. Grant Brittain (1985)

culture of skateboarding. The research project will postulate that these archaic projected entertainments have parallels with how skateboarding is still pictorially represented, particularly the skateboard manoeuvres of the 1980's that intentionally foregrounded the deck graphics within photographic iterations (Fig. 7). Just as the skateboard practitioner bursts from a surface exposing the underside of the skateboard and revealing their ghoul insignia, so similarly Robert's beguiling Phantasmorgical amusements improbably defied rational science to the delight of an astonished audience.

This research project is motivated by personal experience and despite being geographically distant from California the author has been ideologically moulded by the cultural legacy of these objects. The mesmeric feats of professionals such as Tony Hawk (fig. 7) in the magazines of the period - combined with the abundance of skateboard designs in shops and magazines of the period - provided an aesthetically stimulating education in opposition to formal art scholarship. By examining and discriminating between these artefacts new taste structures could arise to challenge received narratives about skateboard culture. In this way the research intends to contribute to popular interest in the practice of skateboarding and also broaden the scope of current academic research in the field of Illustration studies.

Professional skateboarder Neil Blender famously quipped - "its 1990 boys, let's get rid of the skeletons" [22] and yet despite frequent parody and dismissal, the persistence of gothic tropes on skateboard deck art is still evident after any search engine trawl. The gothic theatricality that still populates the graphic culture of skateboarding is also present in many cultural forms that celebrate vulgarity and expound that deep-rooted, fundamental aspect of the human condition that craves chaos and subversion - fun.

6. Conclusions

This project intends to utilise the author's illustrative skills to reflect and draw attention to this momentous juncture in skateboarding history; in that by employing a practice-led graphic response the research work can better engage an audience and even challenge preconceptions as to the importance and value of skateboarding's rich cultural legacy. To conclude, this paper offers initial points of departure via strategic and practical means to progress this intention. The next steps will focus on the clarification and testing of a thorough methodology to ensure that the relationship between skateboard deck art and the experience of skateboarding is in some way illuminated and expanded through visual outcomes. With a theoretical framework in place the author can then - via an interpretive process of engagement with this archival, historic material (deck art) – begin to unpick themes that align with the two most prominent practical suppositions raised within this paper.

Firstly, the author foresees that the risk associated with the experi-

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ence of skateboarding can be articulated through emulation of planned graphic mistakes. This will entail print-based speculations that distort or warp their constituent details disguising and reimagining how deck art imagery is experienced by an audience, and distressed – on metal or concrete - by the skateboarder.

Secondly, that the performative aspect of the activity can be evoked via the display of projected entities within a skatepark environment. Animated – potentially interactive - illustrated characters that will conjure a historical embrace of the macabre and also reassert the theatrical nature of skateboarding itself. The intention being such playful deliberations will engage with the deck art phenomenon in a way analogous to critical writing; that the meditative thinking process enacted within the practice will propel this research journey and form the main arena of action as the project evolves.

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The problem of botanical blindness – a solution for the City Park of Trancoso

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[Ilustração / Illustration]

Abstract

With the advancement of humanity and its subsequent urbanization, a new type of blindness has been developing. Botanical blindness's main symptoms are the unawareness of vegetation life and the lack of ability to recognize and appreciate different plants and their characteristics. The City Park of Trancoso, projected originally as a municipal nursery in 1886 but later considered a botanical park, was considered Public Interest Grove in 2004. Even though it's centenary existence and botanical diversity, this small ex-libris goes unnoticed. To revert the progression of botanical blindness in this region, a new communication tool is being developed utilizing digital illustration. In agreement with the local City Hall, an illustrated guide of the arboreal species in the park is being created, whose main objective is to raise awareness of the general population for the need to preserve and protect this park in a simplified and educational way.

Keywords

Botanical blindness, digital illustration, botanical illustration, environmental awareness.

1. Introduction

1.1. Botanical blindness

Botanical blindness or "Plant Blindness"[1] can be defined simply as a lack of understanding and respect for plant diversity and its significance in human existence.

This phenomenon is present when people fail to identify or appreciate the plants around them and their importance for ecological, economic, and cultural reasons [2].

Some authors also refer that botanical blindness can also include the belief that, in some way, plants are inferior to animals making them unworthy of human consideration.[3]

This kind of blindness may affect people regardless of age and/or background and can occur in both urban and rural environments. This phenomenon is rapidly increasing, going hand in hand with the rate of urbanization of humankind.

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1.2. Causes

Botanical blindness can be caused by a variety of circumstances, including urbanization, loss of traditional knowledge, and an emphasis on animal life rather than plant life.

Evidence suggests that a plant's homogeneous color, grouping, and lack of movement (and a "face") may be important factors in information processing, given that visual perception equals the selection, organization, and interpretation of information.

This is how one of the plants' best survival strategies may also be one of the reasons behind our plant blindness: the ones from similar habitats tend to have common characteristics including (but not limited to) the phenotype.

At a certain distance, they form a green landscape, especially in non-flowering season, where the visual homogeneity is perceived by the human brain as simply, a wall of green.[2][3][4]

Wandersee referred that "Plant blindness is the human default condition" when arguing the nature of the human visual information-processing system.[2]

Other authors refer that some educational biases could also be at fault. It has been proven that elementary school textbooks may be "zoocentric" or "zoo-chauvinistic" - the majority of images, text, and examples used of core biological concepts are all of animals [5][6]. Despite this, not only the textbooks are to blame. Although there is no evidence proving that educators actively omit plant examples in favor of animals, it's possible that they are subconsciously biased [5], leading them to mention them substantially fewer times plants in their classes.

1.3. Consequences

With the rooting of botanical blindness in today's society, preoccupying consequences are emerging given that they have serious and far-reaching effects on both human well-being [7] and environmental sustainability.

One of the most serious consequences of plant blindness is the loss of plant variety. [8] This is a critical factor in the preservation of ecosystem services such as air and water filtration, nitrogen cycling, and climate regulation. When plant variety declines, ecosystems' ability to offer these services is jeopardized, resulting in diminished resistance to climate change, greater vulnerability to pests and diseases, and decreased provision of ecosystem services. It can have serious consequences for human cultures, resulting in diminished food security, and decreased availability of plant-based medications, and other goods that promote human health and well-being.

Another consequence of botanical blindness is the loss of plant-related cultural and aesthetic values. Numerous plant species are culturally and spiritually significant to indigenous tribes, which rely on traditional knowledge and rituals for survival. Plants also add to the aesthetic value of natural environments and give chances for recreational activities like hiking, bird watching, and photography. The loss of plant variety can result in the loss of these cultural and aesthetic qualities, which can have a substantial influence on human cultures' well-being [7].

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Plant blindness can potentially have some serious economic con-
sequences due to the reliance of several businesses on plants, including
agriculture, forestry, and medicines. Plant variety loss can contribute to
lower production in various businesses, as well as increased expenses
connected with product development and pest and disease control. This
has the potential to have a huge influence on local and global economies,
resulting in slower economic development as well as increasing poverty
and inequality.

Moreover, botanical blindness can result in a lack of support for plant
conservation initiatives, which are critical for conserving plant variety and
the ecological services that plants provide [2]. Failure to acknowledge the
importance of plant conservation can result in a lack of financing for research
and conservation activities, as well as a lack of political will to establish plant
conservation legislation and regulations. This can worsen the loss of plant
variety and its consequences for human cultures and the environment.

1.4. The role of illustration in science

Art and Science are usually considered opposite poles from the same
spectrum, almost as if they are immiscible. A more attentive look at this
matter shows us that, in a similar way, both depend on the observation of
the world around us. [9]

Scientific illustration, usually defined as "art in service of science"
[10], is the artistic way to create visual representations of concepts, phe-
nomenon, and scientific data, generally for the use in scientific publica-
tions and educational materials.

Scientific illustrations are effective tools in hypothesis formulation
and testing, helping scientists organise their thoughts and graphically in-
vestigate the links between different variables and processes by sketching
diagrams, flowcharts, or concept maps.

These, in addition to assisting scientific study, also contribute to
scientific education and public engagement. Science can be complex and
intimidating at times, discouraging many people from actively interacting
with scientific information. [11]

Scientific illustrations are effective communication tools because
they break down complex information into visually digestible chunks.
Visual representations allow scientists and scientific communicators to
demystify complex scientific concepts, making them understandable to
people of all ages and backgrounds.

1.5. Botanical illustration

Botanical illustration is the art of presenting plants and plant specimens
in an aesthetically beautiful and scientifically accurate manner [12]. It has
a lengthy history of use, including scientific records, botanical research,
and instructional resources.

Botanical illustration's purpose in alleviating botanical blindness is
to offer a visual depiction of plant species while also raising awareness
and appreciation for their diversity and beauty. [12] Botanical illustra-
tors may assist in overcoming this blindness and raise awareness and

comprehension of plant variety by generating accurate and comprehensive representations of plants. Botanical images may also be used as instructional aids, assisting people in learning about plant structure, anatomy, and ecology.[13]

1.6 City's Park History

The history of the City Park of Trancoso begins before it's labeled as a park.

In 1886 a municipal nursery was created in Trancoso whose main objective was to grow and take care of plants until they are ready to be transplanted to other locations in the city. This space suffered some changes in the following years, among which its expansion (in size and quantity of plants) and the construction of a wooden hedge around it in 1893, and later a wall and two gates in 1910. In between all these changes, the Municipal Nursery was formally renominated as City Park of Trancoso in 1896.[14][15]

300 years later, on the 5th of February of 1955, in the session of the City Council, it was suggested the afforestation of the Serra do Pisco with the uprooting of the Park's planted trees of an area of 50 hectares in the same year.[15]

In the present year, the park is constituted of approximately 43 different arboreal species from the most varied origins and was considered Public Interest Grove in 2004.

According to the Forests and Nature Conservation Institute, the Public Interest Grove "comprises individual species or arboreal groupings that may be regarded as of important public interest due to their representativeness, rarity, size, age, history, cultural value, or landscape location, and their careful protection is advised".[16]

1.7. Solution for the City Park

My master's thesis topic was suggested by my advisor: look at my homeland and try to grasp what its natural heritage was. Along with him, I then observed a paucity of information concerning Trancoso's municipal park. All Trancoso' residents are familiar with the park and have several stories about activities, walks, and so on, but they are unaware of the species found there or its history.

To reverse the Park's current botanical blindness, we decided to contact the City Council and propose the creation of an illustrated guide to the Park's tree species, not only to bring the population's attention to the need to preserve and conserve the Park but also to create a useful and practical tool for a new type of tourism that has yet to be explored in the region: natural tourism.

2. Methods

For the elaboration of this project, the materials used were the drawing table Wacom Intuos S (2018) and the Adobe Photoshop program.

This project is based on information supplied by the Trancoso' City Hall, which oversees the City Park, where are present 623 tree specimens from 43 different species (22 gymnosperms and 21 angiosperms).

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2.1. Digital illustration

The creation of visual art utilizing digital tools and techniques, such as computer software and graphics tablets, is called digital illustration. It entails creating pictures, graphics, and other visual components with specialized tools such as Adobe Illustrator or Photoshop. Advertising, marketing, graphic design, and animation are all common uses for digital illustration.

Digital illustration has several advantages over traditional illustration approaches. It gives artists more freedom and control over the creative process by allowing them to change and edit their work in real-time. It also provides increased precision and accuracy, enabling more elaborate and detailed patterns. Moreover, digital illustration facilitates the sharing and dissemination of artwork since it can be quickly shared and reproduced in digital formats.

2.1.1. Digital illustration applied to botanical illustration

There are several ways where digital illustration is applied to botanical illustration such as:

- Traditional botanical graphics done using techniques such as watercolors or pen and ink can be scanned or photographed, then modified and augmented with computer tools. This enables the digital preservation and sharing of traditional artwork.
- Botanical graphics may be done fully utilizing digital tools and software, such as Adobe Illustrator or CorelDRAW. This gives you more accuracy and control over your illustration, as well as the ability to simply change and edit it.
- Integrating digital components into traditional artwork: To add depth and richness to conventional botanical illustrations, digital materials such as pictures or textures can be used. A photograph of a leaf or flower, for example, can be added to a conventional pen and ink artwork to make it more realistic and detailed.
- Creating layouts and designs for botanical illustrations using digital tools: digital tools may be used to produce layouts and designs for botanical illustrations, such as developing the layout of a botanical field guide or building a digital portfolio of botanical artwork.
- Creating animations or interactive elements: digital illustration techniques may be utilized to generate animated diagrams or interactive plant identification aids for botanical images.

2.2. Methodology

In order to create botanical illustrations, there are many possible methodologies to implement [17]. In the current illustrated guide development, the base of the chosen methodology is described in the following steps; these stages are not required and may vary depending on the species in issue and the material available for reference usage.

1. Selection of plant specimen: For this example, one of the 43 tree species present and identified in the City Park that will be a part of the illustrated guide was chosen: *Tilia tomentosa*, also known as Silver linden.

2. Observation: A necessary step where the specimens were observed *in situ* and via photographic material. The main purpose of this step was to note the tree's key features such as its shape, size, color, texture, and other unique characteristics that may help differentiate this tree from others surrounding it.

3. Sketch: A preliminary sketch was created incorporating the details observed previously, such as the arrangement of leaves and flowers, ensuring accurate proportions of all the elements represented.

4. Colour study: Colour is added to the sketch considering the tree's unique colour palette and the volumetry of the elements.

5. Composition and labeling: The illustration' composition was decided and the information that would accompany it (including the proper labeling) was written in an efficient yet simple way.

6. Quality control: The final artwork is validated by a professional illustrator and a botanist to ensure the accuracy and quality of the illustration.
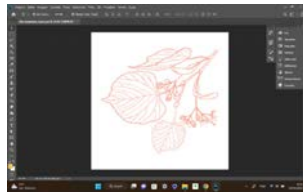
Fig. 1. Picture of the oldest Tilia tomentosa present in Trancoso. Image credits to: https://aldeiashistoricasdeportugal.com/local/tilia/

Fig. 2. Detailed sketch of the Tilia tomentosa' branch where are visible different development stages

Fig. 3. Coloured Tilia tomentosa' branch

3. Conclusion

As civilization continues to grow and urbanize, the phenomenon of botanical blindness has quietly crept up on us. This lack of awareness of the vegetation around us not only impairs our capacity to perceive and enjoy nature's beauty, but also impairs our comprehension of the need of maintaining it. With its vast plant diversity and extensive history, Trancoso City Park is a perfect illustration of how easily we may ignore the natural wonders that surround us.

To tackle this tendency of botanical blindness, a new communication tool based on digital artwork is being created. Its purpose is to increase awareness of the need to conserve and maintain this precious asset by providing an illustrated tour of the arboreal species in the park. This technology not only simplifies and educates the general public about the park, but it also acts as a model for other towns and parks to follow.

The importance of environmental education and preservation has never been greater than it is today. We hope to reverse the march of botanical blindness by establishing innovative solutions, such as the illustrated guide to arboreal species in Trancoso City Park and inspiring a new generation to enjoy and safeguard the natural world around us.

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Prehistoric Illustration: Semiotically Unlocking and Learning from Early Visual Communication

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Abstract

This paper aims to do three things. Firstly, it aims to make the case that the roots of illustration and visual communication stretch back to the dark cave walls during the last Ice Age. In doing so, secondly this paper orientates the reader into the basics of Peirce's semiotic sign-action (Semiosis), as a phenomenological framework applied to illustration to enhance visual communications with a primary target audience. This will then lead to the third aim, which is to demonstrate how semiotics pervades every image in some way, whether intentionally or not. To illustrate how Semiosis works and how it can help modern illustrators to encode stronger levels of meaning in their work; we will see how Semiosis can still unlock meaning in paintings over 45,000 years old.

1. Introduction

Modern illustrators' and visual communicators' core skills are far from 'modern.' Our distant Palaeoillustrator Stone Age ancestors, over 45,000 years ago, painted on cave walls for their society's benefit to visually communicate important messages for them. These Palaeoillustrators were modern humans just like us, and our illustration work in the 21st century still semiotically operates in the same way as it did on these lonely dark cave walls. Our ancestors clearly understood that *Symbolic* meaning is constructed within the social-cultural contexts of their society. We are only reinventing visual communication techniques and developing *Symbolic* languages, that were brought out of ancient Africa as our ancestors migrated across the globe. In every image that illustrators create semiotics is integral to its effective visual communication, whether intended or not. If we frame these cave paintings of Palaeoillustration within a Pragmatic semiotic model, we can now learn from what our predecessors visually encoded on their cave walls.

We have lost the original meaning across the epochs of time, but by examining these existing Palaeoillustrations through semiotic sign-action, we can unlock and learn from Stone Age thinking-processes. the visual communication intentions. Peircean semiotic theory of Semiosis (sign-action) offers modern creatives a time-bridge back to find insights to the roots of our modern skills. Semiosis will not miraculously translate this Stone Age cave art (nor should we expect it to). Instead, through a

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phenomenological framework, Semiosis can position us closer to semiotically, learn from the first illustrators within human society.

This paper attempts to put Peirce's technical language (which has a habit of being too obtuse for creatives) into a more accessible designer-centric (or illustrator-centric) language. This is not a case of dumbing down Peirce but in finding a meta-language to bridge between the tacit world of the creative and the precise language of the Pragmatic philosophy. In order to demonstrate Peirce's technical terms from designer-centric versions, in this paper I have put Peirce's terms in *italics* and designer-centric terms in **bold**.

Over the next four sections, the reader will be quickly immersed in three researchers work who seek an understanding of the Stone Age creatives who painted the work. From this Palaeolithic research, we then turn to Peirce's Semiosis to quickly explain the fundamental points in a designer(illustrator)-centric way. Finally, we will conclude what impacts Semiosis can have on illustration practice, by applying its semiotic sign-action to the cave walls.

2. Stone Age Cave Paintings

Europe in the Upper Palaeolithic period was not densely populated. The cave painting communities in southern Europe didn't look every day on wonderful animal frescos. The location of the paintings was controlled, not just within their societal hierarchy, but also geologically. This suggests that the viewing of the paintings on cave walls[2] was aimed at a targeted audience. The very act of viewing was an experience across senses rather than a passive 'consumer of art.'

The location of the cave paintings is mostly found in the darkest areas of cave complexes. David suggests this may be a technical consideration, as absolute darkness aids his proposed Stone Age technique of projected tracing of animals onto the cave walls [1]. Or the dark locations may be a way to control visual storytelling. Azéma and Rivère propose a graphic narrative hypothesis, where the split-action within representations of movement such as the Chauvet cave bison painting can give the impression of movement to an assembled audience with intervention of flickering light from a flaming torch [2]. But more tantalisingly for us as visual communicators is von Petzinger's work on the spread and groupings of the 32 geometric marks, painted alongside the more famous animal paintings [3a,b]. These ancient geometric marks remained. active over three millennia and were distributed across a wide geographic region. This suggests an interconnected world of ideas shared beyond the individual Palaeoillustrator.

These figurative and geometric images were imbued with a meaning to an audience within the society and culture of the Palaeoillustrators. This meaning, like today, goes beyond an act of mere decoration and has a level of intent that we can examine through a sign-action framework.

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2 As a sidenote, we now only have the wall paintings, as organic materials do not survive. But what fragmentary evidence of material culture that survives provides clues that outside the dark caves, decoration on the self and on textiles was very likely [9].

In David's research, his practical drawing experimentations provide a valid reason why the cave art never really evolved stylistically over such an expanse of time, due to the technology used in creating them [4]. Azéma & Rivère provide us with evidence of sequential graphic techniques to suggest movement and possibly storytelling in the interpretation of what is visually communicated in the lamplight [5]. But it is von Petzinger's taxonomy of the 32 painted marks [6] that suggests a rich inherent *Symbolic* ability from our ancestors to visually communicate abstract concepts. These are encoded within shapes.

3. The Basics of Semiotic Sign-action Power

To begin to unlock some evidence of intent behind both paintings and marks, we do have a theoretical framework that can be applied. This is Peircean semiotic theory, which is a Pragmatic and phenomenological approach to semiotic signs. Philosophically pragmatic, Semiosis is a form of semiotics that concerns itself with application. It is phenomenological as the experience of its sign-action is predicated on the intended audience's interpretation of the creative's aesthetic choices [7].

Peirce's determination flow of meaning follows three stages, as part of ongoing meaning being discovered from what the creative makes. Briefly, we can summarise this semiotic sign-action as a concept to be illustrated, the aesthetic the creative choses to visualise the concept to an intended audience, and how that intended audience interprets the concept from what they see. We won't use Peirce's terms right now [8], but to grasp the basics of a determination flow, think of the client who briefs the illustrator. The illustrator produces work to answer the needs of that brief. That work will be seen by an intended audience who will see the illustration, and gain meaning from it about the concept that the brief wanted illustrated.

This is a very general and broadening example, but one that fits a commercial illustrator's day-to-day experience:

> **Client** = brief = **concept** to be illustrated.
> **Illustrator** = visual communicator = **representation** of **concept**.
> **Audience** = **interpreter** of **representation** = unlocking the meaning of the **concept**[3]

Think about the power modern illustration must connotationally convey more than any obvious denotational meaning within an image. Visual subtexts can be visually communicated with a few marks, colours, etc. to convey various levels of meaning. As an example, a children's picture book will illustrate the story, but also convey character, emotions and moods. Each illustration may provide different levels of meaning that the reader can extract. A child will see and interpret one set of denotative meanings, while the parent may see and interpret a connotative level of meaning.

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3 When I use the word **concept** in this illustration context, the **concept** can be anything from illustrating a mood, a lifestyle, a story, a product, etc.

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It is the same illustration, but through the careful crafting of the visual language used in the aesthetic, the experience of the 'receiver' (i.e., the child or parent) will decode different meaning aligned to their lived experiences. This is what the phenomenological framework underpinning Semiosis affords the illustrator, a level of sophisticated visual communication within a single image. How much meaning is interpreted and understood is dependent upon levels of lived experience.

This is Peircean semiotic sign-action's power – meaning can be semiotically crafted and encoded at different levels of **representation** within a single image.

4. Encoding Semiotic Signs

In a semiotic sign-action there is what Peirce calls a *determination flow* [10]. The semiotic signs used within an image begins a flow from:

- the **concept(s)** to be visually communicated.
- through the choices in how the illustrator desires to **visually represent that concept** in the visual language (style, aesthetic, expression of line, etc.).
- from that "visual language" the intended audience **interprets** the aesthetic, gaining meaning from the image, which is communicating the **concept**.

Peirce classifies the power of sign-action in semiotically representing a **concept** over three levels (see Fig. 1). These levels go from basic to complex [11]. The highest level of semiotically **representing** a **concept** is *Symbolic*.

4.1. Semiotic Symbolic Representation

With *Symbolic* representation the meaning of the *Symbol* is a socio-cultural agreement. The *Symbol* becomes what people agree it means [12]. Think of any company logo without any words or letters. How does a logo such as this become meaningful? It does so through associated meaning (see Fig. 2). A meaning within a context that when we see these marks, shapes and colours together, in this way, we say it is 'THIS' now [13]. *Symbols* can appear simple but are quite complex in power. They appear simple because the basic visual communication building blocks that create them e.g., lines, strokes, colour, marks, etc. are the lowest level. Before we discuss these basic building blocks of both semiotic encoding and illustrating, we will quickly discuss Peirce's middle level of semiotically representing the **concept(s)**. This is *Indexical* representation.
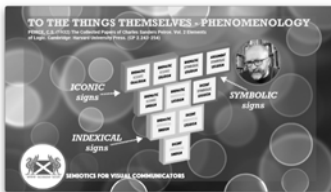

Fig. 1. The three levels of representing a concept in Semiosis (sign-action)

Fig. 2. As Peirce says, a **Symbol's** meaning spreads "among the peoples.

4.2. Semiotic Indexical Representation

If the highest level is a socio-culturally agreed meaning of "when we see 'THIS' we agree it means 'THAT' now. Then the middle level semiotically helps communicate 'WHAT.' Peirce uses three terms that to creatives can become confusing, as in design and illustration his choice of terms now mean other things to us. Peirce's semiotic *Symbol* is not the same as a creative's experience of a *Symbol*. His second middle level is referred to

as an *Index*. We will from now on refer to this as *Indexical* representation [14]. The easiest way to understand how this level **represents** a **concept**, this level of semiotically communicating POINTS to actual things (see Fig. 3).

      Think of your own index finger. You use your index finger to POINT to actual things. At this level of semiotic communication an illustrator can skilfully **represent** with a few lines shapes that can be interpreted as a tree, a car, an animal. With more consideration those drawn

Fig. 3. Indexical semiotic pointing to actual things. The basic drawn shapes in a certain order (left) begin to suggest the qualities that resemble an animal known as a panda (right).

elements can be crafted to visually communicate a particular species of tree, a specific type and model of a car, or a recognisable animal. Once a basic tree/car/animal shape is illustrated to **represent** a specific thing, the illustrator has naturally begun to *Indexically* represent that thing. The illustrator has themselves, knowingly or not, encoded semiotic signs to help the audience recognise that that tree/car/animal is an oak/a Porsche/an aardvark, etc. These things can exist in reality or in fiction – even ideas can be *Indexically* represented.

4.3. Semiotic Iconic Representation

Iconic representation is the lowest level of Peircean **representation** of a **concept**. While we are in the context of discussing Semiosis forget all other ways you understand icon or iconic can be used in everyday life [15]. *Iconic* representation is the basic building blocks of visual communication. We discussed earlier a phenomenological framework where our audience's own experiences come to bear on how and what they interpret. Well in terms of sign-action, this lowest semiotic level uses lines, strokes, shapes, colours, marks, etc. to trigger subconscious recognition in the audience. Peirce says that:

> "Nothing is a sign unless it is interpreted as a sign." [16]

Iconic representation utilises these basic visual communication building blocks to resemble qualities of things already experienced by the intended audience. These combinations of lines, strokes, shapes, colours, marks, etc. suggest possibilities at a very simple level of perception.

      To grasp *Iconic* representation, consider how a few brush strokes from an illustrator can create a shape that suggests a tree here, or a car there, or even an animal. They are just brush strokes. But, from a semiotic point of view, these strokes *iconically* **represent** enough suggestive qualities for the audience to recognise a tree, a car or an animal from them.

      Encoded semiotic signs do not begin to 'power up' and begin work-

ing until the intended audience begins to perceive that the imagery is representing something to them [17]. The more they look, the encoded semiotic sign-action can subconsciously begin to unlock more and more information, enriching the experience of illustration, and communicating the **concept(s)** at different levels of perception.

5. Unlocking Palaeoillustration Meanings with Semiosis

Returning now to the work of our illustration ancestors, how does sign-action (Semiosis) help us to begin to understand the intent behind the cave paintings and marks?

As we already agree, we cannot know what the paintings meant to the Stone Age audiences. We are not THAT audience. All socio-cultural links to any original meaning contexts of those people have long been extinguished. In fact, as von Petzinger's research suggests [18], the meanings naturally evolved over the millennia the marks existed.

So let us first clarify our 21st thinking here. We see the cave paintings and chronologically categorise them as 'Stone Age,' but the expanse of time we are discussing here in which these paintings where culturally active ranges between 45,000 to 11,000 BCE. This is a mind-boggling number of Palaeolithic generations of ancestors who used the caves to paint in.

The conclusion we can take is that the specific meanings of these paintings would evolve naturally across such a vast expanse of time. So, it would never be possible to believe we could know what those people understood when they looked at the work. But this paper is only concerned about understanding semiotically the intent behind the images. While the original socio-cultural contexts of each cave image are lost to us, the rich visual languages in the cave art contain the semiotic traces of how the original visual communication was constructed.

In cave paintings there are an abundance of prehistoric animals, many now extinct. There are very few representations of human figures in comparison. There are other images of a more abstract and ritualistic nature, plus the 32 abstract marks that von Petzinger has identified. David's practical research [19] offers how the likenesses of big cats, mammoths, etc. could be faithfully and accurately drawn onto cave walls but let us concern ourselves not with the technical skills of the artist. Let us instead examine what semiotic clues to the intended visual communication can Semiosis help unlock.

Painted on the cave walls (which daylight never reached), the cave paintings would have been painted in artificial light. The irregular surface of cave walls is not a flat canvas. Many animals are painted where they are because the cave wall suggested a particular animal shape to the painter. From a Peircean semiotic point of view we can call this *Iconic* representation. The cave wall has a quality of part of an animal, so the painter drew the remainder of the body around the natural shape. In building up this *Iconic* representation line by line, stroke by stroke, ochre colour by ochre colour, a recognisable animal emerges out of the dark wall.

In one cave it may be a bison, in another it may be a mammoth or

a horse, but in Chauvet cave a stalking pack of cave lions were created on top of each other [20]. In the 21st century, we can confidently identify these as cave lions now even though cave lions are extinct, as science has proven this from fossil records. To the painters' Palaeolithic audience, they also knew that these marks on a wall represented animals that they knew from their own lived experiences outside the cave.

These *Iconic* marks semiotically begin to communicate more meaning to actual things, beyond a possible quality of resemblance to parts of a possible animal, to actual cave lions. This is *Indexical* representation at work, from the basic visual communication building blocks that forms the animal shapes. But *Indexically*, the painting of cave lions is still semiotically communicating more meaning. The painter's **representation** also allows the audience to **interpret** the sex of the big cats (mostly female).

6. Conclusions

What these Stone Age paintings *Symbolically* meant is lost to us, as we do not share the original audience of Palaeolithic hunter-gatherers' socio-cultural contexts, spiritual references or mythology. So, the closest we can semiotically get to the intended **concept(s)** as a secondary audience, of why these paintings were painted can only reach the existential level of sign-action. Without the original context to what the painter painted we are in danger of projecting our own narratives and meanings onto the work. In much the same way that any modern illustrator's image may be re-interpreted by a secondary or even tertiary audience, far removed from the original client's primary target audience the image was intended for.

This far from diminishes the original intent of the image, nor does it negate the original **concept(s)** visual communication. Any time spent crafting semiotic signs to strengthen the original visual communication of the **concept** will remain encoded. Those semiotic signs will have helped the primary target audience to understand the messages within the image they were intended to see. The residual sign-action power in the image (whether 45,000 years ago in a dark cave, or last month's editorial illustration now seen in the context of an Instagram post without the article), still has the power to communicate something to a new audience. How much of the original intended **concept** will be understood, diminishes as the socio-cultural contexts recede with each new generation of audiences. But the semiotic sign-action is still there.

We may not be hunter-gatherers on the Ice Age European steppe anymore, but we are modern humans like them. Our innate humanness to seek meaning in shapes is what allows illustrators and designers, to trigger perception in their target audiences with a simple line that has qualities to something the audience can recognise. As a modern illustrator, if you have done this (by drawing you already have!) you have been using Semiosis (sign-action) without even realising it. So have our Palaeoillustrator ancestors.

Now, by being more mindful of that unconscious sign-action, modern illustrators can enhance the effectiveness of their own visual communication abilities. By integrating the basics of Semiosis as they compose their illustrations, illustrators can improve how their primary audience

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will **interpret** the meaning in their work. Our Palaeoillustration ancestors worked literally in the dark. You do not have to.

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A Presencialidade no processo de leitura do Livro de Imagem

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[Ilustração / Illustration]

Abstract

The article presents the idea that the process of reading a wordless picturebook has a kind of "face-to-face" feeling - as if the reader were seeing the narrative happen in front of him. This idea is based on important contributions from Pier Paolo Pasolini - "pedagogic language of things".

1.Introdução

Com certeza quem já finalizou um mestrado ou um doutorado ou mesmo uma graduação conhece o sentimento de conquista e alívio. Muitos dedicam-se um tempo livre, viagens, ou até mesmo o privilégio de umas pequenas férias quando possível. Além de todos os sentimentos descritos acima, há mais um de que poucos falam formalmente: dedicar-se a escrever sobre outros assuntos sem o objetivo de ser acrescido à tese ou dissertação em processo de produção.

Vemos o processo de pesquisa e escrita como o processo rizomático de Gilles Deleuze e Félix Guattari [1]. As decisões tomadas durante a escrita excluem muitas vezes assuntos tão interessantes ou relevantes, em razão da manutenção de um fluxo de pensamento ou restrições colocados pelo recorte da pesquisa. Agora, dedico-me à retomada de um desses assuntos adiados.

A publicação no CONFIA em 2012 [2] tratou de apresentar os resultados da pesquisa defendida na Pontifícia Universidade Católica do Rio de Janeiro, no Departamento de Artes e Design, que dedicou-se a aprofundar os estudos sobre o Livro de Imagem. Nela um dos esforços foi compreender a partir da diversidade de nomenclaturas dadas ao livro de imagem uma certa noção que havia da sua concepção e funcionamento. Como conclusão desse processo e a conexão com as artes cênicas propostas na pesquisa original, acabou-se por desenhar a noção de uma cerca *presencialidade* pertencente ao processo de leitura do livro de imagem. O interesse na releitura de trabalhos anteriores e seu diálogo com outros autores, fez-nos recuperar essa "ponta solta do rizoma da escrita".

Assim, para avançarmos nesse artigo será importante esclarecer alguns conceitos utilizados, bem como alguns autores fundamentais para sua melhor compreensão. Primeiramente, o entendimento da leitura de um livro de imagem, cuja característica principal é a ausência de uma narrativa expressa através de um discurso textual. Pois, em função dessa

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ausência a narrativa é contada exclusivamente através de um discurso que faz uso da linguagem visual. Assim, o conceito de narrativa, discurso e linguagem serão apresentados previamente. Em seguida traremos alguns autores e trabalhos que balizarão tais conceitos e o trabalho em si, especialmente Pier Paolo Pasolini e seus estudos linguísticos, Walter Benjamin e seus estudos sobre narrativa, bem como autores fundamentais para a Literatura Ilustrada atual como: Evelyn Arzipe, Emma Bosch, Sophie Van der Linden, Uri Shulevitz, Teresa Duran e Rui de Oliveira.

Com isso, buscamos apresentar de forma mais ampla e aprofundada o que entendemos por *presencialidade* na experiência de leitura do livro de imagem.

2. Linguagem, Discurso e Narrativa

O Laboratório de Design de Histórias (Dhis) tem a narrativa como objeto central de estudo, bem como linguagem e discurso. Tais estudos têm se estruturado em alguns autores principais como Walter Benjamin - e sua definição de linguagem como um conjunto de códigos organizados e compartilhados; compartilhamento que também é encontrado na obra de Jean-François Lyotard quando defende o vínculo social da linguagem; e a noção de Discurso que para ambos é a prática do uso da linguagem. A narrativa, por fim, é vista como um gênero de discurso com características específicas na sua prática discursiva. De forma bastante resumida podemos dizer: temporalidade, sequencialidade, alteridades e macroproposições.

"Essa organização traz uma perspectiva de inclinação estruturalista, onde em primeiro lugar, se coloca a linguagem como os processos relativos ao código compartilhado, à cognição. O discurso é a linguagem em curso, no seu uso, na produção de enunciados, e a narrativa é um gênero discursivo, assim como a poética". [3]

Gamba Junior ainda aponta que apesar da inclinação estruturalista, a perspectiva pós-estruturalista buscou apontar uma problemática no seu uso ao invés de invalidá-la. Assim, a perspectiva pós-estruturalista aponta para o surgimento da linguagem como uma necessidade de representação da realidade. Portanto, de forma bem resumida, a narrativa seria uma condição essencial do código.

Desta breve apresentação, destacaremos três características fundamentais da narrativa: temporalidade, sequencialidade e alteridade. Ao tratar a temporalidade no discurso narrativo Paul Ricouer [4] traz uma análise de alguns autores que abordaram reflexões sobre o tempo. Em primeiro lugar apresenta a noção mais comum de que existam três tempos distintos: passado | presente | futuro. Um entendimento que corresponde à percepção do tempo. Em seguida, as reflexões de Santo Agostinho expande a noção de passado e de futuro comprimindo a noção de presente à um estado infinitesimal. Portanto, a visão de Santo Agostinho para o tempo dá-se praticamente numa divisão entre duas dimensões separadas por uma dimensão infinitesimal denominada atenção. Esta perspectiva ainda acrescenta que nem o tempo futuro, nem o tempo passado existem. Só há a existência do presente sob a forma da atenção. O passado é a recordação das experiências que existiram (memória) e o futuro as projeções das experiências que poderão existir (expectativas). Sendo assim temos: memória | atenção | expectativa.

Esse raciocínio é fundamental para entendermos que a experiência do tempo só é possível de ser registrada, organizada e visualizada por intermédio da narrativa – perspectiva defendida pelos pós-estruturalistas para a criação do código. Portanto, o que entendemos como passado são narrativas construídas pela necessidade de compartilharmos as experiências vividas - memória.

Para Benjamin: "A figura do narrador só se torna plenamente tangível se temos presente esses dois grupos. 'Quem viaja tem muito o que contar', diz o povo, e com isso imagina o narrador como alguém que vem de longe. Mas também escutamos com prazer o homem que ganhou honestamente sua vida sem sair do seu país e que conhece suas histórias e tradições. Se quisermos concretizar esses dois grupos através dos seus representantes arcaicos, podemos dizer que um é exemplificado pelo camponês sedentário, e outro pelo marinheiro comerciante." [5]

Apesar da narrativa ter sido estruturada como registro de experiências passadas, a mesma forma de organização e estrutura tem sido usadas para prospectar narrativas. Assim, o futuro são narrativas criadas pela necessidade de compartilharmos nossas expectativas sobre experiências que imaginamos.

Sobre a possibilidade de narrativas futuras, Benjamin compara a narrativa à semente de trigo pois segundo o autor "Ela conserva suas forças e depois de muito tempo ainda é capaz de se desenvolver. (...) ainda é capaz, depois de milênios, de suscitar espanto e reflexão. Ela se assemelha a essas sementes de trigo que durante milhares de anos ficaram fechadas hermeticamente nas câmaras das pirâmides e que conservam até hoje suas forças germinativas." [6]

3. Pasolini e a Semiologia da Realidade

Com referências ao materialismo histórico, em semelhança à Walter Benjamin, Pier Paolo Pasolini dedicou-se aos estudos da comunicação e da semiologia, em especial o que ele próprio denominou de *Semiologia da Realidade* [7]. Pasolini aponta que a experiência material, com as coisas, possui signos linguísticos, tornando necessária a compreensão do seu funcionamento como linguagem. Essa teoria reforça a certeza da possibilidade de construção narrativa exclusivamente por imagens. Mas para além disso, uma análise cuidadosa de suas camadas, nos dá a clareza da relação do leitor com as imagens como uma relação de *presencialidade*: não pela realidade de uma presença física em si, mas pela sua capacidade de esclarecer a relação construída da representação a partir da realidade vivida.

Pasolini sugere que inicialmente temos o que denomina de *Ur-código* ou *código dos códigos* ou ainda *código da realidade vivida*. Este é o código mais conectado com o *pragma*, com à vida. É, se podemos construir essa ponte, a dimensão temporal da *atenção* proposta por Santo Agostinho. Não há, portanto, nessa realidade expansão temporal para o passado nem futuro. Mas há contudo signos com os quais nos relacionamos.

Em seguida há o *código da realidade observada ou contemplada*. Essa é a condição de alguém que está presente na realidade vivida sem estar envolvido com a ação diretamente. Vive a ação com distanciamento, a

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contempla, a observa. Vive, portanto uma realidade que se apresenta com certa objetividade. E destaca, em especial que "Um fenômeno importante na descodificação da realidade vivida através da observação, é a ilusão da linearidade ou sucessividade dos acontecimentos, e sobretudo a ilusão de que há 'traços' ou 'segmentos' de realidade".[8]

Na terceira camada da realidade, dita *realidade imaginada ou interiorizada* o foco dá-se na memória. É na recordação ou possibilidades de previsão ou imaginação que se estabelece a relação da realidade imaginada. Ela portanto reforça a ilusão de objetividade e de sequencialidade. Aqui, como aponta Pasolini há maior interferência e deformações voluntárias ou involuntárias. Tais deformações possíveis darão origem ao que o autor vai denominar de *gíria artística*. Dessa vez podemos perceber uma conexão com Walter Benjamin quando este fala sobre a narrativa que atravessa o narrador e carrega suas características. Como *rastro* do oleiro em sua obra.

A quarta camada inicia o processo de comunicação. É a partir da *realidade representada* que temos a capacidade de compartilhar a experiência com um outro espectador que não tenha participado do fenômeno anterior. No entanto, para Pasolini, essa representação dá-se apenas através da linguagem corporal: mimese corporal, interpretação performática, etc. Ao que parece não haver exteriorização da memória e da experiência.

A seguir podemos incluir a representação oral, onde há a criação do verbo. É na *realidade evocada ou verbal que* inicia-se um nível maior no processo de abstração e convenção simbólica. E então, alcançamos o nível da *realidade figurada,* onde a representação ganha forma visuais. Ela no entanto é fixa no tempo, imóvel. Essa é provavelmente a realidade que mais aproxima-se do livro de imagem.

A partir dessa realidade as representações ganham contornos mais precisos e a comunicação passa a ser cada vez mais próxima de uma simulação dos primeiros níveis. São elas a *realidade fotografada, teletransmitida do audiovisual* e *reproduzida do audiovisual.*

A partir da *realidade vivida* e da *realidade observada* já podemos constatar as três ligações imediatas com a narrativa. A primeira delas é a dimensão temporal. Onde na *realidade vivida* não há a percepção da dimensão de passado e futuro – ou memória e imaginação, pois não há distanciamento possível para essa reorganização/manipulação. Mas já na *realidade observada* é possível identificarmos não só o aspecto da alteridade, uma vez que a realidade é vivida de forma objetiva, distanciada, mas também a sequencialidade – apontada pelo próprio Pasolini no "ilusão da linearidade ou sucessividade dos acontecimentos". [9]

Apesar de compreendermos que a camada mais próxima do que iremos encontrar no livro de imagem seja a *realidade figurada*, podemos compreender que, assim como defendido por Pasolini, toda comunicação é atravessada por diversas dessas camadas em simultâneo. Ou seja, mesmo que possamos apontar para o livro de imagem como um exemplo de *realidade figurada*, pela sua representação visual e fixa dos momentos, pela sua proposta de sequencialidade ela ganham uma dimensão também temporal. Isso acontece quando o espectador toma contato no livro com as imagens fixas

isoladas. Mas, há uma busca por conectá-las com a imediatamente anterior e imediatamente posterior. Assim, o imagem que está sendo vista (*atenção)* conecta-se com uma imagem já conhecida e memorizada (*memória)*, bem como projeta a próxima imagem (*expectativa)*, sugerindo continuidade da história. Nesse exercício temos a sensação de que estamos na condição única de *atenção* proposta por Santo Agostinho. Onde o passado já não existe mais (na imagem fixa diante do olhar do espectador), nem contudo sabemos nada sobre o futuro que ainda não se apresentou. O momento, portanto é estabe-lecido por um jogo de *atenção*, *memória e expectativa*. A imagem presente, sugere uma continuidade da imagem anterior ao mesmo tempo em que clama pela expectativa do virar da página. É o momento em que o presente torna-se imediatamente memória, num movimento contínuo.

A considerar que tal experiência se dá sem que o espectador sinta-se parte dela, ou seja, distancia-se de uma dimensão da *realidade vivida* e se aproxima de uma *realidade observada*. Pois, une na mesma experiência a *realidade figurada*, ao mesmo tempo em que sugere a participação do espectador na *realidade vivida*, mas distanciada o suficiente para entender que trata-se de uma *realidade observada*, onde é possível encontrar *alteri-dades*, *temporalidade* e *sequencialidade*.

E assim, podemos então compreender que a experiência de leitura do livro de imagem se aproxima das primeiras camadas da Semiologia da Realidade proposta por Pasolini, além de mimetizar uma relação com o tempo próxima do que descreve Santo Agostinho, através dos escritos de Ricouer. Ambas aproximações dão o primeiro suporte para compreender-mos o que estamos buscando apresentar como uma *presencialidade*.

Para além disso, temos também uma aproximação com as Artes Cênicas. Apesar de já termos avançado no tema durante a dissertação do mestrado [10] gostaria aqui de trazer novos contornos para essa aproxi-mação que reforçam a ideia de uma *presencialidade* no livro de imagem.

4. Presencialidade

Este trabalho defende que o livro de imagem tem uma relação com as Artes Cênicas que sugere a dimensão *presencial*. Essa aproximação, no entanto, não é uma novidade. Alguns autores que tratam da Literatura Infantil ou do Livro Ilustrado já apontavam-na anteriormente.

Para Rui de Oliveira [11] essa aproximação se dá no âmbito da inter-pretação do ator, pois, segundo o autor, ambos ator e ilustrador precisam interpretar diferentes papéis, e por isso o processo de criação torna-se bastante semelhante [12]. Uri Shulevitz [13] defende que o livro de im-agem está mais próximo do Teatro do que outros tipos de livros. Assim, para o autor, o livro de imagem aproxima-se mais das Artes Cênicas do que da própria Literatura, especialmente a Pantomima – pela construção de discurso sem o uso da linguagem verbal. Ambos citam a aproximação com o Cinema, mas Oliveira por um lado acredita que a proximidade com o Teatro é maior e mais forte, enquanto Shulevitz reforça que a aproxi-mação com o Cinema seria o Cinema Mudo. [14]

Se retomarmos as camadas da *Semiologia da Realidade* de Pasolini, vemos que ambos concordam que o livro de imagem - provavelmente

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pela ausência do uso da linguagem verbal/textual - está mais próximo, portanto, da *realidade representada* do que da *realidade evocada ou verbal* – que contudo, nos parece ser o lugar próprio da Literatura como um todo. O que reforça a opinião de Shulevitz.

Considerando então, que a organização das camadas da *Semiologia da Realidade* avançam no sentido do afastamento do momento *presente* em que a ação acontece, podemos entender que ambos os autores consideram a experiência do livro de imagem mais próxima de uma *presencialidade*.

Uma outra autora extremamente importante para o cenário do livro ilustrado – Sophie Van der Linden – traz algumas contribuições significativas. Segundo a autora, o livro ilustrado tem por objetivo atingir duas audiências – infantil e adulto. A leitura do livro ilustrado dá-se em voz alta. Por conta disso, a autora defende que esse processo de leitura aproxima-se do modo de recepção do espetáculo. [15].

Em outro momento a autora defende que muitas vezes as ilustrações são apresentadas ocupando integralmente a página: no termo técnico conhecido como "sangrando". Para Linden, essa característica traz uma certa "espetacularização" pois "a imagem tende então a anular o suporte"[16]. Por fim, ao buscar uma compreensão mais ampla da relação entre texto e imagem, Linden aponta que em certas ocasiões texto e imagem "contam" histórias opostas. Segundo a autora, nessas circunstâncias, "é sempre a imagem que parece falar a verdade". [17]

De maneira geral, Linden parece concordar que no livro ilustrado e aqui mais especificamente no livro de imagem há um distanciamento do processo, digamos, "tradicional" de leitura onde outros elementos são inclusos nele. A leitura em voz alta, a anulação do suporte e uma certa veracidade na imagem. Nossa leitura é que o que Linden traz é a aproximação do processo de leitura do livro ilustrado com as primeiras camadas da *Semiologia da Realidade*. Aquelas camadas, portanto, mais próximas do evento presente, seja pela anulação do suporte e a sensação de uma *realidade observada*, seja na proximidade da espetacularização trazida pela voz alta e a *realidade representada* ou ainda a veracidade da imagem. Tal veracidade poderíamos compreender como uma aproximação da fotografia – cuja relação com o *realidade vivida* é imediata. Portanto, igualmente aproxima-se das primeiras camadas da realidade onde está a sensação de *presencialidade*.

Emma Bosch[18], por sua vez, faz referência à pantomima e as Artes Cênicas quando descreve um livro de imagem cuja comunicação é feita mediante a mímica facial e a expressão corporal. A autora analisa ainda o livro de imagem por uma série de categoria, dentre as quais a Cena. Fazendo referência a outros autores, Bosch deixa claro que a terminologia de Cena é originária das Artes Cênicas [19]. Em outras oportunidades a autora novamente faz uso da linguagem própria das artes cênicas para descrever ou classificar livros de imagem [20].

5. A presencialidade observada

Nessa parte apresentaremos tanto uma situação vivenciada durante a pesquisa de campo do doutorado, bem como alguns relatos trazidos por Evelyn Arizpe durante sua fundamental pesquisa sobre o processo de lei-

tura do livro de imagem. Esse fragmentos apresentados não têm a função de provar a existência da dita *presencialidade* no livro de imagem, mas pode nos dá uma certa dimensão da sua potencial existência.

O trabalho de doutorado finalizado em 2022 [21] teve como uma das etapas do trabalho de campo, experimentos de leituras com crianças em idades entre 3-5 anos. Em função da Pandemia do COVID-19, algumas restrições foram impostas ao trabalho de campo. Uma delas foi o contato direto do pesquisador com as crianças. Tal situação foi contornada pela parceria com a escola Instituto Rocha Xavier, localizada no município de São Gonçalo, no Rio de Janeiro, onde a pesquisa pôde ser realizada. A escola havia retomado às aulas semi-presenciais: algumas crianças participavam presencialmente da aula enquanto outras o faziam por video conferências. Estando as primeiras crianças sob os cuidados da professora as demais crianças sob os cuidados dos pais ou responsáveis.

Para que o experimento pudesse acontecer sem a presença do pesquisador, foram realizados alguns encontros prévios com a professora para orientá-la como mediadora. Em um desses encontros, a professora trouxe uma consideração sobre uma das imagens que representava metaforicamente um pesadelo com a figura de um monstro: segundo ela, poderia ser muito assustadora e gerar medo nas crianças. Além do público, ela demonstrou também um certo receio com relação à reação dos pais ou responsáveis.

Ora, aqui cabe apontar que embora professores, pais ou responsáveis saibam distinguir a *realidade figurada* da *realidade vivida ou observada*, ambos parecem perceber que a representação (*realidade figurada)* para as crianças pode gerar uma sensação ou leitura próxima de uma *realidade observada ou vivida*, a ponto de terem receio quanto à experiência.

Evelyn Arzipe [22] apresenta parte de sua pesquisa sobre como as crianças conectam imagem e texto nos livros ilustrados através de entrevistas com crianças de diferentes idades. Embora não tenha sido a intenção direta da autora apresentar indícios de uma certa *presencialidade*, são exemplos bem expressivos – ainda que não sirvam como prova. A autora está, portanto, interessada no processo em que "readers find themselves participating in the process of making a story happen. They perceive at least two contrasting versions of the same events at the same time and perhaps understand that reality is never quite simple." [22]

Assim, traremos alguns exemplos de respostas das crianças, que ainda que fora de contexto, acreditamos serem bons indícios da sensação de *presencialidade.*

O primeiro diz respeito à uma certa sensação de empatia e envolvimento, que por si só já apontam para uma aproximação da narrativa. "Flavia (10) said it was as if someone was taking a picture of him from outside the book, while Selma (11) noted that they were looking at 'us, the reader'." Mais a frente uma outra crianças reforça "it makes it look real, like it's actually alive... (Keith, 10)". Ao propor uma comparação entre o livro só com texto e o livro só com imagens, um dos entrevistados diz "you wouldn't be able to see what was happening (Hugh, 9)". Ao descrever uma cena, um dos entrevistados aponta relações estabelecidas dentro da

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imagem por um processo de observação: "I look carefully and I see what may be the problem because you see the dog notices things that the girl isn't noticing so then I split the book into half and I see what Lily's seeing and really what she's saying… seeing and doing, and I will look at the dog and see what he's doing. (Peter, 9)". [22]

Tais exemplos fazem menção à uma certa aproximação do leitor com a cena. O fato de estarem diante de cenas que "acontecem" na sua frente, que parecem ser "ao vivo", ou ainda parece que alguém "tirou uma foto" ou está a nos observar (o leitor) mostram que há nessas falas algo que as aproximas das primeiras camadas da realidade. O que acontecem diante de nós diz respeito à *realidade observada*. Referências à fotografia, ou ainda à transmissão ao vivo, apontam que, mesmo sendo uma reprodução, a imagem tem conexão com o fato original, a *realidade vivida.*

Assim como para Grotowski, o momento da representação teatral é um encontro entre o público e o artista, simulando uma cerca *realidade observada* proposta por Pasolini, aqui podemos ver que o encontro da criança com a imagem no livro de imagem poderia trazer a mesma sensação de um encontro *presencial* com o personagem. Em outras palavras, ainda que a *presencialidade* na leitura do livro de imagem seja construída por imagens fixas, ela provoca a sensação trazida pela *realidade representada*, bem como da *realidade observada* e, por fim, é possível considerarmos uma aproximação com a *realidade vivida.*

Outro aspecto interessante trazido por Arzipe diz respeito a uma diferença no processo de compartilhamento da leitura dos pequenos leitores com mais ou menos experiência. Segundo a autora, os mais experientes apresentam um discurso mais lógico. Enquanto os menos experientes tem mais dificuldade em apresentar explicações plausíveis. [22]

Ora, para Pasolini o processo de aprendizagem do *Ur-código* se estabelece a partir dos primeiros momentos de vida. Assim, aprendemos a ler o mundo atribuindo significados e aprendizados ao que vemos, mesmo que não tenhamos ainda o domínio da linguagem – escrita ou falada. Nas palavras do autor: " O homem atento à vida, preso ao círculo da simples *pragma,* decifra continuamente a linguagem da realidade: o primitivo que encontra um animal está perante um 'signo' desta linguagem: se é um animal comestível mata-lo, se é um animal feroz foge-lhe…".[23]

Portanto, o processo de compreensão da narrativa por imagem pode acontecer para ambos os grupos de leitores – mais ou menos experientes – mesmo demonstrando dificuldades diferentes ao tentar explicar ou compartilhar sua compreensão da narrativa, pois esta exige certo domínio da linguagem verbal (mais abstrata). Tal afirmação pode ser reconhecida também nas próprias palavras da autora:

"We also found that some of the children who were considered by the teachers to be 'struggling readers' turned out to be some of the more experienced and articulate interpreters of the visual; even those students who had particular learning disabilities were able to make meaning and in some cases actually expanded the possibilities of Kitamura's pictorial text. Such was the case of Charlie, whose slight autism made him speak slowly and not very distinctly (his extraordinary drawings are analysed in the vignette). [22]

Teríamos ainda diversos outros exemplos a trazer, mas acreditamos que seja suficiente para apontar a possível existência de uma certa *presencialidade* no livro de imagem. Tal existência, embora não seja defendida diretamente por nenhum autor, aparece nos seus discursos. Seja na referência às Artes Cênicas, onde sua existência é essencial, ou na análise dos livros de imagem, na narrativa visual ou discursos dos pequenos leitores.

6.Considerações finais

Esperamos ter cumprido o objetivo de dar clareza à noção de *presencialidade* supostamente presente nos livros de imagem. Através do entendimento dos conceitos de *linguagem, discurso e narrativa,* especialmente ligados à característica da temporalidade da narrativa, em conjunto com as camadas da realidade propostas na *Semiologia da Realidade,* buscou-se demonstrar como percebemos a existência de uma noção de *presença* no ato da leitura do livro de imagem.

Trouxemos também outros autores do campo da Literatura Infantil, cujo trabalho abordava questões semelhanças para que pudéssemos considerar não se tratar de uma proposta totalmente original, mas pouco aprofundada. E por fim, mas não menos importante, um experimento prático, que, embora não tivesse como objetivo demonstrar ou provar esta *presencialidade*, tornou-se para nós um exemplo precioso desse potencial do livro de imagem.

Acreditamos, assim, que o assunto pede uma exploração maior e mais diversa, pois, entendendo essa característica como um potencial, pode-se ampliar as possibilidades criativas do livro de imagem e da Literatura Infantil.

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Helping Children and Youth Make Sense of Graphs Through Illustrating Stories

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[Ilustração / Illustration]

Abstract

It can be argued that data have always been around, but there appears to be a quickening of pace in terms of our interaction with them. Today, there is increasing reliance on data to be inspiration and genesis of our ventures. There is also increasing display of data all around us. Because of quantity of data and increasing dependence on data, there is increasing value for methods of organising and representing data. One such method is graphing. Over the centuries, we have mastered the art of excavating intelligence held within data and narratives they reveal through graphs we make. In this paper, we advocate graph literacy and, moreover, we advocate cultivating the skill from youth. Abstraction of graphs might present challenge for some youth. In that regard, we propose facilitation of skill acquisition by means of familiarity and interest--two things which stories provide. We illustrate with a case.

1. Introduction

Data are playing an increasingly visible role in day-to-day living. Data have always been powerful and crucial. What has changed, perhaps, is (1) a more aggressive approach to utilising them and (2) a greater social awareness of the fact. While machines increasingly play the role of data management, role of the human is still vital (so far, at least). It also probably does not do any harm for a human to apply her or his insight to data. We still need (and should encourage) data literacy.

Data literacy is complex [1]. It involves gathering data, organizing data, analyzing data and interpreting outcomes. Organized data can help identify patterns. They can also help to support arguments. To do those things, however, graphing the data can be immensely valuable [1]. Making a graph (or graphing) entails related complex engagements including, among others, determining the appropriate type of graph, sketching, plotting, fitting, transposing, considering interactions with readers and framing processes of graph creation within the graph maker's own experience [2].

Then comes the matter of reading a graph, which is a type of multi-layered activity of its own. It can involve the following [3]: identifying variables, recognizing relationships between variables, understanding representations on a number line, understanding a coordinate system, reading dimensions, being keen to about presence of variability, seeing correspond-

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ence between representation and real-world phenomenon, etc.

When it comes to children and youth and using graphs, the matter becomes a bit more complicated. There are questions of connection to experience, but there are also questions concerning the abstraction of representation. Then there are questions of perceiving relationships that a graph is meant to depict. About experience, we begin by quoting directly from Roth [2] an example which helps to illustrate that experience with content can matter--whether with content as specialized information (e.g. shrimp-oxygen relationship below) or with familiar content that is not generally thought of as a problem (e.g. walking across a room versus *rate* of traversing the room):

Graphing tasks to elicit the level of skills children exhibit often involve situations that they are unfamiliar with--e.g., the relation of shrimp frequency and oxygen levels, both plotted as a function of distance from a plant on some river...or that in this way never pose problems in everyday situations--the speed with which they may walk across the room. (p. 76)

At some point or level in the future of the now-child or now-youth, reading a graph will surely be tied to some degree of acquired specialization or understanding of the primary subject matter. There is still a lesson, however. During the earlier stages of learning use of graphs, being able to frame learning about graphs within a cognitive space that holds some form of understanding (meaningfulness) may be a valuable thing to consider.

In terms of abstraction, we draw on an example of articulating a space-time relationship provided by Radford et al. [4]. Their example involved a cylinder rolling across distance on an inclined plane. Humans may be able to perceive space and time. Description of a relationship between time and space, however, is a conception, an abstraction--often arrived at and "demonstrated" through facilitation of observation (e.g. observing motion of an object) or expression through equations or graphs [4]. Equation writing and graphing are trained activities (and insights) that involve abstraction. In graphing, Paoletti et al. [5] described mathematizing space--for example, through the abstraction of using a coordinate system to construct and articulate co-variation between quantities.

Recognizing relationships presents its own challenges. Some researchers have found that "reasoning about relationships or processes between quantities" is not always realized when some students look at a graph. What takes place instead is a type of *static shape thinking* (focussing attention, instead, on physical features of contents of the graph) [6, p. 709]. Paoletti and colleagues [5] described a case of students treating a graph as a literal representation of a situation (e.g. "interpreting a time-speed graph of a biker as the biker's traveled path" [p. 1315]). The problems of recognizing relationships also involve the case of students connecting points on a graph without considering what happens between those points and "attending to one quantity while ignoring other quantities" [5, p. 1315].

An essential task, then, is to help young students arrive at an awareness and apprehension of elements of structure (parts of a graph), essential active content (variables) and state of dynamism of that active content either against itself or against other active content (variable-to-variable).

Variables in graphs, for instance, should be apprehended as entities which embody change and are representable as changing. Right from elementary school age, at some stage, young students develop capacity to recognize variables: "Children in the elementary grades 'can observe that over time and across different circumstances, numerical quantities can vary in principled ways'" (cited in [7]). Idea of "principled ways" is of interest to us. It suggests that to be aware of changeability is one thing (which is an important step in learning), but recognition that there is a systematic identity for some observable changes (e.g. patterns of change, groupings of changing entities) is an additional ideal of cognitive development. It is in the latter that structures such as tables and graphs render themselves even more valuable. According to the National Council of Teachers of Mathematics (in the United States), "an understanding of the meanings and uses of variables develops gradually as students...relate them to verbal, tabular, and graphical representations"(in [7]). It is essential to understand and build up how young students interpret and manipulate representations and symbols, suggested Krange and Arnseth [8]. Reasoning in science, they wrote (although we prefer to say 'scientific reasoning' as a pervasive form of action which is applicable in all areas of life and not just science alone), involves ability of students to "interpret, construct and make use of representations and models" (p. 586).

One solution to reading graphs might lie in a combination of things: (1) breaking parts of a complex graph down into understandable components and (2) introducing graph within framework (context) of a familiar (and enjoyable, if possible, though not essential) activity (e.g. story telling and following a story). Hopefully, the analysis (breaking down into parts) facilitates synthesis (seeing the final whole), familiarity (underlying stories with understandable imagery) facilitates understanding and interest generated by plot of the story moves awareness into dynamics of relationships--beyond *static shape thinking* (as quoted in [6]) above.

In this paper, we direct attention to quantitative reasoning, spatial reasoning, representation, apprehension of systematicity (such as effected by grouped data, patterns, trajectories) for children and young people. Young children have capacity for important aspects of graph literacy: In studies involving children between 8 and 12 years, Ainley and colleagues [9] found that children are able to recognize patterns, regularity, trends.

We propose that it might be possible to bring telling a story--something which might already hold interest for a young listener--together with introduction to graph literacy. In that regard, we will illustrate with a classic short "tale" which will be overlaid with elements of making and reading graphs. This could be seen as a different form of illustration of children's books.

2. Interventions

Edward Tufte [10], an oft-quoted writer on graph illustration, described Charles Joseph Minard's celebrated narrative graph of Napoleon's military campaign into Russia (1812) as possibly "the best statistical graphic ever drawn" (p. 40). It, as are other exemplars of well-done space-time-sto-

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Fig. 1. Charles Joseph Minard: Napoleon's military campaign to Russia (1812). Source: https://www.open-culture.com/2019/07/napoleons-disastrous-invasion-of-russia-explained-in-an-1869-data-visualization.html
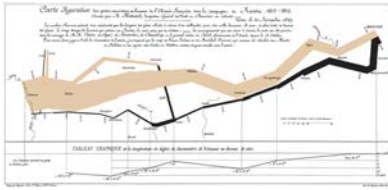
ries, depicts "how multivariate complexity can be subtly integrated into graphical architecture" and integrated "so gently and unobtrusively that viewers are hardly aware that they are looking into a world of four or five dimensions" (p. 40). (Tufte noted that six variables are embedded in Minard's graphical illustration: army size, latitude, longitude, location per certain dates, direction of army movement, temperature). Tufte alludes to the "explanatory power" of a graphic afforded through integration of multivariate complexity into its architecture.

For our paper, we turned to the legendary Greek writer of fables, Aesop. One of Aesop's celebrated stories is "The fox and the crow" [11]:

The Fox and the Crow

One bright morning as the Fox was following his sharp nose through the wood in search of a bite to eat, he saw a Crow on the limb of a tree overhead. This was by no means the first Crow the Fox had ever seen. What caught his attention this time and made him stop for a second look, was that the lucky Crow held a bit of cheese in her beak.

"No need to search any farther," thought sly Master Fox. "Here is a dainty bite for my breakfast."

Up he trotted to the foot of the tree in which the Crow was sitting, and looking up admiringly, he cried, "Good-morning, beautiful creature!"

The Crow, her head cocked on one side, watched the Fox suspiciously. But she kept her beak tightly closed on the cheese and did not return his greeting.

"What a charming creature she is!" said the Fox. "How her feathers shine! What a beautiful form and what splendid wings! Such a wonderful Bird should have a very lovely voice, since everything else about her is so perfect. Could she sing just one song, I know I should hail her Queen of Birds."

Listening to these flattering words, the Crow forgot all her suspicion, and also her breakfast. She wanted very much to be called Queen of Birds. So she opened her beak wide to utter her loudest caw, and down fell the cheese straight into the Fox's open mouth.

"Thank you," said Master Fox sweetly, as he walked off. "Though it is cracked, you have a voice sure enough. But where are your wits?"

2.1 Illustration of The Fox and the Crow

We began by creating a list of some elements and variables extractable from the story. (Side note: This was a more challenging task than antici-

pated. We considered things that could be represented quantitatively or/ and are dynamic or/and share a relationship with another variable. The list can be very long.) Below is the list we have used in the current paper. Each variable or element is followed by description of its representation on the graphs being generated by us:

1.Time:
Grows rightwards along x-axis

2.Distance from origin:
Increases upwards from zero along y-axis (Note: Sometimes, fox's wandering path meanders back closer to origin.)

3.Equilibrium (biologic; homeostatic): Negative effect of lack of food on stomach (hunger):
Increases downwards from zero along y-axis (This is reversed value: increase in a negative direction means worse experience/effect.)

4.Travel trajectory (of fox):
Meandering base line depicts path of travel of fox (Note: this illustrates "*static shape thinking*"--already described above, but it is intentional here as part of presentation.)

5.Hope (of finding food):
Bar graph; fluctuates; hope increases and decreases

6.Stop station/location:
Each bar graph cluster represents a station (e.g. a village) where fox stopped

7.Width of "stop station":
Width of bar graph cluster represents length of stop/pause at a "station;" length of stay is variable

8.Distance between "stop stations":
Represents varying distances between "stations"

OTHER
9.Cardinal direction of movement:
(In this illustration, direct backward/westward movement is not depicted so as not to conflict with another variable. This is an issue to be resolved in the future.)

Preliminary graphs

These are components of the final integrated graph/illustration. They are taken unit-by-unit and used didactically, while at this simple level, to instruct the student, child or youth. When these components are understood individually, they should then make sense in the final integrated story of space, time and relationships. Several of these are presented below.

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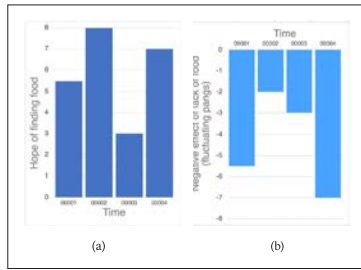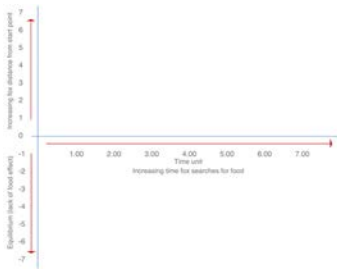
Fig. 2. Graph structure for the first three items in list of elements and variables presented at top of section 2.1.

Fig. 3. (a) Across time, fox's hope of finding (or acquiring) food rises and falls. (b) Equivalently across time, fox's hunger pangs grow and ebb.

As already noted above, children in elementary grades have capacity to recognise that, "'over time and across different circumstances, numerical quantities can vary in principled ways'" (cited in [7]). As we also noted above, young children have capacity for important aspects of graph literacy. For instance, in Ainley and colleagues' [9] study involving children between 8 and 12 years, they found that children are able to recognize patterns, regularity and trends.

In figure 2, time that fox searches for food increases along x-axis. Fox's distance from its starting point increases along positive y-axis.

Across time, fox, in all likelihood, experiences ups and downs. In figure 3, two of those are depicted. In 3(a), fox's hope of finding food before seeing crow or, after finding crow, hope of success in dislodging cheese from crow's beak, likely fluctuates. Throughout, "gnaw" of hunger "peaks and pits" as depicted in 3(b).

Arriving close enough to crow, fox begins to talk (Fig. 4 [a]). Eventually, crow is sufficiently flattered, opens its mouth and "vociferates/vocalises" loudly, confidently, bravely (maroon spectrograph, Fig. 4 [b]). It is short-lived. Piece of cheese falls. Fox picks cheese up. Fox, meanwhile, has cheese in its mouth as it trots off.
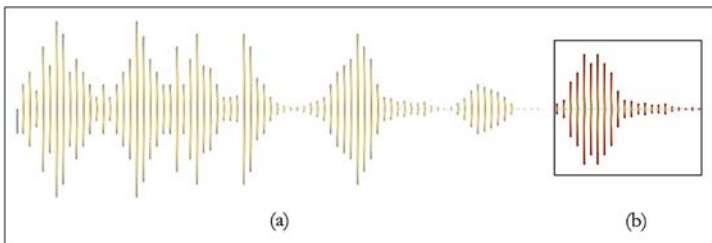
Fig. 4. (a) Fox speaks. (b) Crow responds.

Final illustration

Figure 5 illustrates the entire story--from beginning of fox's journey to its victory (or crow's foolishness) as fox walks off with the piece of cheese. The continuous, sinuous brown line indicates a base of travel. Its undulations are analogous to the path of fox's wander. Time increases rightwards. Fox gets farther away from its origin--indicated by increasing height of groups of bars above brown path of travel. (Dotted line is superimposed to enhance readability only--of growth of positive-side [positive y-axis] bar plots, a growth meant to depict in-
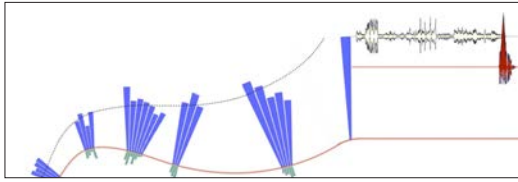
Fig. 5. The fox and the crow: An illustration.

creasing distance of fox from its starting point, as already explained above.) Fluctuation of height of bars--relative to one another in each group alone is an indication of fluctuating hope of finding food (or success in acquiring food). Width of each group of bars (which represents one location/stop each) indicates relative length of stay at that station. Distances between bar groups represent distances between stations/stops.

When fox finally encounters crow, fox begins to speak (yellow spectrograph). Fox goes on for some time. Finally, crow, which had been silent (brown straight line below fox spectrograph) opens its mouth "loudly" (maroon spectrograph). It did not last long due to surprise (and fox's sudden disinterest in--and disregard for--crow itself) and crow very quickly lapses into protracted silence--likely in surprise and embarrassment. Fox possibly did not have much to say either (despite the tale) because its mouth was now rather preoccupied with something else.

3. Conclusion

We began this paper with awareness of increasing visible presence (or, as it were, visibility) of data in contemporary life. That, we said, might be reflection of (a) increased capacity to represent information explicitly and (b) a more assertive early ontogenetic role of data in evolution of our inventions. Data have to be organised and then it helps a great deal to also render them visible to us. One pervasive way in which we accomplish those is through graphing. Given the described, we considered the value of inculcating graphic literacy from an early age in human life.

The interaction of children and youth with graph is discussed throughout the paper. Abstraction of graphs might pose a challenge to some youth. To mitigate that, we proposed a medium made of content to which children can relate or can understand. We proposed using a story. Stories that children can consume makes sense to them in terms of the ideas which are brought together within those stories. To further facilitate comprehension, graphing might be presented as an assemblage--of simplified parts, where variables are brought together in plot in manageable chunks. Thus, graphing might become a form of illustration of children's books or stories. As an additional benefit, interest might be brought to advantage, as children might enjoy a story.

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Methodologies for Shark Illustration

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[Ilustração / Illustration]

Abstract

Sharks are animals that belong to the taxonomic class of Chondrichthyes or cartilanous fish and are known for having carilage instead of bones, placoid scales and numerous rows of teeth of continuous growth. Although they have been inhabiting oceans since several millions years ago, it is nowadays that they are facing their biggest threat — human activites, namely overfishing. Due to their reputation as predators, this group is not a priority in what concerns to conservation actions, mostly because these rely on people's perception of them. Even though the public's opinion is not the best, sharks play very important roles in the environment and in the ecosystems balance. For this reasons, it is fundamental to create awareness for the population decreases and for the consequences that might follow. Images are a great resource to capture people's attention and awareness when disseminating information. More precisely, scientific illustration is a type of strategically visual units used for scientific actions. It is characterized by its precision and accuracy, as well as versatility. It allows the dissemination of information for both specific audiences and the public in general, and it is also, many times, chosen over photography. To achieve a correct result, scientific illustration must follow specific criteria. Thus, the main aim of this work was to optimize zoological illustration process in order to design a protocol that should be used scientific illustrations of sharks. For that, we used the Carcharhinus plumbeus as a case study and model.

1. Introduction

Sharks are animals that belong to the Elasmobranchii subclass of the taxonomic class Chondrichthyes or cartilaginous fish. This group is mainly characterized for not having bones, but a flexible and tough cartilage skeleton instead, as well as tegument placoid scales and several rows of teeth that are constantly being replaced. Their body has a very functional and hydrodynamic shape and shows five to seven gill openings in the side of their head [1].

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Sharks have been on Earth for a very long time. They have suffered several evolutionary processes and survived multiple mass extinction events. However, nowadays, they are facing new challenges that are putting many species of this group at risk. All over the world, shark populations are suffering great depletions caused by human activities, with an estimate of 100 million sharks being killed every year. The facts that sharks have long life cycles, late maturity and low fecundity makes them a vulnerable animal group [2]. The previously mentioned human activities include habitat destruction and exploitation, but, most of all, overfishing practices with no significant regulations. Sharks have a great demand for culinary purposes, and more precisely for their fins, especially in the Asian continent [3].

Even though these consequences are known to the public, concerns about them are directly connected to peoples' opinion on these animals, and, through the years, sharks have gained a very negative reputation of being aggressive predators, which is proven not to be entirely correct. In fact, sharks are very relevant for the environment and for the ecosystems' balance, filling the top of food chains and regulating prey/predator balance.

With public opinion being one of the main factors on the environmental decisions and, in this case, the main impediment of conservation actions towards the shark population decreases [4], it is very important to not only properly inform people about this group of animals and try to change their perceptions of it (even though there has already been an improvement in the last few years) [5], but also increase awareness and consciousness. Moreover, sharing the species that are in danger is crucial, as well as their relevant roles in nature, so that the competent entities, such as fishery companies, can take practical measures to decrease their exploitation and other crucial decisions. In order to do this, dissemination actions should take place, not only diffusing information about them, but also showing what they look like or making visible the consequences that their disappearance has on the ecosystems.

When taking these actions into reality, it is, therefore, very relevant to use images (visual representations created manually or digitally, such as drawing, paintings and graphics) or photos. These allow the public to better envision what the subject of the campaign is, since images are often used as a "translation" tool for written text, showing what it means in a clearer and more immediate way [6][7][8]. Moreover, they better capture the public's attention in a world filled with all kinds of stimulus.

Among numerous kinds of visual representations, there is one, besides photography, that is specifically applied to science, named scientific illustration. Scientific illustration is a form of pictorial representation, being described as accurate drawing and painting. Its objective is to portray scientific supported explanations of reality events or phenomena, as well as entities, which include species, so that the viewer is completely informed about the object of study. For this reason, this type of visual communication is considered more disciplined and must be very precise. However, it should always be adapted to its purpose and the aesthetic part should never be compromised, always scientifically based [9][10].

Scientific illustration is many times chosen over photography. Amidst several reasons, it happens because photography can only capture one layer of an individual (external anatomy and morphology), which is often damaged, dirty or even showing phenotypical bias from the model recognized as the specie itself. Also, it is almost never possible to depict an organism's inner anatomy resorting only to photography without intrusive techniques that may leads to the specimen death. On the other hand, illustration allows the author to include complementary information gathered from different sources or different individuals studies in only one picture or, on the contrary, to choose a focus selecting and showing just a few small details (reducing visual noise or pollution) that is always caught by the camera in natural environment [9][11]. In fact, scientific illustrations has come to be the first meta-image, since its arising.

Images also have the capacity to be more vastly understood, no matter if the receiver is an expert on the topic of study or not. By using this method, science dissemination can achieve a much larger scale than only between scientists and investigators, being able to reach organizational levels or even social mass communication levels, for the public in general [10].

Given the significant role of illustration in the dissemination of information obtained in reliable scientific sources, it is crucial that these images are constructed rigorously and thoroughly, and they must follow certain criteria, according to the correspondent field of study, in order to assure the most universality possible.

Although these rules must be followed for an accurate, useful illustration making protocols are inexistent or incomplete, and technical information (scientific and/or pictorial) is dispersed. There is a big gap on which steps to follow to achieve a certain result for many groups of beings, namely the cartilaginous fish, and, more precisely, Selachii or sharks.

Thus, the aim of this study is to apply the scientific illustration process to shark illustration in order to achieve a functional protocol which is easy to follow step-by-step. The final work is going to be used in an action of conservation awareness by the creation of a poster, along with other species of sharks and rays that cross the Portuguese oceans. The sandbar shark (*Carcharhinus plumbeus*) was the anatomical model chosen as it resembles most of the sharks known and it occurs in Portuguese waters.

2. Materials, Methods and Procedures

The creation of a scientific illustration is, most of the times, a process done by an practical and functional association between an illustrator and a scientist. While the illustrator is mostly responsible for the pictorial function, the researcher is responsible for guiding the illustrator in the technical features that must be translated to the drawings (scientific validation), also making sure that the established conventions for that determined scientific area or publisher are being followed.

These conventions regulate factors, such as the number of drawings and whether they should be drawn in a single plate or more than one and assembled together later, the illustration's sizes and presentation techniques.

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2.1. Aim of the Illustration

The first step in starting an illustration is to know what its main goal is — to depict as a taxonomic or behavioral picture for scientific purposes, or to use a more natural visual approach for dissemination to a non-expert public-target. More precisely, it's strongly advised to prior establish where it will be published and the target audience . Each dissemination media and/or audience requires different drawing specifications, such as the final dimensions of the artworks and wether it should be simple or more detailed, monochromatic (continuous tone or black and white) or full color, [13], depicted solely, in an ecological relationship action (predation, or others) or in an habitat or ecosystem, using a diorama strategy or an infographic style instead. This information should be prioritized as it will allow the illustrator to choose the correct techniques.

In the case of this project, the final goal would be to make a poster showing sharks species for conservational purposes and the target audience is general public mainly non-experts. As it is very important to show diversity of threatened and/or endangered Portuguese species, correlating them, the final poster will present the whole body of the specimen, in a colored and detailed illustration, as well some complementary information (visual units — teeth — and succinct text blocks) in an overall infographic design.

2.2. Views and Identifying Traits

After having a clear idea of the objective of the illustration and the information that should be explicitly represented, the views in which the specimen is going to be depicted should be chosen. In general shark representations, the most usual view is the lateral view, with the head facing the left side and the posterior part of the body on the right. This view by itself summarizes almost all the most identifying traits that ensure a correct diagnose, and allows a positive specie identification — therefore it was chosen to be applied to all the 21 species presented in the Portuguese sharks and rays poster project. Some shark species require a second perspective on the body, and ventral view usually being the chosen one.

It is also possible to find dorsal view illustrations and some investigation works require illustrations of species in more natural positions, such as swimming or feeding.

In certain species, it is also relevant to show parts of the body that can be used as identifying traits. In the case of sharks, teeth may usually help to reach the correct species or, at least, the genus.
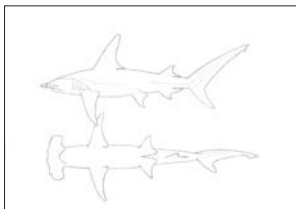
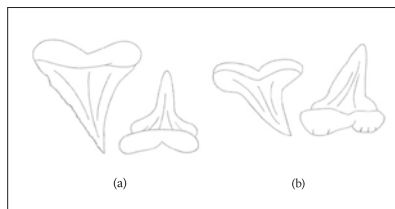**Fig. 1.** Lateral and ventral views of the shark species *Sphyrna mokarran.*

Fig. 2. Teeth outline. A- upper and lower teeth views of *Carcharhinus plumbeus*; B- upper and lower teeth views of *Sphyrna mokarran*.

(a) (b)

Fig. 3. Main longitudinal measurements: 1- total length of the body; 2- snout to caudal fin insertion; 3- snout to 2nd dorsal fin insertion; 4- snout to 1st dorsal fin insertion; 5- snout to eye; 6- snout to pectoral fin insertion; 7- snout to pelvic fin insertion; 8- snout to anal fin insertion; 9- abdomen height.
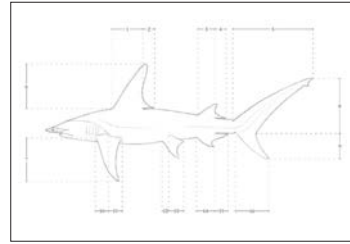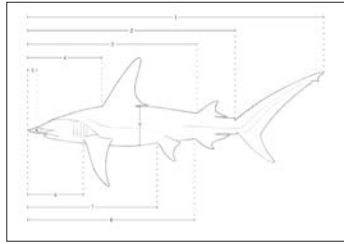
Fig. 4. Main fin measurements: 1- 1st dorsal fin insertion length; 2- 1st dorsal fin free rear tip length; 3- 2nd dorsal fin insertion length; 4- 2nd dorsal fin free rear tip length; 5- upper caudal fin lobe length; 6- 1st dorsal fin height; 7- pectoral fins height; 8- upper caudal fin lobe height; 9 – lower caudal fin lobe height; 10- pectoral fins insertions length; 11- pectoral fins free rear tip length; 12- pelvic fins insertion length; 13- pelvic fins free rear tip length; 14- anal fins insertion length; 15- anal fins free rear tip length; 16- lower caudal fin lobe length.

2.3. Measurements and Proportions

Before the pictorial process itself, drawing a specimen should start with the analysis of the subject or deep research about it and its anatomy — consulting reliable information on data bases (literature, web). Since it is very hard to find photography displaying the specimen in a straight lateral view without perspective distortions, it is important that, when one has access to a real individual, the investigator takes measures of the body features. The more measures taken, the more accurate the final illustration is going to be.

Besides the represented measurements, the number and placement of the gills is also important, as well as any other distinctive features that a particular specimen might present (snout, dorsal thorns, etc.).

When there is no access to a live or preserved specimen, which is normally the case with sharks, the illustrator should try to get as much information as possible from photographs and reliable sources. Hence, the first step in this process was to collect various images from the chosen specimen, *Carcharhinus plumbeus*, and to analyze the different distances, insertions points of the fins and their general shape.

In the case of this particular species, there were a lot of photos available, which made the following step easier. The different angles and positions found on the animals enabled the correct assessment of the correlated measures and proportions, as well as allowed to see its different details. However, there are some other species in which this isn't the case and where the photography is very scarce, making this step more difficult and requiring even more input from the scientist (literature descriptions, practical experience, etc.).

After having all the essential measurements, it's necessary to scale them down to the paper's size, making sure that all the sizes are on the right proportion. In the final artwork, it is also important to insert a scale, to give a dimensional idea of what the specimen's mean size in nature.

2.4. Drafting

After having all the anatomical details figured and properly scaled, drafting is the next step. Drafting is the process of graphically translating all information gathered in the previous steps. There are several techniques that may be used when making the sketches. In this case, tracing paper was used in a multi-layering superposition, in which each layer contains a specific visual information (body shape, fins, gill slits) drawn with HB graphite pencils. Each of them may be corrected individually, introducing editability,

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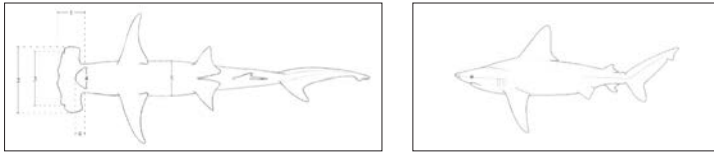
Fig. 5. Main ventral measurements:
1- snout to mouth; 2- snout width; 3- nostrils width; 4- mouth width; 5- abdomen width; 6- mouth length.

Fig. 6. Graphite line draft of a specimen of *Carcharhinus plumbeus* in lateral view.

This step may be one of the longest, since the drafts are constantly going back and forth between the illustrator and the scientist, ending up suffering several changes and corrections, until an anatomically right drawing is reached. In this particularly study case among the alterations pointed, the position of the gill slits had to be corrected and the fins' insertions and free rear tips needed more clarification.

After all corrections are done and finished, the final drawing was scientifically validated. Over it, preliminary volume essays were done using graphite shading in another layer of superimposed tracing paper.

2.5. Painting Techniques

To achieve the final color illustration from the validated preliminary drawing, many techniques may be used. These may be divided in two types: traditional and digital. Some traditional techniques examples are colored pencils, pastel, watercolor, acrylic and other kinds of painting or mixing techniques [12]. On the other hand, digital art is made using a computer and specific software, using a graphic drawing tablet and digital pen. There may also be a hybrid of these 2 techniques, which can resort mainly to traditional techniques finished in digital environment (background removal, saturation and color changes, shadow and brightness enhancement, etc.), but also blend them in a mainly digital artwork (using preliminary drawings to support color adding, for instance).

The techniques used in the final arts may be determined by printing methods and requirements requested by each publisher, but it's also a personal choice of the illustrator, usually one in which they feel comfortable. It is also very frequent that the researcher does not have a firm idea in which publication the illustration is going to be disseminated, which means that it's more favorable to select a versatile technique or set of techniques.

After some essays with traditional techniques, such as watercolor and colored pencils, and digital ones, and after evaluating aesthetical results and time required to achieve similar effects, it was decided that the shark illustrations will be done in digital techniques. A 2D editor (Procreate) was the election, as it simulates the use of traditional techniques, using different tools that allow the personalization of color and texture, amidst others.

No matter the final goal of the illustration, this process should result in a clean and clear artwork, without any distractions that could deviate the attention from the object of study. The background should be clean (neutral, as white or luminous pastel colors), unless it is an illustration with background context.
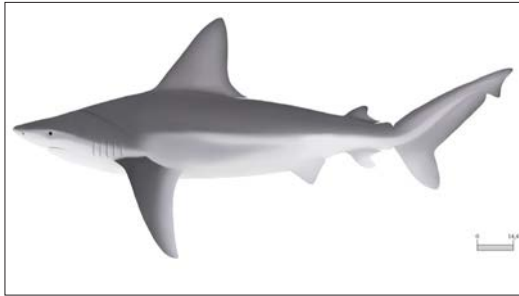
Fig. 7. Final illustration of a specimen of *Carcharhinus plumbeus*.

3. Results

Upon following all the steps, the illustrating process resulted in a final 2D illustration model — archetype — that truly represents the species *Carcharhinus plumbeus*.

4. Discussion and conclusion

As one of the most important tools for science dissemination, it is of extreme importance that the illustration process is clear and detailed. The aim of this study was to apply the zoological illustration process to shark illustration, more precisely to an individual from the species *Carcharhinus plumbeus.*

During the first phases of the illustration, especially in the drafting process, it was evident the relevance of a close contact between the artist and the scientist. The drafting process influences all the following steps, which is the reason why maintaining scientific accuracy is crucial, and the input from a specialist was fundamental. If the sketches are not correct and there are errors in these first stages of the illustration, all the following work is compromised and, in order to have an acceptable result, everything needs to be redone — which is a non-productive workflow.

The last step of the process started with the use of watercolor to achieve the final artwork. However, this technique has proven to be extremely time consuming, which led to the experimentation with digital techniques. This method ended up having several advantages when comparing with traditional techniques. For instance, the possibility of using layers allows a greater flexibility when working with different details of the illustration, as well as facilitates the correction of mistakes, since it is possible to delete or edit one layer without consequences on the others. Besides, digital editors have tools that mimic the use of conventional techniques, such as watercolor, airbrush and colored pencils, among others, and allow working with different brushes and blending options, textures, color options and opacities.

This set of characteristics makes this method very versatile and beneficial for scientific illustration in general. The zoom in and zoom out options makes possible to work and reach a level of detailing that could be harder to achieve in physical paper, even using magnifiers. Moreover, the stabilization options that are offered allow steadier, smoother and more uniform lines. Lastly, once in digital format, it is easier to resize the artworks without big impacts on their quality, and images may be saved in numerous file formats, which is the ideal option, since different publishers, whether it's for printing or digital presentation, might require it.

In conclusion, the study was a great opportunity to systematize the illustration process in a protocol approach that may enable others illustrators to achieve very similar final results in shark illustration.

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Uma curadoria das ilustrações dos contos populares infanto-juvenis de Ricardo Azevedo

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[Ilustração / Illustration]

Abstract

Ricardo Azevedo, Brazilian, 73 years old, author and illustrator of children's and youth books, has become one of the most influential names in contemporary Brazilian literature. This paper presents how significant are his illustrations of books of folk tales, retold and illustrated by him. In search of this rescue of "people's tales", the author and illustrator creates a technique that imitates woodcut. Through the images presented here, we seek to highlight this very Brazilian regionality.

1. Introdução

Ricardo Azevedo é escritor e ilustrador paulista, autor de muitos livros para crianças e adolescentes. Ganhou vários prêmios, entre eles alguns *Jabuti* - o mais tradicional prêmio literário do Brasil, concedido pela Câmara Brasileira do Livro. Tem livros publicados na Alemanha, Portugal, México, França e Holanda. É Bacharel em Comunicação Visual pela Faculdade de Artes Plásticas da Fundação Armando Álvares Penteado - FAAP e mestre e doutor em Letras pela Universidade de São Paulo - USP. Autor da tese Abençoado e danado do samba – Um estudo sobre o discurso popular (publicada pela Edusp). Pesquisador na área de cultura popular. Professor convidado em cursos de especialização em Arte-Educação e Literatura. [1]

Filho de professor universitário e autor de livros didático de geografia, Azevedo sempre teve à disposição livros e modelos leitores, como seus pais. Escolher um livro para levar para uma viagem, era um hábito comum. Ainda antes disso, usar os livros como apoio para brincadeiras e, na escola, as trocas de indicações com colegas iam aumentando seu bom hábito. Dessa forma, a literatura ganhou destaque em sua vida infantil e juvenil. Azevedo relata o fato de que a imagem, as ilustrações não recebiam o mesmo destaque que as letras nessa sua jornada, porém, após matricular-se na faculdade de Jornalismo, na FAAP, foi com um amigo, assistir uma aula da Faculdade de Artes Plásticas da mesma instituição, sua mente se abriu e decidiu trocar o Jornalismo por Comunicação Visual. Azevedo analisou: Um escritor e um ilustrador juntos, podem tratar dos mesmos temas em comunhão. Desde então, percebeu a grande importância que tem as ilustrações. Destaca também que há coisas que ele só consegue dizer com as ilustrações, com seu desenho.

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Quando na década de 1980, Azevedo iniciou sua pesquisa sobre contos maravilhosos, adivinhas, anedotas, quadras, ditados do Brasil todo para recontá-los a seu modo. E para ilustrar estes trabalhos se atentou à uma entrevista de Paul Davis, um ilustrador do qual admirava, que dizia que todo seu trabalho era baseado na pintura popular americana. Nesse momento, Azevedo descobriu que cada ilustrador parte de algumas fontes, de algum contexto, e foi em busca de suas fontes, para sua própria autoria. Se questionando, que imagens podem ser, de alguma forma, referência para quem está no Brasil, no seu país. Foi aí que voltou seu olhar para iconografia popular. E apaixonou-se assim que descobriu a xilogravura, em especial, as xilogravuras de Gilvan Samico. Após citá-lo num livro, recebeu um telefonema do próprio Samico. Conversaram, tornaram-se amigos, foi visitá-lo, apreciar sua obra e aprender com ele. Ricardo desenvolveu uma técnica com nanquim que imita os recursos da xilogravura popular. Desde então, todo livro que veio a escrever e ilustrar, de contos populares ou sobre folclore brasileiro, usou essa técnica que leva a marca de uma tradição popular brasileira. Este artigo tratará de descrever uma das obras de Azevedo.

2. Contos Populares Brasileiros

"O Homem é universal fisiologicamente. Psicologicamente é regional" [4]. Luís Câmara Cascudo foi cirúrgico com a frase acima. Cada subgrupo da humanidade, ou cada civilização, foi criando sua cultura, sua regionalidade, seu *modus operandi* através das características naturais de sua região, das relações vividas e, de modo comunicativo. Os contos populares brasileiros, não distante de outras civilizações se constituíram principalmente a partir da oralidade, recurso fundamental do ser humano. É através da oralidade que transmitimos nossa vida, o dia a dia, acontecimentos, sonhos, lembranças, desejos e projetos. E foi por meio desta mesma oralidade que os contos populares foram passando de geração em geração. Por vezes alguns detalhes são alterados, esquecidos ou aumentados. A depender do contador, ou a depender dos ouvintes, que recontarão o que ouviram a seu modo.

A oralidade, ou a narrativa é uma necessidade do ser humano. Segundo Gomes "uma tendência definidora do ser humano: da escrita rupestre entremeada de sons guturais à elaboração da linguagem narrativa, observamos que o homem conta a história de si mesmo e do mundo. A necessidade dos ancestrais de reunirem-se à volta do fogo para se guarnecerem do frio e das feras está acompanhada do pressentimento de que algo poderia ser revelado na fala do sacerdote. E, na atualidade, não é com outro pressentimento que o homem rodeia o aparelho de televisão, à espera de um sacerdote dessacralizado da mídia: todos aguardamos notícias, revelações, reconstruções de eventos, através das narrativas." [5] Um parêntese aqui, além da televisão, na atualidade temos os dispositivos móveis com acesso à internet como fonte crescente dessas narrativas. Cada vez mais acessível e literalmente à mão de muitos na população mundial.

O cerne dos contos populares é o ser, do ser humano. Os contos tratam dos mais variados assuntos que compõem, que constitui o ser humano, suas relações, suas angústias, suas alegrias, suas certezas e suas dúvidas eternas. Ou seja, o que é inerente a todos nós. De toda forma ela se adequa à sua região, aos seus narradores. "A narrativa, da mesma maneira como prospera longamente no círculo do trabalho artesanal – agrícola, marítimo e depois urbano – é ela própria algo parecido a uma forma artesanal de comunicação. Não pretende transmitir o puro 'em si' da coisa, como informação ou um relatório. Mergulha a coisa na vida de quem relata, a fim de extraí-la outra vez dela. É assim, que adere à narrativa a marca de quem narra, como à *tigela de barro* a marca *das mãos do oleiro*." [6]

Boa parte de toda obra de Ricardo Azevedo, é dedicada ao resgate de narrativas que tem base na tradição popular. Azevedo não apenas reproduz, mas também faz uma releitura de narrativas populares, lendas folclóricas, adivinhas, frases feitas, quadras, receitas culinárias e outras formas de expressão oral que, como ele mesmo declara, devem ser preservadas não só como memória cultural, mas pelo acúmulo de conhecimento que encerram.[2]

A linguagem usada por Ricardo Azevedo nos livros de contos populares e folclóricos é caracterizada justamente pela narrativa popular, uma linguagem coloquial, sem formalidades, entendível por todos os públicos, já que essas obras são originalmente destinadas ao público infanto-juvenil. A oralidade vem mostrar sua potência no padrão de escrita dos contos populares de Azevedo. "...são textos marcados pela oralidade. Estes são como um recado de viva voz, pretendem sempre ser compreendidos e, por essa razão, tendem a utilizar uma linguagem clara e pública para tratar de assuntos compreensíveis a todos." [7]

Apesar de Azevedo criticar a segmentação existente mercadologicamente, impondo livros para determinadas faixas etárias, ele defende que há uma aproximação entre os contos populares e os livros ditos: infanto-juvenis. Entre algumas características que demonstram esta aproximação temos: a recorrência do elemento cômico, pois, o riso, o deboche, o escárnio e a alegria são formas de se contrapor a paradoxos da existência; o uso livre da ficção e da fantasia; personagens movidos pelos seus próprios interesses, pelo senso comum, pela aproximação afetiva, pela empatia, pela busca da felicidade, do que por uma ética geral, racional, uniforme, abstrata, que pretende determinar a priori, o certo do errado; o uso livre de personificações e antropoformizações; a possibilidade da metamorfose; as poções, adivinhas e as palavras ou instrumentos mágicos, histórias com caráter iniciático, onde os heróis partem, enfrentam desafios e retornam modificados; um final feliz. [1]

Os contos populares são a marca de um povo. A ação de resgatá-los, recontá-los e ilustrá-los para um público jovem, é em si, um ato de preservação de uma cultura, da marca de um povo. Uma maneira de não esquecê-los, de preservá-los e mantê-los vivos para apreciação e continuidade.

3. Ilustrações de Ricardo Azevedo

Quando voltamos nosso foco para ilustrações dos livros de contos populares de Azevedo, nitidamente nota-se que remetem às características

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de imagens usadas na literatura de cordel, a xilogravura. A xilogravura e o cordel retratam muito fortemente esse gênero literário tão tradicionalmente brasileiro. Como já dito, Azevedo teve como fonte de inspiração, as xilogravuras de Gilvan Samico. Empenhou-se em criar uma técnica que representasse tudo que a xilogravura representa, porém, sem que houvesse a necessidade de vincar a madeira. As ilustrações de Azevedo são criadas em nanquim e coloridas digitalmente, retratam esse formato popular tão amplamente conhecido no Brasil. Na figura 1 temos uma dupla imagem, à esquerda, o original em nanquim, e à direita a ilustração do livro, já colorida digitalmente. (Figura 1)

Assim como a linguagem da escrita dos contos é acessível, compartilhável. As ilustrações acompanham essa singeleza, porém, de forma alguma são simplórias. Elas contêm a força do popular, a capacidade de serem complexa e cheia de possibilidades. As ilustrações têm o poder de enriquecer todo um universo simbólico da história. "O conto popular traz uma tradição dentro dele, tem uma aura, tem marcas de uma certa mentalidade. Diante dele, sempre recorro a uma linguagem marcada pela iconografia popular, porque ela carrega essa tradição e essa visão de mundo." [3] Para Azevedo as ilustrações devem fugir das obviedades, e sempre tentar ampliar o significado proposto pelo texto. As ilustrações devem ser enriquecedoras, por vezes até mesmo inesperadas. Estas também podem relatar cenas e atos concretos e cotidianos, capazes de emocionar e gerar identificação, ou seja, nada de conceitos abstratos, subjetivos, impessoais e descontextualizados. [1]

Uma das marcas do trabalho ilustrativo de Azevedo é a questão do movimento. Ele busca fugir desse deste efeito, por acreditar ser diretivo demais, restringindo as possibilidades de leitura do desenho. A falta de movimento lhe é mais interessante. Tenta sempre deixar os olhos, neutros e distantes ao leitor. Para que o leitor se sinta perplexo, tentando encontrar uma chave de leitura. (Figura 2)

Fig. 1. Original em nanquim e ilustração do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003).

Fig. 2. Ilustração do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003).

É válido pensar que um livro feito para crianças e jovens, seu texto e sua imagem, há de haver relação entre si, expressar sentido, comunicar, interagir. Observamos estas características nas obras de Azevedo. Analisando as imagens do livro: Contos de enganar a morte (2003) encontramos estas características. E o autor deixa isso claro quando declara "... um desenho simples, feito com poucos traços, sem maiores pretensões

técnicas pode ser, sempre a meu ver, infinitamente melhor ilustração do que um desenho rebuscado, construído a partir de uma técnica requintadíssima, mas que em relação ao texto só consegue ser redundante." [1]

Apesar do livro Contos de enganar a morte, tratar de um tema dito, delicado, para a maioria das pessoas, ele ganha um ar diferenciado na obra. As imagens têm uma grande força no impacto inicial. A capa (Figura 3) é uma caveira. Símbolo praticamente mundial da morte, de algo nocivo ou negativo. Porém a caveira da ilustração não é lá tão ameaçadora. Em segundo plano, ainda temos árvores, pássaros e uma borboleta. Um dos pássaros está tranquilamente pousado na caveira, que parece representar o tronco e galhos da copa da árvore que completa a ilustração.

Fig. 3. Capa do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 4. Vinheta da folha de rosto e quarta capa do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 5. Ilustração do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

No site de Azevedo, a sinopse do livro é: "Certa segunda-feira, eu estava na quarta série do primeiro grau, a professora entrou na classe com uma péssima notícia: o pai de um nosso colega tinha morrido afogado em Bertioga, no litoral paulista. Lembro do sentimento de medo: e se meu pai também morresse? Lembro de estremecer de pena e tristeza por causa do meu amigo. Lembro de me perguntar: o que é a morte?" [1]

Na última capa do livro, o texto de apresentação da obra é: "Era uma vez a Morte. Ninguém queria saber dela e todo mundo só pensava em passar-lhe a perna, mandá-la para bem longe de suas vidas tão preciosas. O compadre bem que tentou ser mais esperto que ela; o ferreiro achou que podia fazê-la esperar para sempre. Mas com a Morte não tem conversa mole. Quando chega a hora, não adianta bater o pé. É o que mostram estas narrativas populares recolhidas e recontadas por Ricardo Azevedo. Cheias de humor e astúcia, estas histórias tratam a morte com naturalidade e são uma declaração apaixonada de amor à vida." [8]

O assunto morte é, verazmente sério e delicado. Porém está no âmago de todo o ser humano. Logo, tem seu espaço garantido nos contos populares brasileiros. A morte ser um tema de reflexão, é importante para todos, adultos, jovens e crianças. E quando o tema é tratado de forma leve, cômica, instigante, pode facilitar a reflexão. As ilustrações de Azevedo contemplam estas características. São leves e engraçadas, por exemplo, temos a Morte, retratada pela caveira, leve e simpática, sentada num banco, de posse de um violão, com um pássaro a tiracolo e parece até mesmo sorrir para o leitor. (Figura 4)

Em outra ilustração, podemos perceber uma cena mais tensa, temos a Morte parecendo que irá cumprir com sua missão. Deitada numa cama, uma jovem moça, e a Morte a postos com sua foice em uma das mãos, estendendo a outra mão no rumo da moça. Ainda assim, o colorido da imagem, traz leveza para a cena. (Figura 5)

E como não sorrir ao ver a imagem da Morte, balançando e sacolejando ao som de uma viola? Por mais que Azevedo busque, como já dito

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a falta de movimento em suas ilustrações, é muito claro o que a imagem quer transmitir. A dança, o movimento que a Morte está fazendo naquele momento. (Figura 6)

Um parágrafo dedicamos às vinhetas, Azevedo trata todas as ilustrações de suas obras com denodo e cuidado, independentemente do destaque que esta receberá no livro. As vinhetas, que compõem a contracapa, folha de rosto e fim de cada conto, são a 'cereja do bolo'. O livro que estamos analisando, é composto de quatro contos. Ao final de cada conto temos uma vinheta. Estas também são ilustrações feitas em nanquim, e seguem as referências de imagens usadas nas xilogravuras. As vinhetas, trazem temas que se repetem tanto nas ilustrações como em algumas das narrativas orais das quais advieram. Já na contracapa revemos uma espécie de árvore sendo a caveira como o tronco. (Figura 7) Um diabo, devidamente retratado com seus dois chifres e cauda pontuda. Ele surge também como personagem em um dos contos, além de fazer parte do imaginário de boa parte da população mundial. (Figura 8) Um pássaro, que se repete em várias ilustrações do livro em locais diferentes na cena. (Figura 9) Uma cabeça óssea de boi ou de vaca, que parece ter sucumbido à seca que caracteriza boa parte do território Nordeste e Centro Oeste do Brasil. Juntamente com a planta característica do solo seco, o cacto, temos dois destes ao fundo. Ainda que a caveira animal aparente uma certa simpatia no olhar, não deixa de ser uma crítica a tantos problemas sociais que toma conta dos interiores do Brasil. (Figura 10) E por último, segundo seu criador Azevedo, temos um monstrengo, parte do corpo remete a uma serpente, tem dentes afiados, porém é dotado de chifres. (Figura 11)

Fig. 6. Ilustração do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 7. Vinheta do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 8. Vinheta de final de conto do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 9. Vinheta de final de conto do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 10. Vinheta da folha de rosto e quarta capa do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

Fig. 11. Vinheta de final de conto do livro 'Contos de enganar a morte' (Ricardo Azevedo, 2003)

4. Conclusão

Quando se mistura o real e o imaginário, a palavra e a ilustração, a literatura com a cultura popular, tudo isso com uma pitada generosa de humor, é possível captar sonhos, sonhos de jovens, crianças e até mesmo dos adultos que abrem para essas possibilidades. Funde-se o sonho com a vida real, faz pensar, refletir e sorrir. Segundo Chartier, é possível dizer que o ilustrador não ilustra livros. Ele compõe, com sua arte, textos visuais que, em diálogo com o texto escrito, vêm construindo narrativas e poemas da produção literária para crianças. [9] É dessa forma que as obras de Ricardo Azevedo se propõem, dialogando com o texto e as ilustrações que integram a obra.

Acima de tudo, buscar as raízes de uma população, em histórias que fazem parte do imaginário, correlacionando com a vida real e todas as demandas que nela existem. De forma a continuar dando a oportunidade de crianças e jovens conhecerem parte da cultura raiz de um povo

a que fazem parte. Apesar de um momento cultural um pouco distante dessa regionalidade, em áreas urbanas, mas que ainda se mantêm e ainda dialoga com o contemporâneo pois, as peripécias da vida nos atingem em qualquer tempo. Dar esta oportunidade às novas gerações em forma de livros é uma maneira de perpetuar a cultura, antes oral, agora registrada. Observar e admirar as ilustrações que complementam o texto e se deixar levar pela possibilidade de refletir, se emocionar, de sorrir e sonhar com as diversas possibilidades que a arte tem de significar e ressignificar uma pessoa.

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Livro ilustrado sem texto: a página e suas possibilidades discursivas

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[Ilustração / Illustration]

Abstract

The wordless picture book employs the image and its sequential arrangement as a predominant narrative medium. This sequence of illustrations provides the possibility of inferring the plots and meanings of the work through the organization proposed by its author. Therefore, analyzing the space of the page and the characteristics of the succession of images is fundamental for studying the wordless picture book. Reflecting on this perspective, our research aimed to deepen the study of these and other narrative elements of the wordless picture book, investigating the process of meaning-making in this medium. Throughout our analysis, we sought to observe how the components of the work, such as the sequence of illustrations, the characters' expressions, the dimensions of the pages, and the orientation of the reading, can contribute to this process. This paper, as part of the aforementioned master's dissertation, aims to highlight and present works from our corpus of analysis that explore the page of the book as a narrative space, as well as the possibilities that the arrangement of this primary element can offer.

Keywords

Wordless picturebook, illustration, visual narrative.

1. Introdução

O livro ilustrado sem texto tem, em seu cerne, a instigante característica da transmissão de sua narrativa primordialmente pelo meio visual. É a sequência de imagens, e sua análise tanto em conjunto quanto isoladamente, que possibilita ao leitor inferir e compreender a história apresentada pela obra. Devemos, enquanto leitores, envolver-nos com a diegese e dedicarmo-nos a desvelar seu sentido por meio da leitura das imagens que compõem a obra.

Tal atributo do livro ilustrado sem texto desperta interesse investigativo, fato que norteou nossa dissertação de mestrado. A partir do questionamento acerca dos principais meios pelos quais o discurso é emitido neste tipo de obra, buscamos elencar e categorizar elementos narrativos presentes no livro ilustrado sem texto. Para esta categorização, baseamo-nos na análise e classificação proposta por Bosch [1]. Considerando os fins referentes à esta pesquisa, propusemos cinco eixos possíveis constituídos a partir da observação das obras que compuseram

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nosso *corpus*[4] de análise. Este artigo apresenta o eixo denominado "Eixo Discursivo", que baseia-se na seção "Discurso" delineada por Bosch [1], que busca compreender a página do livro ilustrado enquanto espaço narrativo e de que forma a disposição e sequenciamento desta componente pode interferir na diegese.

2. Eixo Discursivo: a Página como Espaço Narrativo

A narrativa visual no livro ilustrado oferece variadas possibilidades, através da estrutura material desse objeto que porta a história. De acordo com Linden [2], "O livro é então concebido como uma sucessão de espaços fixos, a virada da folha vindo sobrepor um espaço autônomo a outro". Dentro desses espaços apontados por Linden [2], cabe ao ilustrador compor disposições dos integrantes da história, de forma a descrevê-la ao leitor. A organização das páginas e as relações sequenciais que o autor propõe entre elas é fundamental à narrativa. Linden [2], ao comparar essa tarefa à função de "montagem", retirada do âmbito cinematográfico, ressalta que "Se a montagem, na sétima arte, consiste no encadeamento de planos, no livro ilustrado trata-se de organizar a sucessão das páginas duplas".

Esse encadeamento citado por Linden [2] é, portanto, essencial para o desenvolvimento da narrativa. Compreender a sequência das imagens e o ritmo que elas propõem à história são processos imprescindíveis à leitura de um livro ilustrado, principalmente no âmbito dos livros sem texto, considerando que a diegese é depreendida por meio do encadeamento das ilustrações [3]. Acerca dessa construção, a autora e ilustradora Anne Brouillard, a respeito de sua obra sem texto "*L'Orage*" (1998), comenta que

> A grande dificuldade é fazer com que tudo caiba. Seria impossível construir imagens de tamanhos idênticos e fazê-las desfilar ao longo do livro. O tamanho delas, o fundo, a relação com a página, com a dupla e o encadeamento, tudo isso é pensado... É preciso ter em mente que as imagens vão ser olhadas primeiro juntas no espaço da dupla, e depois a página vai ser virada. ... O leitor circula de uma imagem para a outra (Brouillard, como referido em Linden [2]).

Observamos, em nosso *corpus*, diferentes abordagens para a exploração desse espaço narrativo que é a página, e seu consequente encadeamento. É possível notar, a partir de uma análise comparativa, que autores conferem diferentes tempos a suas histórias, aproveitando-se das amplas possibilidades da página como local no qual atuam suas personagens. Em *Um dia, um cão*, Gabrielle Vincent [4] traz um cachorro recém abandonado como protagonista: a narrativa se desenvolve por meio de atritos e adversidades que sua nova condição lhe impõe. Sua dificuldade de se deslocar em um ambiente hostil acaba por causar um acidente automobilístico em uma rodovia. Esse acontecimento gera ansiedade

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4 Nosso *corpus* de análise contabilizou 51 livros ilustrados sem texto, que foram investigados a partir do seguinte questionamento: "qual é o principal meio pelo qual a história é contada ao leitor?". Os critérios de delimitação de nosso *corpus* foram diversificados durante a pesquisa e podem ser consultados em nossa dissertação.

e tristeza no animal, ciente da própria culpa e impotência diante da situação (Figura 1). Vincent, a fim de enfatizar a agonia desse cenário, prolonga a cena a partir da ilustração de diversos planos do acidente: o carro que capota e derrapa, as pessoas resgatadas, o incêndio, a polícia e a ambulância chegando ao local, o congestionamento causado, são todas imagens de momentos e perspectivas distintas de um mesmo episódio. Essa sequência é interpolada por ilustrações do cão, assustado com os desdobramentos do acidente. A duração desse evento por meio de sua extensa representação indica ao leitor, além da carga emocional intensa da situação, que o tempo de ocorrência é demorado, estendendo-se ao longo do livro, ressaltando o mal-estar da personagem.

Fig 1. Páginas do livro Um dia, um cão, de Gabrielle Vincent [4]. Os diversos pontos de vista do acidente na narrativa de Vincent prolongam a duração de tal acontecimento. Fotografias de acervo pessoal.

2.1. Fragmentação

Podemos observar outra ação que se prolonga em seu desenvolvimento na obra *O boneco de neve*, de Raymond Briggs [5]. A confecção do boneco de neve pelo menino leva praticamente um dia inteiro: a narrativa, disposta em vinhetas, reforça a dedicação do protagonista nessa atividade (Figura 2). As etapas da construção também são entremeadas por outras ações cotidianas do menino, revelando aspectos da sua rotina, ao mesmo tempo em que repete a ação de modelagem do boneco. JonArno Lawson e Sydney Smith [6], em *De flor em flor*, também fracionam a página a fim de representar o longo percurso da menina e de seu pai na cidade, destacando a colheita de flores pela protagonista (Figura 2).

A fragmentação do espaço da página, no caso de Briggs, permite que o tempo da ação se dilate na narrativa; contudo, também possibilita a explicação de histórias mais longas em um curto período [1]. Exemplos do nosso *corpus* dentro desse recorte são *Uma criança única*, de Guojing [9], e *A chegada*, de Shaun Tan [10], que se utilizam do fracionamento da página para apresentarem narrativas gráficas extensas (Figura 3).

Fig 2. Páginas dos livros O boneco de neve, de Raymond Briggs [5] (esq.), e De flor em flor, de JonArno Lawson e Sydney Smith [6] (dir.). O espaço fragmentado das páginas possibilita a dilatação do tempo narrativo. Imagens retiradas de Tygertale [7] (esq.) e Koliopoulos [8] (dir.).

Tal recurso também é utilizado por Jerry Pinkney [11], em *O leão e o camundongo*. Contudo, com propósitos diferentes: a transição de planos que a fragmentação possibilita colabora para que múltiplos pontos de vista sejam apresentados, considerando que suas personagens principais têm dimensões distintas (Figura 4). Dessa forma, em uma única página podemos observar tomadas mais ilustrativas da ambientação e caracterização da personagem (*showing*), enquanto outras buscam

Fig 3. Detalhes das páginas dos livros A chegada, de Shaun Tan [10] (esq.), e Uma criança única, de Guojing [9] (dir.). Outros exemplos de fragmentação da página em nosso corpus demonstram a possibilidade de narrar histórias mais extensas. Fotografias de acervo pessoal.
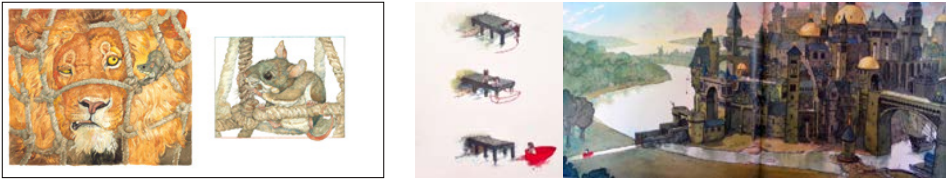
Fig 4. Páginas do livro O leão e o camundongo, de Jerry Pinkney [11]. Pinkney alterna entre planos detalhados e planos abertos para demonstrar as ações de seus protagonistas de proporções desiguais. O quadro da direita enfatiza a ação do pequeno camundongo, enquanto este rói a corda que prende o leão. Imagem retirada de Steiner [14].

Fig 5. Páginas do livro Jornada, de Aaron Becker [13]. **À esquerda, Becker descreve as ações da menina, que desenha o barco com seu lápis mágico. A seguir, um grande plano geral para situar a personagem no espaço da história. Fotografia de acervo pessoal.**

descrever a ação em detalhes (*telling*) [12], [1].

Jornada, de Aaron Becker [13], é um excelente exemplo que revela a diferença entre ilustrações que mostram o cenário e outras que expressam as ações. Nas imagens a seguir, é possível observar que a protagonista é representada em um plano médio que busca enfatizar a ação do desenho; posteriormente, um grande plano geral para situar o leitor no cenário da narrativa, evidenciando o caráter fabuloso do lugar (Figura 5).

2.2. Molduras

Alguns elementos do nosso *corpus* apresentam molduras que restringem as ilustrações. De forma distinta, esses enquadramentos também sugerem características da narrativa. *Pula, gato!*, de Marilda Castanha [15], e *What Whiskers Did*, de Ruth Carroll [16], são protagonizados por animais curiosos, que, em suas histórias, têm posturas e ações de rompimento com o estado inicial da narrativa. Dessa forma, quando essas personagens atravessam as molduras preestabelecidas na ilustração, reforçam seus respectivos comportamentos rebeldes (Figura 6). Linden [2], acerca desse mecanismo, afirma que

Por fim, a moldura também pode estar presente apenas para ser transgredida. [...] Ao delimitar um espaço narrativo, ela assinala uma fronteira entre ficção e realidade. Transpor essa fronteira equivale a sair da narração. Jogar com a moldura permite seguramente indicar ao leitor o seu papel crítico, lembrando-lhe que as representações dependem de uma construção imaginária [2].

Béatrice Rodriguez [18] faz um uso inusitado desse elemento. Em seu livro, *Ladrão de galinhas*, a primeira ilustração é delimitada por uma moldura (Figura 7), conferindo uma leitura diferente a essa cena. De acordo com C. Carvalho & Araújo [19],

As páginas são em sua maioria duplas, com as imagens sangradas. A exceção ocorre na primeira página ..., independente das outras, cujo desenho foi emoldurado, reforçado por um fundo branco e retângulo verde; uma cena bucólica, um déjà vu de fábulas e contos de fadas [19].

Sustentando a nossa análise pela leitura de C. Carvalho e Araújo [19], essa moldura singular na obra de Rodriguez sugere um estado original da história, uma ordem que é perturbada pelo roubo da galinha. Poderíamos dizer que esse enquadramento da cena inicial substituiria o "era uma vez", típico das narrativas de contos de fadas, às quais o livro invariavelmente acena ao apresentar personagens animais antropomorfizados. Corroborando essa hipótese, retomamos Linden [2], quando a autora afirma que uma imagem emoldurada no início da narrativa no livro ilustrado pode assumir a função de prólogo.

Fig 6. Páginas dos livros Pula, gato!, de Marilda Castanha [15] (esq.), e What Whiskers did, de Ruth Carroll [16] (dir.). Ambas as personagens das histórias de Castanha e Carroll rompem com as molduras que delimitam suas respectivas ilustrações. Fotografia de acervo pessoal (esq.) e imagem retirada de Christina [17] (dir.).

2.3. Repetição

Ambas as autoras Linden [2] e Bang [20] afirmam que tempo e espaço estão relacionados no que se refere à narrativa visual. De fato, o deslocamento de uma personagem no ambiente da história ou a mudança do cenário implicam a passagem do tempo entre as imagens que representam etapas dessas ações ou um curso temporal. A repetição de um componente da narrativa, seja uma personagem, um objeto ou mesmo um elemento do espaço, funciona como um elo conector entre as imagens, sugerindo que há uma continuidade entre elas. Citamos M. S. de Carvalho [21] para elucidar nossa reflexão, quando esse autor afirma que a repetição busca "... reproduzir na mesma cena o elemento (personagem por exemplo) em diferentes posições, que no conjunto sugerem a noção de movimento ou o deslocamento temporal x espacial" [21]. Retomar um elemento da narrativa visual a fim de sugerir uma ação ou conferir temporalidade à história mostra-se, portanto, um mecanismo narrativo disponível para os autores.

Em nosso *corpus* de análise, nos deparamos com distintos usos da repetição de componentes da narrativa. Em *O vencedor*, de Kjell Ringi [22], o embate entre as duas personagens, que buscam incessantemente

provar um ao outro sua força e dominância, é representado ao leitor por meio da repetição (Figura 8). Ringi reproduz suas protagonistas inúmeras vezes, com arsenais cada vez mais complexos, a fim de narrar a interminável disputa de poder entre eles. Essa repetição, que aos poucos acrescenta objetos e camadas de referências ao conflito, sugere o desenvolvimento e ampliação dessa rivalidade. *Bárbaro*, de Renato Moriconi [23], também apoia-se na repetição de sua personagem principal, demonstrando seu deslocamento pelo espaço narrativo e a superação dos obstáculos encontrados; a monotonia repetitiva de seu movimento, no entanto, irá construir o desfecho inesperado da obra (Figura 9).

Acerca da repetição, M. S. de Carvalho [21] também define os conceitos de "ponto fixo" e "âncora". O autor faz uma comparação à análise do deslocamento com a de um objeto na Física, tendo em vista que uma referência se faz necessária a fim de determinar a amplitude desse movimento. De maneira semelhante, os componentes que atuam como "ponto fixo" e "âncora" são aqueles que se repetem nas ilustrações durante o desenvolvimento da narrativa, exercendo a função de elementos referenciais, a fim de indicar um movimento ou a continuidade de uma ação. M. S. de Carvalho [21] distingue essas duas funções

Fig 7. Detalhe da página do livro Ladrão de Galinhas, de Béatrice Rodriguez [18]. A moldura confere à primeira ilustração a função de prólogo da história. Fotografia de acervo pessoal.

Fig 8. Páginas do livro O vencedor, de Kjell Ringi [22]. A repetição das personagens de Ringi sugere o embate interminável entre elas. Imagem retirada de Terry [24].

Fig 9. Páginas do livro Bárbaro, de Renato Moriconi [23]. A repetição do pequeno bárbaro nas páginas do livro justifica o final inesperado da narrativa. Imagem retirada de Grupo Companhia das Letras [25].

de acordo com a modificação que esses componentes podem sofrer: o ponto fixo permanece constante durante a história, enquanto a âncora passa por modificações. Tais alterações também servem à função narrativa do elemento âncora, como seu distanciamento no espaço, sugerindo o deslocamento do ponto de vista narrativo, por exemplo.

A insólita diegese de *Mvsevm*, de Manuel Marsol e Javier Sáez-Castán [26], também recorre ao mecanismo da repetição, ao representar os elementos externos (prédio do museu e o carro vermelho) na pintura observada pelo protagonista. A metaficcionalidade própria dessa obra se manifesta justamente por meio da reprodução desses objetos. A pintura "*Cathy without parrot*", logo após a personagem se deparar com o papagaio que anteriormente fora representado na pintura "*Cathy with parrot*", é o ponto chave que confere o tom onírico da história (Figura 10).

A repetição também é utilizada nas estruturas narrativas em *mise en abyme*, ou "narrativa em abismo", quando a própria história principal contém outras narrativas em si mesma. Um exemplo paradigmático desse tipo de estrutura é *Zoom* de Istvan Banyai [27]. Nessa obra, as imagens, à semelhança do movimento de zoom out de uma câmera, representam o lento movimento de distanciamento do objeto retratado na ilustração antecedente, revelando que aquele está circunscrito em outro objeto (Figura 11). Sucessivamente, Banyai surpreende o leitor por meio de seu labirinto de imagens, que sempre recorre a repetição de elementos da cena anterior a fim de garantir a continuidade em *mise en abyme*. David Wiesner, autor
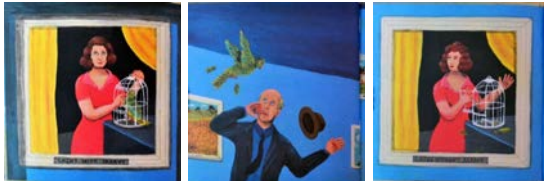
Fig 10. Páginas do livro Mvsevm, de Manuel Marsol e Javier Sáez-Castán [26]. Sequências da obra de Marsol e Saéz-Castán na qual a protagonista vê o papagaio escapar da pintura. A repetição da pintura, com a gaiola vazia, implica que o pássaro saiu do quadro. Fotografia de acervo pessoal.

de *Flotsam* [28], também recorre à essa estrutura por meio da repetição de elementos de suas narrativas (Figura 11). A obra de Wiesner centraliza-se na câmera fotográfica encontrada pela protagonista, objeto que contém fantásticas fotografias do fundo do mar. Dentre essas fotos, há uma que retrata todas as crianças que já encontraram a máquina fotográfica anteriormente. Em um mecanismo oposto ao livro de Banyai, a personagem submete a fotografia a uma análise minuciosa por meio de uma lupa e um microscópio, observando todas as crianças que foram retratadas segurando a imagem fotografada antes de encontrarem a câmera. Esse movimento de *zoom in* dentro da fotografia em *Flotsam* também recorre à repetição, ao retomar o elemento representado anteriormente.

3. Considerações Finais

As obras apresentadas e investigadas neste artigo, para além das demais que constituem nosso *corpus* e que não foram abordadas nesta breve análise, demonstram o interesse de seus respectivos autores em pesquisar e explorar o espaço da página do livro ilustrado sem texto. Pudemos constatar distintas composições dessas páginas e diversos tipos

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de encadeamento das ilustrações, o que resulta em estratégias narrativas diversificadas. Tais estratégias sujeitam-se, consequentemente, ao tipo de história e sequenciamento temporal que os autores pretendem utilizar em seus livros.

À vista disso, o espaço contido na página do livro ilustrado dispõe de diversas possibilidades narrativas, o que propicia e estimula a experimentação por parte dos ilustradores de tais obras.

Dessa maneira, o estudo do livro ilustrado sem texto apresenta-se enquanto campo plural e imensurável de pesquisa. Portanto, o estudo dessas obras é fundamental para a compreensão de novos ensejos e perspectivas que a narrativa visual pode oferecer, especialmente no contexto de obras ilustradas narrativas que dispensam o uso de texto.

Fig 11. Páginas dos livros *Zoom*, de Istvam Banyai [27] (sup.); e *Flotsam*, de David Wiesner [28] (inf.). Exemplos de *mise en abyme* em nosso *corpus*. Imagens retiradas de Grupo Brinque-Book [29] (sup.) e Theisen [30] (inf.).

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Do campo ao herbário, à estampa de uma planta timorense

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[Ilustração / Illustration]

Abstract

In recent years, there has been a growing increase in ethnobotanical studies focused on medicinal plants, as it is evident that the local knowledge of indigenous communities is rapidly disappearing, due to the destruction of many natural ecosystems, globalization effects on local culture and the changes inherent in the development of modern medicine. In Timor-Leste there are still few records in the use of plants for the preparation of herbal medicines comparing to the high level of knowledge remaining in each ethnic group.This study aims to identify and compare the medicinal plants used in two ethnic groups from different regions, proposing their dissemination using botanical illustration as communication vector. Many compounds have been discovered in pharmacological studies based on traditional medicine practices, so the preservation of natural ecosystems is essential. In addition, it is important to preserve the culture and ancestral practices for defining the identity of a group. In this way, botanical illustration emerges as a tool for disseminating knowledge through images that allow identifying and characterizing plants. Complementarily, it also assumes a character of raising awareness of the cultural and medicinal value of plants, to contribute to measures for the protection and conservation of nature.

Introdução

Um mistura de vários pigmentos vermelhos, pretos, verdes e amarelos, perpetuam os registos de arte rupestre encontrados em vários locais de Timor-Leste, com imagens pictóricas que incluem representações de animais, como crocodilos e tartarugas, figuras antropomórficas e barcos [1]. A descoberta de vestígios de marcas de mãos encontrados na Caverna de Lene Hara Cave, na zona leste da ilha, colocam a possibilidade destes serem os vestígios mais antigos da região, datados do Plistocénio [2]. As pinturas rupestres do paleolítico foram a primeira forma de transposição dos pensamentos e ideias em formas pictóricas, permitindo um registo da memória. Ainda que não seja possível definir qual o propósito dessas representações visuais e, independentemente dos códigos específicos de cada grupo, estes desenhos evidenciam uma vontade de perpetuar as suas vivências, como um ato de transmissão de conhecimento entre

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diferentes gerações [3]. O desenho constitui-se, assim, como uma das primeira formas de linguagem inerentes ao ser humano, e permite facilitar a codificação e assimilação de novos conceitos em várias áreas. Desta forma, a ilustração assume um carácter transdisciplinar, como ferramenta de comunicação entre os cientistas ou estes e os não-especialista, o que contribui sobremaneira para disseminação e consequente democratização da ciência [4].

Do século XV ao século XVIII: De Goa à Cochinchina

Se bem que a ilustração botânica seja praticamente inexistente nas representações pré-históricas, a verdade é que na Antiguidade esta foi incorporada em vários manuscritos e tratados botânicos (herbários), assumindo um carácter utilitário, pois complementava as descrições das plantas a que se atribuíam propriedades medicinais e que assim seriam mais facilmente identificáveis. Em relação ao primeiros escritos sobre as plantas e drogas orientais, a partir do século XV, houve um importante contributo dos exploradores europeus, destacando-se o contributo de alguns portugueses.

Tomé Pires, boticário do príncipe D. Afonso, viveu no Oriente e publicou, em 1516, a "Suma Oriental", redigido durante a sua estadia em Malaca e na Índia, entre 1512 e 1515. É considerada a mais antiga descrição portuguesa do Oriente. Nesta obra o autor descreve com muito pormenor os portos de comércio e as mercadorias comerciais, para além das plantas e drogas medicinais — e muito embora seja uma obra, não possui ilustrações.

Garcia da Orta, médico, publicou em Goa, em 1563, o livro "Colóquios dos Simples e Drogas he Cousas Medicinais da Índia". Também obra despida de imagens, foi posteriormente traduzido para latim, em 1567 e por Clúsio, o qual produziu uma versão que já incluiu interessantes xilogravuras das plantas. Em 1891, o Conde de Ficalho, fez uma reimpressão dos colóquios — "Garcia da Orta e O Seu Tempo" — com anotações sobre a edição prévia e, com base noutras publicações à data, actualiza a mesma ao atribuir o nome científico a cada uma das plantas descritas.

Cristóvão da Costa, médico na Índia, publicou em 1578, o "Tractado Delas Drogas, y medicinas de las Índias Orientales". Esta obra está organizada em 68 capítulos, no qual cada um destes é dedicado a uma planta. Para a elaboração deste tratado, o autor compilou e estudou vários autores, desde Dioscórides, Galeno, Garcia da Orta, e incorporou informações de médicos e outras pessoas com conhecimentos deste tema, que conheceu durante as suas viagens pelo oriente. Esta obra é o primeiro livro português escrito sobre este tema a incluir estampas ilustradas das plantas, a par com uma descrição destas e das suas variadas aplicações medicinais, logo na primeira edição. No total, o próprio autor desenhou 43 tabelas (estampas), as quais ou representam um ramo da planta, ou o hábito de uma planta inteira, incluindo várias estruturas ou órgãos identificativas, como a raiz, as folhas, a flor e o fruto (Fig. 1. A.). Nesta obra, evidencia-se ainda uma falta de rigor na representação da planta, mas já existe a intenção de registar as várias fases de desenvol-

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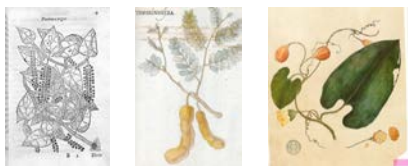
vimento reprodutor num mesmo indivíduo, tal como as flores, os frutos e as sementes. Numa das estampas de uma folha do *Palo de la China,* o autor descreve sucintamente por baixo do desenho a cor da folha, "*De entrambas a dos partes es de un verde hermoso*". No caso de uma outra planta, o Negundo, o autor representou um espécime feminino e um espécime masculino, para mostrar as diferenças na inflorescência.

Manuel Godinho de Erédia - cartógrafo, cosmógrafo, matemático e desenhador - viveu em Goa e publicou, em 1612, o livro "Summa de Árvores e Plantas da Índia Intra Ganges". À semelhança com Cristóvão da Costa, o autor também incluiu estampas com a representação das plantas. Cada estampa descreve a planta com as suas partes identificativas, folhas, flor, fruto e sistema radicular, consoante a pertinência para a identificação da planta. O autor recorreu à técnica das linhas dinâmicas (diferentes espessuras ao longo da mesma linha), para indicar as zonas de sombra (mais grossas) e de luz (mais finas). Todas as estampas produzidas são também originais pintadas em aguarela permitindo retratar as espécies com um maior realismo (Fig. 1. B.).

Outro grande contributo sobre as pesquisas da flora oriental, durante o século XVIII, foi o Padre João de Loureiro, missionário jesuíta, que viveu no sul da China e na Cochinchina, publicando a "Flora Cochinchinensis". Nesta obra, este classifica pela primeira vez 630 espécies e 185 géneros [5]

Explorações botânicas em Timor-Leste

Os primeiros registos sobre as plantas e as suas propriedades medicinais em Timor, datam do início do século XV, com o incremento de expedições de navegantes às ilhas do sudeste asiático. Timor-Leste era já conhecido na Europa pela sua produção de madeira sândalo-branco, *Santalum album*, devido às suas propriedades medicinais. O sândalo era transportado pelos mercadores chineses onde era negociado nos portos da Índia e da China e enviados para a Europa [6].

A primeiro obra feita sobre as propriedades medicinais de algumas plantas do país intitula-se "Virtudes de Algumas Plantas, Folhas, Frutos, Cascas e Raízes de Differentes Arvores e Arbustos da Ilha de Timor", trata-se de um códice manuscrito resultante dos estudo do Frei Alberto de São Tomás. Recorde-se que um códice é o precursor de um livro, mas apesar de ser constituído por várias folhas dobradas e costuradas ao longo do vinco, não constitui ainda uma verdadeira publicação (massificação de cópias de um original). Existem algumas dúvidas sobre a data da sua publicação, mas alguns autores indicam uma datação por volta de 1788. Esta obra foi posteriormente publicada pelo Ministério do Ultramar (1969) com contribuições de D'Orey e de Faria. Tendo em conta a escassez de estudos sobre o valor etnobotânico das plantas desta ilha, esta obra tem um carácter bastante único, pioneiro até, e de interesse ao nível da ilustração botânica das plantas, pois não existem outros manuscritos deste

Fig. 1. A. Pimenta-Preta, técnica de impressão de xilogravura em *Tractado de las Drogas e Medicinas de las Indias Orientalis*, Cristóvão da Costa, 1578. **B.** Tamarindeiro, técnica de aguarela em *Summa de Árvores e Plantas da Índia Intra Ganges*, Manuel Godinho de Erédia, 1612. **C.** *Aumata* ou *Sapassana*, técnica de aguarela em *Virtudes de Algumas Plantas, Folhas, Frutos, Cascas e Raízes de Differentes Arvores e Arbustos da Ilha de Timor*, Frei Alberto de São Tomás, 1788.

género produzidos especificamente naquele país. Considera-se que o mais provável é que o próprio autor pintou o total das 32 estampas, através da técnica da aguarela em papel de arroz. Estas ilustrações representam as diferentes partes das plantas em diferentes estádios de desenvolvimento, incluindo as flores, frutos, sementes e cortes longitudinais de órgãos específicos da planta (Fig. 1. C.). Muitas destas estampas estão incompletas e, por vezes, existe somente o desenho de uma folha, e, por isso, não contêm os detalhes necessários para a identificação taxonómica de todas as plantas pintadas. No entanto, estas revelam um empenho no rigor e uma grande destreza técnica do autor na técnica da aguarela e também na composição subordinada ao formato de página.

No início do século XVIII, vários botânicos e outros cientistas, viajavam entre os diversos continentes registando e catalogando as espécies encontradas. Estas primeiras expedições contribuíram para a elaboração dos primeiros herbários na europa sobre a flora timorense e contribuíram para o *Herbarii Timorensis descriptio* de Decaisne que reúne mais de 550 plantas diferentes. Segundo os registos dos diários e relatórios das expedições, um dos primeiros botânicos europeus a descrever a flora de Timor foi Dumpier, numa visita ao litoral do Timor Holandês (1699). O primeiro botânico a aportar em Díli terá sido Gaudichaud, em 1818. Nos anos seguintes, outros botânicos e naturalistas contribuíram para o conhecimento das plantas timorenses, tal como Henry O. Forbes [5].

Afonso de Castro, oficial do exército Português e ex-governador de Timor, publicou em 1867 "As Possessões portuguesas na Oceania". Esta obra é dedicada a Timor, sendo a primeira que descreve e compila informações sobre aspetos físicos da ilha, da fauna à flora, e no qual é feito um estudo social dos habitantes da região. O autor salienta a falta de "*escritos*" sobre aquele território e, munido de espírito crítico e conhecimento *in loco*, chega a colocar em causa veracidade em muitas das descrições feitas até à época sobre os vários aspetos daquela região. Em 1887, João Gomes da Silva, Coronel médico e botânico, foi o primeiro português a estudar a flora de Timor, tendo publicado um trabalho intitulado "Catálogo de Plantas de Macau e Timor". João Cardoso e Pires, em 1902, publicou o livro "Matéria Medica e Therapeutica das Possessões Ultramarinas Portuguezas", uma compilação de trabalhos de autores anteriores, entre os quais botânicos e médicos, com descrições das propriedades medicinais das plantas do ultramar Português.

Ruy Cinatti, poeta, agrónomo e etnógrafo, prestou um grande contributo, tanto pelas suas próprias pesquisas, como pela sua forte dedicação como instigador de pesquisas por outros investigadores em Timor-Leste. Deste modo, colaborou com outros investigadores tal como o Dr. E. Meijer Drees, agrónomo e botânico holandês, contribuindo para a produção de um inventário da flora da região, bem como com o botânico holandês Cornelis G. G. J. van Steenis, editor responsável pela Flora Malesiana.

Mais recentemente, surgiram um conjunto de publicações com grande relevância na área da etnobotânica, nomeadamente pelo autor Sean Collins, o qual publicou um estudo comparativo entre as plantas medicinais de duas etnias do país [7] e um outro sobre a cultura Fataluku [8].

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Em 2011, foi publicado um livro intitulado "Árvores e arbustos das ruas de Díli", resultante de uma investigação do departamento de Biologia da Universidade de Aveiro, inserido no projeto «Contribuição para a gestão dos recursos florísticos de Timor-Leste» [9]. Este é o único guia de plantas timorenses com fotografias identificativas das espécies e a descrição das suas propriedades medicinais.

Metodologia

No âmbito dos trabalhos conducentes à elaboração da tese de doutoramento, foi feito um estudo etnobotânico com o objetivo de identificar as principais espécies de plantas utilizadas na medicina tradicional em Timor-Leste e, constituindo conhecimento objetivo, propor uma forma de as divulgar de forma inequívoca promovendo a sua disseminação (constituindo-se como *memorabilia*). Com esta questão, foram propostas as hipótese que, por um lado, a população de Timor-Leste possui um conhecimento único e generalizado sobre a utilização das plantas locais para fins medicinais; para além disso, cada grupo étnico possui uma forte e estreita relação com a natureza local, incluindo as plantas no seu contexto ecológico e utilizando a medicina tradicional como prática frequente, mas de forma restrita à comunidade local, ou perímetro regional.

A investigação foi implementada em várias etapas, ao longo de três anos. Numa primeira fase, foram identificadas as duas principais áreas em estudo. Tendo em conta o tipo de investigação, que implica o envolvimento do pesquisador nas comunidades dos informantes por um longo período, foram selecionados dois distritos distintos: Liquiça, localizado na ilha de Timor, com uma área total de 548 km2. Para além deste, foi escolhido a ilha de Ataúro, distanciada 25 km da ilha principal, e com uma área total de 144 km2 [10].

As duas áreas em estudo representam comunidades com níveis culturais diferentes, nomeadamente ao nível da língua local e dos costumes. Segundo o último censo de 2015, publicado pela Direção Nacional de Estatísticas de Timor-Leste, o distrito de Liquiça inclui um população total de 73.027 pessoas, com o Tokodede como dialeto predominante. A ilha de Ataúro localiza-se a norte da capital de Díli e tem um total de 9274 habitantes. Nesta ilha predomina o dialeto Wetarês, comum às ilhas circunvizinhas [11].

Antes de iniciar as entrevistas foram realizados encontros com as entidades governamentais e autoridades locais, como a Direção Nacional de Conservação da Natureza, os chefes de aldeia, a fim de partilhar os objetivos da pesquisa e obter as autorizações para a coleta das amostras. Para além disso, também foram feitas visitas a outras entidades relevantes, como as comunidades religiosas e organizações da sociedade civil que trabalham naquelas áreas. Após visitas sucessivas às aldeias foram selecionados um total de 16 curandeiros, 7 no distrito de Liquiça e 9 na ilha de Ataúro.

Neste artigo serão exemplificadas as etapas do processo que culminou na elaboração da estampa botânica de uma espécie coletada em ambos distritos, de entre as várias que foram identificadas e estão no processo de ilustração.

1. Trabalho de Campo

Entrevista informal e semi-estruturada

As entrevistas informais foram muito importantes na fase inicial do trabalho de campo para conhecer os informantes e apresentar o projeto aos curandeiros. Este tipo de entrevistas ocorre normalmente durante todo o período da investigação [12] e foi fulcral para conhecer o contexto específico das comunidades da aldeia, bem como a história de vida de cada curandeiro.

A dado momento, foi marcada uma entrevista semiestruturada com cada curandeiro individualmente. Para esta entrevista foi elaborado um guião com um conjunto de tópicos que, numa primeira fase, permitem estabelecer uma contextualização sobre a experiência pessoal do curandeiro, incluindo o contexto familiar, as experiências ao nível da medicina tradicional, formas de diagnóstico e tratamento, entre outros. Para além disso, foi feito um primeiro registo etnobotânico incluindo os nomes vernaculares das plantas na língua local, em tétum e noutras línguas (por vezes em indonésio e, muito raramente, em português), as doenças tratadas, os métodos de preparação e os meios de administração. Este tipo de entrevista é muito útil especialmente para aprofundar temas mais sensíveis, pelo que é muito comum nas pesquisas etnobotânicas [13].

Turnê-guiada ou walk-in-the-wood interview [14]

A informação coletada nas entrevistas semiestruturadas serviu, posteriormente, como uma importante ferramenta de referência para o pesquisador durante a fase de entrevista no campo. Este tipo de entrevista consistiu em caminhadas, com cada curandeiro de forma individual, pelas zonas onde este normalmente coleta as suas plantas para o posterior exercício das práticas medicinais. À exceção de algumas espécies mais específicas, a maioria dos curandeiros colhem as suas plantas localmente, na região circundante às suas aldeias. Com frequência, estes também cultivam muitas plantas nos seus próprios terrenos e nos jardins ao pé de casa.

Nesta fase foi necessário diversificar os meios de recolha de informação visual, com o recurso à fotografia e à realização de esboços das plantas *in loco*, para registar o máximo de informação e pormenores possível em cada expedição.

Registo fotográfico e caderno de campo

Para a elaboração de pranchas botânicas é importante reunir o máximo de elementos visuais que permitam a representação do arquétipo da planta. Para isso não é suficiente a recolha de amostras do espécime, pois estas não incluem todos os aspetos de máxima relevância no momento de ilustrar a espécie. Por um lado, as amostras recolhidas no campo provêm de espécimes diferentes, colhidos em épocas do ano distintas, pelo que podem não incluir todos os elementos necessários para a identificação da espécie. Para além disso, o processo de recolha e posterior secagem (exsicatas), implica a perda da forma natural da planta e provoca a despigmentação das folhas ou flores ou alterações na forma dos frutos e sementes. Deste modo,

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Fig. 2. Caderno de campo com estudos da espécie Morinda citrifolia.

é necessário complementar esta recolha com outro tipo de registo, tais como os cadernos de campo (Fig. 2) e a fotografia. Nesta investigação, a fotografia foi uma ferramenta muito útil pois permite captar e registar os espécimes na natureza, complementando o estudo das exsicatas, já em contexto de laboratório e mais tarde. No entanto, as fotografias também têm certas limitações pois refletem uma imagem específica de um determinado espécime, independentemente do seu estado de preservação, e são muito sensíveis a certas condições como a quantidade e caraterísticas (temperatura, intensidade) de luz existente no local. Para além disso, muitos constituintes identificativos das plantas, como pormenores ao nível da inflorescência ou dos frutos, não são visíveis macroscopicamente, os quais devem ser representados pelo ilustrador através do estudo das amostras ao microscópio.

Colheita e secagem das amostras

Quando possível, foram coletadas no mínimo três amostras das partes representativas das plantas, incluindo ramos com folhas (ramo vegetativo), casca do tronco principal, flores e frutos. Tendo em conta o clima quente e húmido, a preservação dos espécimes é particularmente difícil na região pelo que foi necessário utilizar dois métodos para a preservação das plantas: o método de preservação em etanol e o método de secagem através de uma fonte de calor artificial. O primeiro método foi aplicado especialmente na ilha de Ataúro, pois muitas das casas não possuem eletricidade. Se, por um lado, este método demonstrou ser muito eficaz para preservar os espécimes e prevenir a contaminação de fungos, revela a desvantagem da perda da pigmentação das folhas e das flores, dificultando a sua identificação. Em relação ao segundo método, foi utilizado um sistema composto por uma prensa e um termoventilador portátil [15]. Neste caso, salientam-se as vantagens ao nível da qualidade das amostras preservadas mas, no entanto, é difícil atingir essa qualidade durante o processo. Devido à elevada humidade do ar, é necessário um extremo cuidado na colocação das plantas na prensa para garantir uma secagem uniforme, realizando mudas regulares dos jornais, e com uma especial atenção para evitar o rápido desenvolvimento de fungos e consequente apodrecimento de partes da planta.

Entrevista estruturada – Entrevista de plantas [12]

Após a recolha das amostras no campo e a sua organização para posterior organização no herbário, foram ainda organizadas entrevistas estruturadas a cada um dos curandeiros. Para estas entrevistas o pesquisador utilizou as amostras recolhidas no campo e já prensadas ou, quando tal não foi possível, as fotos dessas amostras impressas, para confirmar os nomes vernaculares e completar a informação fornecida durante as caminhadas. Esta última entrevista revelou-se muito importante, pois é implementada numa fase onde já existe uma maior confiança entre o pesquisador e os

informantes, permitindo uma discussão mais aberta. É notório em todas as entrevistas que, na presença das plantas, os curandeiros têm mais facilidade em sistematizar e partilhar o seu conhecimento, em comparação com entrevistas nas quais não existem elementos visuais de referência — evidencia que vem corroborar a importância da elaboração de um guia ilustrado como desbloqueador ou catalisador em atos onde seja necessária a circulação de informação.

2. Trabalho no herbário/ laboratório de ilustração científica

Estudos preliminares da espécie a ilustrar e representações finais

Após a identificação dos espécimes recolhidos no campo, foi feita uma seleção das espécies a ilustrar com base num conjunto de critérios como, por exemplo: i) a sua relevância, quer pelo número de vezes que foi mencionada pelos curandeiros, quer pelo número de aplicações terapêuticas; ii) o fato de ser uma espécie endémica; e iii) a existência conjunto de elementos visuais e amostras de herbário que permitem uma correta e completa ilustração da planta. Neste trabalho pretende-se fazer uma reconstrução da planta criando um modelo ideal denominado de arquétipo [16].

A partir da compilação dos esboços feitos no caderno de campo, das fotografias e das observações dos exemplares conservados secos nas exsicatas guardadas no herbário, procedeu-se ao estudo anatómico de cada planta selecionada, para a elaboração dos desenhos preliminares de várias partes da planta (enquanto desenhos compilatórios e de síntese), como sejam o estudo das diferenças entre as duas faces de uma folha (página superior e inferior) ou o estudo da organização e distribuição foliar ao longo do caule - a filotaxia [17] (Fig, 3, A. e B.).

Fig. 3. A. Estudos preliminares da parte inferior de uma folha da *Morinda citrifolia*. **B.** Estudo da disposição espacial das folhas num ramo. **C.** Aplicação do volume, textura e cores num ramo.
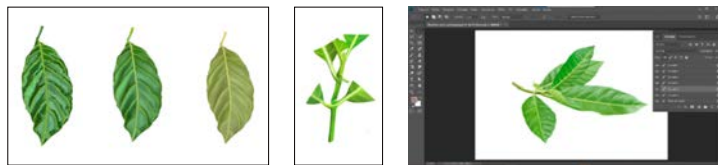
Optou-se por utilizar a técnica digital através de um editor de imagens bidimensionais do tipo raster (mapa de bits), nomeadamente o Adobe Photoshop. Este tipo de técnica é semelhante às técnicas tradicionais mas possui uma série de vantagens, entre as quais uma maior potencial de edição durante todo o processo devido à possibilidade de modificar e corrigir erros a qualquer momento [18], suprimir lacunas ou realizar ensaios de composições entre diferentes unidades visuais para obter o resultado mais harmonioso. Para cada planta foi feita a ilustração em separado das principais partes constituintes da planta para, posteriormente, serem agrupadas numa única prancha botânica.

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Resultados

Elementos constituintes da prancha botânica da Morinda citrifolia

Discussão e Conclusões

Neste estudo a etnobotânica e a ilustração científica cruzam-se num objetivo comum: o registo de um conhecimento único para a sua *memorabilia*, passível não só de perdurar no tempo, mas também de transmissão às gerações futuras, para aumentar a sensibilização e promover uma crescente consciencialização sobre a importância da conservação e proteção das comunidades vegetais locais. A natureza providencia abrigo, alimento, matéria-prima para a construção de utensílios e medicamentos herbais. O conhecimento ancestral das propriedades medicinais das plantas foi desenvolvido e passado de geração em geração ao longo do tempo, através de uma cultura de raizes orais - a qual está cada vez mais desfasada da realidade contemporânea e que não se compadece para com a primeira. Em Timor-Leste existem muito poucos registos etnobotânicos ao nível das práticas de utilização das plantas na produção de medicamento herbais. Por um lado, existe um elevado secretismo dos curandeiros ou dos membros das aldeias com conhecimento herbal pois está, muitas vezes, associado a rituais e práticas de carácter sagrado. Durante o processo de pesquisa, houve curandeiros que se recusaram ou recuaram na sua decisão de participar neste estudo devido a eventos inesperados, interpretados como sinais de origem espiritual para não partilhar o seu conhecimento. Se bem que tal possa contribuir para subdimensionar o que poderia ser alcançado, neste caso em particular, entende-se que menos é melhor que nada, pois desta forma pelo menos parte desse conhecimento não se irá perder de forma irremediável.

Em termos históricos, durante as expedições científicas, houve um grande investimento por parte dos europeus em registar e catalogar as plantas da região asiática. No entanto, por parte dos portugueses e durante um longo período, houve pouco interesse em implementar estudos botânicos na ilha de Timor. Atualmente, existe um aumento de estudos feitos no país, principalmente por investigadores timorenses, com enfoque na utilização ancestral das plantas medicinais de alguns grupos étnicos do país.

Nesta investigação, muitos timorenses afirmam que atualmente existem menos pessoas nas aldeias com conhecimento mais especializado sobre a preparação e aplicação dos medicamentos herbais. Para além disso, muitos dos curandeiros entrevistados dizem não terem um jovem como aprendiz — um costume que está a cair em desuso — pelo que o seu conhecimento, construído ao longo de várias gerações, enfrenta o sério perigo de se perder. Outro fator que contribui para o desaparecimento da medicina tradicional no país é a falta de investimento a nível das instituições governamentais para regular e integrar a medicina tradicional nos cuidados de saúde primários. Como estimular os jovens para aprender sobre a sua cultura com os membros da sua comunidade? Como garantir a preservação das plantas que têm propriedades potencialmente benéficas para a saúde?

A ilustração científica surge neste estudo como um método de divulgação da etnobotânica em que o saber será condensado em imagem. Mesmo sendo uma unidade de comunicação muda, a imagem "fala" diretamente com os seus leitores. A possibilidade de difundir e partilhar pranchas botânicas das plantas permite, por outro lado veicular de forma sintética conhecimento já tratado e validado cientificamente, contribuindo para a disseminação de um conhecimento que, por agora, ainda é restrito a um pequeno grupo, como botânicos ou fitoterapeutas, de uma forma simples e apelativa para qualquer faixa etária. É o princípio da democratização a funcionar, permitindo uma apropriação generalizada, profícua e efetiva (eficiente e eficaz). Em complementaridade com a codificação de pertinente mensagem científica numa imagem, o desenho que está na sua base também interpela o olhar, estimulando, sensibilizando o sistema e erigindo uma emoção. É assim necessário promover novos formatos de comunicação que permitam criar uma mudança ao nível do grau de envolvimento de cada pessoa na preservação do património cultural e natural — para isso é preciso gerar empatia e motivação, as quais poderão redundar em novos investimentos e recursos humanos, aumentado o resgate desse conhecimento que está a desaparecer inexoravelmente.

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Illustration and Artificial Intelligence (AI): The "ChatGPT" for Images, Intrusiveness or a New Tool?

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Abstract

The rise of artificial intelligence (AI), especially tools such as ChatGPT, which was launched on November 30th, 2022, is generating great concern throughout the world, and, by extension, this is also happening in the field of the cultural industry. More specifically, in the visual arts —illustration, comics, animation, etc.— massive layoffs have begun to take place, for example, in some video game design companies in China. So, this research distinguishes some of the most prominent AI image generators, as well as the functions or tasks that these AI engines could assume. In addition to this, this essay provides a selection of artists who, through social media, show their creations in this field, and, finally, the delicate topic of copyright and intellectual property (IP) is addressed. In any case, the creator, once again, is subjected to the threat of the technological advances of its time, as has happened with the printing press, photography, the appearance of computers, digital images, the Internet and social media, which have become allies after all.

1. Introduction

Since the beginning of humanity's history, humans have done everything possible to perfect the technique. In the field of visual arts, for example, gadgets and drawing machines have been created; that is, devices have been designed to give the image more realism and, at the same time, to improve perspective.

This interest in drawing and painting machines has been present at different historical moments, from Greco-Roman philosophy to the period of the great Renaissance masters, as well as during Baroque art or, later, when, at the beginning of the 19th century, the appearance of photography was produced, which finally evolved until the digital image at the end of the 20th century. In this context, some of the most representative artists in the history of art, such as Leonardo da Vinci, Dürer, Caravaggio or Ingres, designed, among many others, prototypes of machine-tools that helped them achieve new ways of representing the world.

Since the second half of the 17th century, some authors, such as the Dutch painter Johannes Vermeer, used the camera obscura, which was a portable drawing table that allowed fragments of the real setting to be

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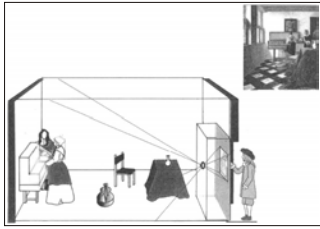
traced (Fig. 1). Now, in the second decade of the 21st century, we find ourselves before a new paradigm with regard to "new ways of representing the world through images". The rise of artificial intelligence (AI), especially tools like *ChatGPT*, which was launched on November 30th, 2022, is causing great concern around the world and, by extension, in the art world as well. Suddenly, different AI image generators have emerged, and they are under suspicion [1, 2, 3, 4]. So, will this new technology be an intruder or a new tool? At a certain point, can it somehow supplant traditional visual artists?

Fig. 1. Johannes Vermeer using his camera obscura in his *atelier*.

2. AI Image Generators

ChatGPT is an *AI*[2] *chatbot*[3] prototype, developed in 2022 by *OpenAI*[4], which uses the *GPT (Generative Pre-trained Transformer)* architecture to generate answers to questions and hold conversations with users. Thus, this natural language processing tool imitates human conversations and provides useful answers to users through a chat (Fig. 2).

The *ChatGPT* model uses a type of *Deep Learning*[5] algorithm that can learn from large amounts of textual data and, from it, generate consist-

ent and relevant responses in a given context. This makes it useful for a wide range of applications, such as customer service, virtual assistance and online education. However, this artificial intelligence (AI) has a limited memory, since it is based on the data on which it was trained.

Fig. 2. An example of interaction with *ChatGPT*.
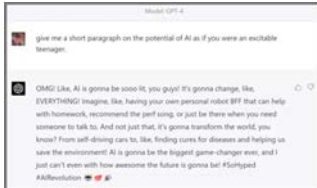
In this context, which has revolutionized the current technological landscape, there are also AI image generators, such as *Dall-E 2*, *Midjourney* or *Stable Diffusion*, among others.

Dall-E 2 [5] is a free AI program that creates images from textual descriptions or prompts. It was initially launched on January 5th, 2021, and, besides, it uses a 12-billion-parameter version of the model *GPT-3 Transformer* in order to interpret natural language inputs, which can create realistic images (a stained-glass window with the image of a blue strawberry) or those that do not exist in reality (a cube with the texture of a porcupine). On

2 Artificial intelligence (AI), in the context of computer science, is a discipline and a set of cognitive and intellectual capacities expressed by computer systems or combinations of algorithms whose purpose is the creation of machines that mimic human intelligence to perform tasks, and that they can improve as they gather information.

3 *Chatbots* are software applications created in the 1960s that simulate having a conversation with a person by providing automated messages.

4 *OpenAI* is a not-for-profit artificial intelligence (AI) research company founded in 2015 by Elon Musk and Sam Altman, whose goal is to "collaborate freely" with other institutions and researchers by making their patents and research open to the public.

5 *Deep learning* is a type of *machine learning* (that is, a branch of artificial intelligence that allows machines to learn without being expressly programmed to do so) that trains a computer to perform tasks like humans do, such as speech recognition, image identification or the fact of making predictions.

the other hand, its name "Dall-E" comes from the acronyms for Salvador
Dalí and WALL·E (the 3D animated film, released in 2008, about a robot
designed to clean the garbage that covers the Earth after it was devastated
and abandoned by humans). Finally, this tool is capable of combining con-
cepts, attributes or styles to generate the image, what means that famous
authors or specific artistic styles can be introduced.

Midjourney [6], for its part, is an independent research laboratory
and the name of an artificial intelligence program with which its users
can create images from textual descriptions. This tool began to develop
different versions from April 2022, and, since then, its users can create
illustrations for free by giving orders to a bot hosted on *Discord*, either by
sending direct messages or by inviting the mentioned bot to a third-party
server. Like *Dall-E 2*, *Midjourney* also allows you to be inspired by styles
and techniques by hundreds of famous artists, such as Giuseppe Arcim-
boldo, Francisco de Goya, Gustav Klimt, Frida Kahlo, Francis Bacon,
Yayoi Kusama or Banksy (Fig. 3) [7].

Fig. 3. Gustav Klimt portrait and landscape style.

Finally, *Stable Diffusion* [8] is a program developed by *Runway* and
LMU Munich in August 2022 that allows the generation of high-quality
digital images from natural language descriptions or *prompts*. Unlike the
previous examples, this is an open-source machine learning model that
does not limit artificially the images it produces. For this reason, critics
have raised concerns about the ethics of Artificial Intelligence (AI), stating
that this tool can be used to create *deepfakes*[6].

In any case, the incursion of this kind of AI image generators repre-
sents a new paradigm in the field of visual arts with regard to the ideation
and creation of images, which is the reason why this research is pertinent
taking into account the current uncertainty. As for this technological revo-
lution, will it be an intruder or a new tool?

3. Will it be an Intruder or a New Tool?

Over the last few years, AI image generators have appeared, such as those
mentioned above. However, these did not become famous until Septem-
ber 2022, when a digital art piece created by AI won the *Colorado State
Fair's annual fine art competition* (United States).

The artwork described before, called *Théâtre d'Opéra Spatial* (Fig.
4), was presented by Jason M. Allen [9], who shaped it using the *Mi-
djourney* artificial intelligence platform. The process he carried out was
through the creation of around 100 images starting from the same text.

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6 *Deepfake* is an acronym in English made up of the words fake and deep learning. It is an artificial
intelligence technique that allows the creation of fake videos of people who appear to be real using unsu-
pervised learning algorithms such as the *Generative Adversarial Network (GAN)*.

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Then, after improving these with *Photoshop*, he printed the final version in high resolution using *Gigapixel AI*. That is another AI tool that converts images to high resolution by adding pixels and fine-tuning the quality of the original image.

Fig. 4. *Théâtre d'Opéra Spatial*, 2022. AI Art using *Midjourney*.

In this way, Allen won first prize in the category of "digital arts / digitally manipulated photography", and, despite the fact that the jury was not aware of the use of *Midjourney*, they affirmed that, if they had, they would have granted him the same recognition. The author himself says that he "is not going to apologize for that since he did not break any rules", but even so, the other artists accuse him of cheating.

So, from this moment on, a great discontent was established in the art world, and, to a large extent, it began to be considered a real threat. In fact, both Sam Altman, CEO of *OpenAI*, the company that developed *ChatGPT*, and Geoffrey Hinton, the "godfather of artificial intelligence", have shared their impressions about the "dangers" and "benefits" of its creation.

On the one hand, Sam Altman confesses, in an interview on *ABC News* [10], that "AI will reshape society as we know it" and acknowledges a certain "fear of what its invention may generate". In this context, the CEO considers that AI carries "real dangers", but it can also be "the greatest technology that humanity has developed so far" to drastically improve our life. In addition, Altman insists on government regulation as well as citizen cooperation to "deter its possible negative consequences".

On the other hand, Geoffrey Hinton, who recently left *Google* because of the dangers he recognizes in new technologies, stated in *The New York Times* [11] that "it is difficult to know how bad actors can be prevented from using it for bad things". At the same time, Hinton is overwhelmed by the excessive speed at which progress is being made and fears that the Internet will be flooded with false texts, photos, and videos. Thus, citizens may not be able to distinguish what is real, and, besides, he is concerned that many workers could be replaced. So, in his opinion, work in this area should be stopped until we are able to properly control that artificial intelligence. In fact, in this sense, more than a thousand top-level businessmen, intellectuals, and researchers related to this technology have signed an open letter in which they request a moratorium on its development to reflect on its consequences.

More specifically, in the art world, the consequences of these AI image generators are already becoming evident. In China, without going any further, the job of an illustrator is being replaced by AI. For example, we must highlight Amber Yu, an illustrator who worked as a freelancer, making video game posters, which take her around a week to create: she first makes a sketch in Adobe Photoshop and then carefully refines the contours and adds colors, being a specialist in the matter. Now, her clients, the video game companies for which she did her illustrations, are turning to artificial intelligence tools such as *DALL-E 2*, *Midjourney* or *Stable Diffusion*,

described in this same investigation. Thus, the *Rest of World* publication, which is specialized in the impact of technology, reinforced this idea by interviewing professionals in the sector such as the illustrator Xu Yingying, who affirms that "two people can do with AI what ten used to do" [12]. So, previously, employees could draw one scene or one character in a day, but now, with the help of these AI image generators, they can draw 40 a day for their bosses to choose from, which is more profitable for the company.

Undoubtedly, the creation, not only with regard to the illustration world, but in terms of the creative facet from a general point of view, is at a turning point. In fact, as it has been evidenced in China, AI is causing uncertainty and instability in the illustrator profession, in large part, due to three variables:

> -First of all, there may be more intrusiveness due to "easy access to AI image generators". So, it is very likely that there will be more competition, or, what is more, that there will be more people who can enter the art sector.
> -Secondly, such platforms may also help "break down barriers to entry" to creative work. This means that not only will these new tools be easy to handle, but they will also help you overcome your creative block. So, it is possible that anyone can develop the ability to generate ideas.
> -Thirdly and lastly, it is worth noting the impact that these generators produce in the business environment. So, "ways to generate business" or "productivity improvement" in the creation of images will be another factor to take into account.

If we consider all these conditions, among many others, it can be affirmed that the profession of the illustrator is in constant evolution and reinvention. In addition to this, regardless of the threat of dismissal from certain jobs, as well as the academic effects or its use for cyberattacks, the AI chat system, which has the particularity of answering everything, is here to stay. Therefore, it is very likely that we will have to live with this new reality and that, besides, we will have to adapt to new situations. The "ChatGPT" for images, for example, can be used as a technique or tool to develop the creative work of professionals in the sector themselves, beyond intruders. For this reason, in recent months, the number of artists using AI image generators has increased, and their presence is expanding on social media.

4. AI Artists on Social Media

In a scene from the 2004 movie *I, Robot*, there was a detective played by Will Smith who was interrogating Sunny, a robot suspected of a crime (Fig. 5). At one point during the interrogation, Smith's character questioned the humanity of robots, denying that they could equate with or approach humans. In other words, he was wondering if a machine would be capable of writing a symphony or creating an artwork.

Before the birth of the "ChatGPT" for images, in 2018, the first painting created with artificial intelligence was sold for 432,500 dollars at Christie's auction house in New York. It is a portrait, which resembles an

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oil on canvas, entitled *Edmond de Belamy* (Fig. 6) [13], measuring 70 x 70 cm. In reality, this image is not a painting but a computer-generated piece devised by the Parisian collective known as "Obvious", which is integrated by an engineer, a businessman and an artist. Among them, Hugo Caselles-Dupré commented that during the image creation process "they fed the AI system with data from 15,000 portraits painted between the 14th and 20th centuries". Later, after doing several tests, they managed to improve the technique. In addition to this, after considering the responses received, they selected a group of 11 portraits to finally decide on the one they presented to the auction house.

In this context and taking into account the strong incursion of AI image generators throughout the year 2022, a large group of artists has decided to experiment with these new applications, and, as a consequence, they are now disseminating the results obtained from their Instagram accounts. Among these, for example, are the net artist Sofía Crespo, the advertising photographer Diego Berro, and the architect Carlos Bañón.

Sofía Crespo [14] is an Argentine net artist living in Berlin whose work is based on artificial intelligence, facial recognition and neural

Fig. 5. *I, Robot*, 2004. Frame.

Fig. 6. *Edmond de Belamy,* 2018. Inkjet printed on canvas. 70x70 cm.

networks, paying special attention to BioArt, botany and algorithmic creation from a humanist point of view. Specifically, in one of her latest projects, entitled *Neural Zoo* (Fig. 7), she explores the hypothetical forms of a speculative nature using *Dall-E*. This way, she creates synthetic images that resemble certain animals and ecosystems. For her, the use of artificial intelligence is part of her daily life, however, over the years, her perception of it has changed. At the beginning, she understood it as a collaborator, but over time that image began to change; in fact, she considers that she has to carry out a great job of programming to obtain results close to what she had anticipated. So, she recognizes that these AI image generators are not autonomous entities, but they do a lot of "baby sitting". In addition to this, Sofía feels that "the idea of a totally autonomous machine, capable of supplanting the human being and overcoming its critical eye, besides its artistic capacity, is far from being a reality".

Diego Berro (Fig. 8) [15] is an Argentine photographer and digital artist based in Madrid who, over the last ten years, has successfully developed more than 200 projects and campaigns for some of the most recog-

Fig. 7. Sofía Crespo. *Neural Zoo*, 2022.

Fig. 8. By @diegoberro

Fig. 9. By @carlos-bannon.

nized brands worldwide. Recently, Diego has started to use the *Midjourney* platform in order to incorporate AI-assisted pieces into his imaginary. His creations are hybrids of humans and animals, which have variations in scale; for example, the heads are larger than expected. Moreover, these images have highly saturated and vibrant colours, as well as fluorine tones that provide the pieces with great contrast. According to himself, his objective is to remain aware of what is emerging with respect to these platforms, despite the fact that his initial feeling was very bewildering.

Carlos Bañón (Fig. 9) [16] is a Spanish architect, director of AIRLAB Singapore and an associate professor at the Singapore University of Technology and Design (SUTD), who reinvents the concepts of lightness and the ethereal in architecture, as well as its articulation with the landscape and the environment around you, using *Midjourney*. According to him, "this platform opens up new dimensions for design workflows". At the same time, Carlos considers that his experience with AI is that "you will never get what you want, no matter how hard you try using your words, however, the results surprise you and can inspire you". In this way, for him, *Midjourney* allows co-creation since what is obtained is new and unexpected, different from what can be considered beforehand.

On the other hand, within Instagram and regarding the incursion of AI image generators, you can find comments or debates between well-known personalities from the art world. Among them, for example, is David Rubín [17], a Spanish comic artist who was nominated for four Eisner awards, the most prestigious in the sector. He strongly rejects the incursion of these new platforms through publications on his social media (Fig. 10). As he himself explains in one of his latest interviews, basically nothing new is being created since "it's as if someone takes my work, studies it well, learns to copy my style and tries to make a comic, but subtracting all the intention that I can give to that illustration or to that work". At the same time, David says that, in his opinion, "if this normalizes and ends up adapting to the day-to-day life of companies, many people will lose their jobs: cover artists, illustrators, and concept artists".

Fig. 10. Post fragment from David Rubín's Instagram account: <https://www.instagram.com/p/CsBvlm-rtSHN/>

In any case, this current issue generates a lot of concern in the creative sector, and, for this reason, some professionals have been interviewed in different media [18], such as the graphic humorist Daniella Martí or the illustrator Jon Juárez. Daniella Martí [19] is a Colombian graphic humorist who works in the "IDEAS" section of the newspaper *El País* (Spain) and she is also the author of illustrated books. As she herself says, "as an illustrator, I don't feel like I'm going to run out of work". However, she thinks that "the sector could become much more precarious than it already is". At the same time, Daniella maintains that "you shouldn't be too scared, since those who were dedicated to music thought the same thing with the arrival of *autotune* and it has been overcome". In fact, she maintains that "if it is recognized that they are works created by humans, they should be regulated and coupled with the data protection and intellectual property laws of the countries". Thus, along the same

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lines, Jon Juárez [20], a Spanish illustrator and conceptual artist in the worldbuilding of audiovisual productions and video games for companies such as HBO, Netflix, Square Enix or Microsoft, defends that "artists cannot sell their copyright to these AI image generators". If so, "this supposes the degradation of moral and copyright rights", since "they are washers of intellectual property and moral rights, which attack the author, and this can be a great enemy of entrepreneurship in the long term".

5. Copyright and Intellectual Property (IP)

When we discuss artworks created by AI image generators, who owns the Intellectual Property (IP)? That is, do these rights fall on the AI itself or on the person who has executed the command?

Both the *United States Copyright Office* [21] and the *Court of Justice of the European Union (CJEU)* [22] have ruled on the matter. Neither in the US nor in Spain, a creation resulting from the sole and exclusive intervention of an AI, can be protected by copyright. In fact, there must be an author, natural person or creator of the piece for copyright to exist. In this way, an artwork created exclusively by an AI cannot be the object of intellectual property (IP).

Now, from this interpretation, in turn, it can be deduced that in cases where AI has been used as an instrument, tool or platform, but there has been a determining human intervention, we can have an artwork. Therefore, the author "must have made creative contributions to the work that allow it to be classified as such". Thus, its qualification as an artwork will depend on the type of contribution made by the AI programmer.

By way of example, it is worth pointing out one of the most striking cases regarding the recognition of the copyright of a piece generated

by Artificial Intelligence. It is about the comic book *Zarya of the Dawn* (Fig. 11) [23], by the New York artist Kris Kashtanova [24], produced by Midjourney and whose protagonist is Zendaya, the renowned American actress.

Fig. 11. *Zarya of the Dawn*, 2022. Comic written by Kris Kashtanova and illustrated using *Midjourney*.

For the first time in history, the *United States Copyright Office* granted the registration of an original work to a piece created with Artificial Intelligence. That is, the registration of "copyright" became effective on September 15th, 2022, since it was considered that *Midjourney* contributed partially but not totally in terms of the final result. The author was in charge of writing the story, creating the design and making artistic decisions to compose the images. However, 5 months later, in February 2023, the *United States Copyright Office* decided to backtrack on copyright, arguing that the application approved in September 2022 was "incorrect or, as minimal, substantially incomplete", because it had not been clearly indicated that *Midjourney* had been used to create all the images in the comic, but Kashtanova only have put the name of the application on the cover. In this way, the office issued a

corrected copyright certificate, acknowledging that both the text and the arrangement of the different elements that make up the comic would receive official protection, however, the images generated by *Midjourney* will be the property of artificial intelligence.

Generally speaking, as the office maintains, "the fact that users cannot predict the specific output of *Midjourney*, makes *Midjourney* the author". So, the key is in the "unpredictable", and, nevertheless, the different AI image generators have their own rules, which means that the recognition of intellectual property or copyright can be very variable depending on the platform and the use that has been given by the artist in question.

6. Conclusion

Art historian and AI expert Emily L. Spratt considers that the new AI image generators are more "entertainment" than art, despite their incredible possibilities. However, as has been argued in this text, the incursion of these platforms, especially since the end of 2022, seems more worrying and complex.

In many cases, it is beginning to be considered a work tool, as is the example of Sofía Crespo, Diego Berro or Carlos Bañón, who exhibit their works on Instagram. On the other hand, a prominent part of the artistic sector interprets that artificial intelligence can be a threat, in fact, in China there are already layoffs of illustrators in video game companies. In addition to this, there is a great concern among creators regarding copyright and intellectual property, since according to recent news the "unpredictability" of AI image generators can harm the artist. In other words, the recognition of copyright can be highly variable depending on the platform you use to work.

Fig. 12. An AI-generated image of Former President Trump that went viral on the Internet on March 20th, 2023.

Another point of view to consider, no less important, it is the fact that these AI image generators can create *fake images* with a very realistic appearance. Precisely, with regard to this issue, we must highlight the *fake images* produced by artificial intelligence in which the US former president Donald Trump was surrounded by police officers, and, at the same time, he was apparently going to be arrested (Fig. 12) [25]. These images went viral online and created a lot of confusion. Finally, it was considered a *fake new*.

Anyway, the creator, once again, is subjected to the threat of the technological advances of its time, as it has happened in the past with the printing press, photography, the appearance of computers, digital images, the Internet and social media, which have finally become allies after all. In this sense, Sam Altman, executive director of *OpenAI* and creator of *ChatGPT*, states that, in his opinion, "humanity has shown that it can adapt wonderfully to major technological changes", but, above all, governments have to design a strong regulation to prevent ethical problems in the future.

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O livro ilustrado como um meio para a consciencialização sobre Invisible Disabilities

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[Ilustração / Illustration]

Abstract

Reading is fundamental for the development of the human intellect. It is a practical and vast means of communication, being a way to address different topics and to stimulate reasoning and creativity, improving vocabulary and the interpretive capacity. Hence the necessity of including the habit of reading since childhood. Through the topics addressed and its illustrations in picture books, children experience feelings, emotions and transit through different points of view, promoting self-knowledge and awareness about the people around them. Thus, this project based on an action-research methodology seeks to analyze and understand the potential of the illustrated book as a means of communication, as well as a useful tool for raising awareness about subjects considered sensitive or disruptive, thus promoting empathy. and acceptance of the difference. The practical object that is intended to materialize comprises the realization of an illustrated book, from the construction of the text to the illustrations, whose main theme will be one of the mental disorders included in the group of Invisible Disabilities, the Attention Deficit Hyperactivity Disorder. The main objective of the work is to guide and serve as a motivation for reflection – both the parents or adults who read, as well as the children who absorb the information – to recognize the emotions of people with a mental disorder and, also, to be able to relate to what is pictured. Therefore, the construction of the book will not only serve to promote empathy but also help children with disabilities to understand that they are not alone and that more people identify with the same symptoms and feelings.

1. Introdução

Este breve artigo faz parte de um projeto mais amplo no domínio do Mestrado de Ilustração e Animação, e se irá debruçar sobre o Transtorno do Déficit de Atenção e Hiperatividade assim como na criação e utilização do livro ilustrado assim como na abordagem de temas disruptivos.

O projeto visa explorar a possibilidade da utilização do livro ilustrado como meio de informação, mas, principalmente, de consciencialização acerca das pessoas com deficiências e transtornos. Desta forma, será efetuada uma investigação de carácter qualitativo, de modo a perceber

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melhor a relação social com o objeto prático. Futuramente, pretende-se criar e publicar uma série de livros inseridos no mesmo tema das *invisible disabilities*, sendo o Transtorno do Déficit de Atenção com Hiperatividade (TDAH), o primeiro volume.

A escolha desta patologia deve-se ao seu diagnóstico tardio – geralmente realizado apenas na idade adulta – apesar de ser um dos transtornos mais comuns durante a infância. Para além disso, devido à falta de consciencialização e de diálogo acerca desta condição, muitas pessoas com TDAH não recorrem ao diagnóstico profissional, sujeitando-se à depressão e à ansiedade durante a fase adulta [1]. Os comportamentos hiperativos-impulsivos e de desatenção, podem prejudicar a performance da criança nas atividades académicas e sociais, resultando em rejeição por parte dos colegas. Assim, a nosso ver, um maior conhecimento deste transtorno pode potenciar a construção de um ambiente escolar e profissional mais inclusivo.

Por conseguinte, o objeto prático será um livro ilustrado poético, dedicado ao Transtorno do Déficit de Atenção e Hiperatividade, com base num texto autoral. O texto terá o apoio de um profissional na área da escrita criativa, de maneira a reforçar a história de um modo coerente, mas, que poderá sofrer alguns ajustes ao longo do processo criativo visual. Apesar do texto e das ilustrações representarem elementos suficientes para se sustentarem individualmente, a ligação entre estes dois elementos será fundamental para uma leitura esclarecedora. O seu ritmo poético será essencial para cativar e prender a atenção do leitor que, - de caso de ser portador de TDAH - demonstra um limiar de atenção mais curto comparativamente com não portadores deste transtorno. Por outro lado, as ilustrações terão como função representar visualmente os sentimentos da personagem principal da história, recorrendo também à personificação de sentimentos como o desconforto e a ansiedade. A futura coleção a se realizar, intitulada por "Mas não se nota", conta com o primeiro livro denominado por "Cabeça em festa". Este livro terá formato horizontal, de tamanho A4 (21x29,7cm), capa dura e acabamento brilhante. A escolha do nome da coleção deve-se ao facto de esta ser uma resposta comum ao depararmo-nos com alguém cuja deficiência não é aparente. Geralmente usamos esta expressão devido à falta de conhecimento acerca da amplitude que o termo deficiência pode ter.

O livro a ser trabalho destina-se, não somente ao público infantil como àqueles que se identifiquem com o tema. Sendo um dos outros objetivos principais, de realçar a importância da diferença e a aceitação do Outro em sociedade, para o público infantil. É através da leitura infantil que a criança é sensibilizada de forma positiva para a existência da diferença, como menciona Fernando Azevedo, ao afirmar que a leitura "[...] proporciona à criança cuja competência enciclopédica está ainda em fase incipiente de formação um alargamento do seu horizonte de expectativas e a oportunidade de crescimento e de expansão da sua capacidade de diálogo com outras culturas e com sistemas de valores alternativos ao seu [...]" [2].

Esta pesquisa inicia-se com uma breve definição acerca da literatura infantil e da importância do livro para a infância. A partir deste estudo, será abordado o álbum poético e a escolha do mesmo, tendo em consideração os portadores de TDAH.

2. A literatura infantil

A literatura infantil engloba livros que têm a capacidade de provocar emoções, entretenimento, fantasia e interesse da criança. Segundo Cunha (2003) citado por Silva (2016 [3]), teve início com as adaptações de histórias folclóricas, de onde nasceram os contos de fadas. O conceito de literatura infantil surge quando a sociedade passa a ver a criança como um indivíduo separado do adulto e, torna-se então uma preocupação voltada ao público infantil.

Neste contexto, os livros infantis e juvenis que apresentam temas fraturantes têm vindo a ser publicados com mais frequência em diferentes países, ao longo dos últimos anos. Narrativas que tratam a opressão e a depressão, a morte, a tristeza, a sexualidade e até questões políticas, entre outros, têm marcado presença na literatura de potencial receção infantil, como refere Azevedo et al. (2011[4]). Estas propostas editoriais através de uma abordagem, em certos casos, lúdica, sem ocultar informações têm como objetivo gerar uma reflexão sobre determinados assuntos, por vezes, evitados pelos adultos em conversa com as crianças. Deste modo, o livro infantil pode servir não só para que a criança leitora consiga reconhecer os seus próprios sentimentos, como também possa conhecer o Outro, reconhecendo a diversidade e a diferença como elementos definidores da vida em sociedade. De acordo com o pensamento de Silva (1992), citado por Aquino (2010), afirma que a leitura é, fundamentalmente, uma prática social:

> "Em essência, a leitura caracteriza-se como um dos processos que possibilita a participação do homem na vida em sociedade, em termos de compreensão do presente e passado e em termos de possibilidades de transformação sócio-cultural futura." (1992 [5])

Muitos investigadores têm destacado o papel da literatura infantil no desenvolvimento da criança, enquanto veículo de aproximação a diferentes realidades e, também, como suporte na construção da personalidade, promovendo um desenvolvimento holístico e, naturalmente, sensível a valores éticos e sociais. Segundo Costa (2022 [6]), a literatura para a infância permite a autocompreensão e potencia a formação de uma visão plural da realidade, além de que promove o desenvolvimento de competências sociocognitivas. Relativamente às crianças com necessidades educativas específicas, as narrativas podem ser utilizadas como um meio de sensibilização e como auxílio durante o processo de informação, como procuraremos demonstrar a partir de autores como Shaun Tan e Tom Percival.

Tendo em conta estas considerações, o nosso objeto prático será um livro para a infância, servindo-se de uma vertente poética e representativa, onde o tema será tratado de um modo mais visual para o público infantil, mas podendo abranger qualquer faixa etária.

Apesar de temas disruptivos terem vindo a ser publicados com maior frequência nos últimos anos, como mencionado anteriormente, ainda existe uma necessidade em abordar determinados assuntos que permitam à criança compreender o Outro e aceitar as diversas características

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que os distinguem. Deste modo, pode-se dizer que a criação de um livro ilustrado poético que aborda temas como transtornos não aparentes, terá a capacidade de se fazer chegar a um público vasto graças à sua abordagem lúdica e pela pertinência do tema tratado. Público este que se poderá inserir no contexto escolar, em ambientes familiares ou através da busca de livros relacionados com o tema.

3. O livro-álbum

O livro-álbum define-se pela colaboração estabelecida entre o texto e as ilustrações, sendo que, muitas vezes, existe uma carga imagética maior que a textual; presentes num suporte e com o auxílio de um projeto de *design* gráfico assegurando a coesão de todos os elementos [7]. No entanto, o texto não é propriamente indispensável nestas ocasiões, como se pode ver nos livros silenciosos ou livros-álbum sem texto. Este tipo de livro sem texto aguça a curiosidade do leitor e exige uma maior análise dos signos presentes, como refere Diana Navas e Ana Ramos [8]. Aqui, a ilustração não serve apenas como um auxílio à interpretação do texto, uma vez que a imagem "fala" por si só.

Esta análise e estudo acerca do tratamento visual maior comparativamente ao textual, serviu de inspiração para a tipologia do objeto a ser desenvolvido para este projeto. Trata-se de um álbum poético, com auxílio textual significativamente reduzido relativamente à carga visual. O texto, em formato de poema, será repartido ao longo das páginas, permitindo ao leitor uma observação cuidada de ambos os discursos visual e textual e estimulando um momento de reflexão. O texto - apesar de se poder sustentar separadamente da imagem e vice-versa -, servirá de instrução acerca dos sentimentos da personagem principal, gerando uma conexão entre ambos os elementos.

3.1. Álbum poético

Tal como num livro álbum, o álbum poético engloba uma articulação e proximidade entre o discurso verbal e o discurso visual. No entanto, a combinação entre o poema e as imagens criadas com base no mesmo, resulta num objeto estético com um elevado grau de coerência e potencialmente fomentador de múltiplas leituras, como refere Sara Silva [9]. Em termos gráficos, o álbum poético distingue-se de um álbum narrativo, pelo número reduzido de páginas e disposição textual, assim como um "*design* cuidado e original". De acordo com Flávia Corrêa, a poesia auxilia no desenvolvimento da imaginação, sensibilidade e aguça a cognição e prática reflexiva. Também o uso do jogo de palavras e repetição permite uma maior facilidade na memorização de conteúdo e atenção às formas.

A leitura de uma poesia não se trata, especificamente, de compreender ou traduzir "à letra" o que está descrito. "A poesia é para ser sentida muito mais que compreendida" afirma Cunha, citado por Correia. [10]

O álbum poético assim como o livro ilustrado, vem muitas vezes, acompanhado por metáforas visuais mas também por metáforas textuais que, segundo Ramos (2014 [11]), complementam e aprofundam o universo de leitura dos poemas.

Posto isto, a escolha de um texto poético para a criação do livro ilustrado deve-se ao seu compasso, ritmo cativante e benefícios a portadores de Déficit de Atenção e Hiperatividade, como sugere Barbosa (2022 [12]) "São vários os benefícios que a poesia traz para alunos com TDAH como: facilitar a aprendizagem da leitura, habilidades de memória, o desenvolvimento cognitivo, aumentando o vocabulário e a capacidade de relaxamento e a imaginação.". Também a poesia poderá ser uma ferramenta útil para amainar os pensamentos de quem o lê e, visto que um poema deverá ser sentido – mais que compreendido – retira a pressão, ao leitor, de se esforçar para interpretar o conteúdo de apenas uma única maneira. Um leitor que se identifique com o discurso textual e consiga se visualizar nas imagens, poderá interpretar a história de um modo próprio e individual.

4. Definição de deficiências não aparentes ou *Invisible Disabilities*

Geralmente o termo deficiência é percebido apenas como uma incapacidade física, mas que acaba por ser uma definição inadequada visto que nem todas as deficiências se manifestam de forma fisicamente visível. Aqui inserem-se, igualmente, as deficiências invisíveis ou não aparentes, denominadas por *invisible disabilities*. Estas deficiências correspondem a transtornos ou a incapacidades que impedem o indivíduo de realizar tarefas do quotidiano, devido a doença crónica, fadiga, a alguma disfuncionalidade cognitiva ou a uma visão e/ou audição limitadas [13].

Os livros infantis têm influência no desenvolvimento de competências socioemocionais, nomeadamente no reconhecimento, na expressão de sentimentos e também na empatia. O desenvolvimento da empatia traduz-se, de acordo com Riquelme e Munita (citado por Ferreira e Silva, 2020 [14]), na capacidade da criança em adotar diferentes pontos de vista e na demonstração de preocupação face ao Outro. Desta forma, pode estar associada a uma maior aceitação da diferença e a uma menor expressão de preconceito. Assim, aprender a tratar o Outro com respeito e consideração é uma das aprendizagens mais importantes a ser promovida desde uma fase precoce, na infância. Geralmente, estes comportamentos são adquiridos na escola, ao lidar com outros indivíduos durante as atividades. Contudo, a utilização dos livros pode realçar a mensagem pretendida de um modo mais subtil e eficaz.

Esta abordagem, de melhor esclarecer para compreender, é necessária para estabelecer a inclusão das pessoas com deficiência na sociedade. A inclusão das pessoas com deficiência nem sempre aparece nos livros para a infância e, quando o faz, serve-se da debilitação como um pretexto para uma lição de moral para os leitores, afirma Barnes [15]. Contudo, a representatividade e a diversidade apresentada nos livros ilustrados podem ir para além de um meio de informação, servindo também como uma ferramenta para o aumento da sensibilização e consciencialização acerca das pessoas deficientes. Usualmente, o desconforto e a descriminação gerado ao lidar com pessoas com deficiência deve-se à falta de informação e aos estereótipos criados que podem influenciar o nosso comportamento [16]. Assim, a leitura de narrativas inclusivas, retratadas de forma positi-

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va, é necessária durante o desenvolvimento dos mais novos.

Pode-se afirmar que a literatura inclusiva é necessária para ajudar uma criança a sentir-se representada nos livros que lê. Pode, também, ser uma oportunidade para os leitores experienciar diferentes personagens e estilos de vida, assim como culturas e circunstâncias diferentes das suas, contribuindo para um ambiente acolhedor e no desenvolvimento da empatia.

> "When kids can see themselves in books that they read about, and they read about characters who look like them and have families like them and live like them, they feel that they're a valuable member of a community and a society" [17]

4.1. Transtorno do Déficit de Atenção e Hiperatividade

Inserido nas *invisible disabilities*, podemos encontrar o Transtorno do Déficit de Atenção e Hiperatividade. Transtorno este que foi mencionado ao longo da pesquisa, por ser o tema escolhido para a elaboração do livro ilustrado poético.

O TDAH é um transtorno neurobiológico que afeta significativamente a vida social de crianças, adolescentes e adultos, onde é possível levar anos para uma pessoa recorrer ao diagnóstico durante a infância. De acordo com Lopes (2015 [18]) TDAH em adultos é, geralmente, visto como uma "doença camuflada", cujo sintomas são pouco reconhecidos e facilmente confundidos com outras doenças, gerando problemas de relacionamento afetivo, organização e ansiedade. Deste modo, o diagnóstico precoce e tratamento adequado podem reduzir os sintomas significativamente. No entanto, sintomas como a desatenção e falta de autocontrole ou hiperatividade, são vistos como comportamentos comuns durante a infância e, pode ser facilmente confundido com TDAH. Por este motivo, muitos portadores deste transtorno apenas obtêm o diagnóstico durante a fase adulta, o que implica uma infância resumida em desentendimento e dificuldades sociais.

A ignorância acerca deste transtorno e das deficiências não aparentes em geral, pode gerar um tratamento indesejado para o portador. Esta discriminação perante o desconhecido pode ocorrer em ambientes de trabalho, por pessoas alheias e até mesmo familiares. Segundo o estudo de Kattari (2018 [19]), através de entrevistas a portadores de deficiências não aparentes, muitos participantes afirmaram ser acusados de exagero ou julgados por usufruírem de parques de estacionamento para deficientes, cadeiras de roda, entre outros.

Sabe-se que o ser humano, ao deparar-se com o que se considera diferente, tende a recorrer ao julgamento e preconceito. Este tipo de pensamento interiorizado e pré conceito definido, deve-se à pouca abordagem sobre determinados assuntos e, consequentemente, à falta de consciencialização acerca dos mesmos.

Por este motivo, a escolha desta patologia e a abordagem da mesma, direcionada para o público infantil será de grande valia, servindo também de motivação para o diagnóstico, caso o leitor se identifique com alguns dos sentimentos descritos. No entanto, independente do leitor se identificar, é de grande importância abordar transtornos não aparentes desde

cedo, com o público mais novo. Este tipo de leitura inclusiva e, de certa forma informativa, contribui para a construção de um ambiente acolhedor e acessível para outras pessoas com diversos tipos de transtornos e, possivelmente, gerar maior familiarização com o diferente.

5. Ilustração

O objetivo deste artigo, nesta fase inicial do trabalho do mestrado, é de observar de que modo a diferença e a diversidade, assim como temas difíceis, podem ser tratados no livro ilustrado. Para isso, usaremos, como intuito exemplificativo, as obras *The lost thing* e *Invível* dos autores Shaun Tan e Tom Percival, respetivamente. A escolha destas obras, deve-se à relevância do tema discutido em cada um e, também, aos diferentes métodos de abordagem como distribuição de texto, disposição das ilustrações, tipo de capa e formato.

5.1. Análise de obras

Em *The lost thing*, escrito e ilustrado por Shaun Tan, "a coisa" pode ser considerada como uma representação das pessoas com deficiência, de acordo com a análise de Markotic (2014 [20]). Shaun Tan não explica a natureza da criatura, nem a categoriza, fazendo-se perceber que o aspeto importante na história é o fato da personagem não pertencer a lugar algum e, não, o que ela é. Esta criatura, a quem o narrador chamou de *lost thing* aparenta ser uma combinação entre máquina e monstro com tentáculos; sem se expressar verbalmente, mas que ouve e compreende o que acontece à sua volta. Esta foi encontrada no meio do nada, rodeada de lixo e, apesar do seu tamanho considerável e da cor vermelha chamativa, ninguém se apercebe da sua existência. Mallan, (2005, [21]) sugere que a utilização da estética do lixo representa a desordem e a degeneração, e que esta metáfora utópica serve também como crítica à sociedade atualmente.

Relativamente à sua estrutura visual, a história é repartida quase que como uma banda desenhada, recorrendo à utilização de elementos fechados em forma de quadros (Fig.1 e Fig.2). As ilustrações acompanham a narrativa, página por página, representando o que está descrito. Contudo, apesar do discurso visual seguir um caminho sério e "fechado", a ilustração diferencia-se num ponto específico da história. Quando o narrador e personagem principal leva "a coisa" para um lugar habitado por muitas outras coisas diferentes e não identificáveis, o autor utiliza a dupla página

Fig.1. An AI-generated image of Former President Trump that went viral on the Internet on March 20th, 2023.

Fig.2. The Lost Thing (2000) Shaun Tan. Lothian Books.

Fig.3. The Lost Thing (2000) Shaun Tan. Lothian Books

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de um modo criativo e inverte a posição do livro – fazendo o leitor rodar o livro para ter uma leitura completa de toda a cena ilustrada (Fig. 3). Nesta mesma página, não existe texto. Estas mudanças de elementos visuais e discurso verbal, comunica ao leitor que este é um momento de reflexão, fazendo-se sentir como obrigatório, parar para apreciar os detalhes visuais e, também, o momento em que "a coisa" se identifica, finalmente, com um determinado lugar.

Também no livro *Invisível,* escrito e ilustrado por Tom Percival, aborda a temática da diferença mais direcionada para o estatuto social. O livro conta o relato pessoal de Percival, ao viver uma infância com dificuldades financeiras. Ao longo do livro, a personagem principal, Isabel, muda-se para outra parte da cidade com os seus pais, devido a problemas financeiros. Na cidade circulam muitas pessoas de classe social alta e Isabel, pobre, passa entre elas sem ser apercebida. Por conta da indiferença das outras pessoas e da falta de conhecimento da sua existência, Isabel começa a desaparecer e torna-se, então, invisível. Assim como em *The Lost Thing*, existe aqui, também, uma necessidade de ressaltar a falta de sensibilização com o Outro por parte da sociedade.

Ao contrário de Shaun Tan, em *The lost thing*, Percival divide o texto de uma maneira leve e repartida ao longo das páginas, transmitindo um tom poético à narrativa (Fig.4). As ilustrações contam com menos

detalhes comparativamente às de Shaun Tan, permitindo uma atenção equilibrada a ambos o texto e às ilustrações. Ambos estes elementos se distribuem de modo equivalente ao longo do discurso, não existindo uma representação visual do ponto culminante da narrativa (Fig.5). No entanto, o momento de alegria e de realização diferencia-se das outras páginas ao longo da história, com a utilização de tons saturados e cores quentes. O uso de cores frias e do espaço em branco durante os acontecimentos iniciais, podem transportar o leitor para um estado de espírito melancólico e depressivo (Fig.6), portanto a diferença de tons nas últimas duas páginas indicam um novo ciclo para Isabel e a sua família (Fig.7).

Invível distingue-se de *The lost thing* no formato, respetivamente, horizontal e vertical e na dureza da capa. Percival serve-se da capa dura, o que pode indicar destinar-se a um público mais infantil. Já Shaun Tan, utiliza uma capa comum e elementos visuais mais detalhados. Também a escolha de cores quentes predominantes, como o vermelho, sugerem uma intenção de abranger um público mais adulto. Contudo, ambos os livros podem ser lidos por diferentes faixas etárias. A pertinência do tema das diferenças abordado de modo lúdico e criativo, encoraja o leitor a pensar de um modo menos consciente, contribuindo assim para a consciencialização.

Fig.4. Invisível (2022) Tom Percival. Jacarandá

Fig.5. Invisível (2022) Tom Percival. Jacarandá

Fig.6. Invisível (2022) Tom Percival. Jacarandá

Fig.7. Invisível (2022) Tom Percival. Jacarandá

6. Considerações finais

As leituras efetuadas no domínio da investigação nas áreas da leitura para a infância e do livro ilustrado ou livro-álbum, são fundamentais para a construção do livro ilustrado poético a se concretizar no âmbito do Mestrado em Ilustração e Animação. A partir desta breve pesquisa, entende-se que o livro pode ser um espaço de encontro do Outro e de nós mesmos, ao passar valores éticos e momentos de reflexão. Portanto, com base na pesquisa realizada até ao momento, pode-se afirmar que a leitura para a infância tem capacidade para explorar o emocional da criança, permitindo às mesmas um maior conhecimento e aceitação dos outros e de si mesma. Assim, o livro ilustrado pode ser entendido como uma ferramenta útil para a consciencialização de temas pouco discutidos, graças ao ritmo cativante e à repetição de sons, acompanhado por um discurso imagético onde ambos os elementos – textual e visual – se complementam.

Como foi observado no livro de Percival, *Invisível*, o equilíbrio entre o texto e a imagem permite ao leitor uma abertura maior à reflexão e absorção do conteúdo tratado. Outro aspeto observado e, que se pretende aplicar no objeto prático a realizar, são as metáforas visuais. Shaun Tan faz uso desta ferramenta ao atribuir uma forma - a coisa perdida e indefinida -, a uma determinada situação - o diferente perante a sociedade. Esta abordagem permite um maior leque de interpretação e liberdade entre o leitor e a obra.

Assim, Shaun Tan, ao transmitir a "diferença" através de um ser enigmático com vida, servirá como inspiração para a utilização da personificação de sentimentos como a ansiedade ou desconforto. Outra abordagem a ser adotada no objeto prático, também mencionado anteriormente, será a utilização do vazio por Percival e a disposição poética entre o texto e a imagem, sendo a ilustração predominante.

Deste modo, pretende-se então criar um livro ilustrado poético, dedicado ao TDAH, cuja intenção posterior será a construção de uma coleção futura acerca dos diferentes tipos de transtorno não aparentes. O objetivo principal será abordar temas pouco tratados a nível do livro para a infância de um modo lúdico, em torno das *invisible disabilities*.

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Algumas Notas sobre as Ilustrações de Basquiat em Life Doesn´t Frighten Me (1993)

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[Ilustração / Illustration]

Abstract

Although, Jean-Michel Basquiat (1960-1988) being an unavoidable name in world painting, the prolific body of work he left behind has served, and continues to serve, illustration in various image communication contexts. Despite his premature death, Basquiat remains relevant as an icon of socio-cultural expression. His legacy is permanently recalled by worldwide known brands, such as Reebok, Supreme, and Louis Vuitton; album covers for North American rap; representation of social movements such as Black Lives Matter (Brandão, 2017) and even in illustrated books. Life Doesn't Frighten Me, the picture book selected for analysis in this concise study, was conceived under very particular conditions regarding the selection of the pictorial discourse, having been published for the first time in 1993. According to the attached interview, this is an album-book conceived by Sara Jane Boyers, in which Maya Angelou's poem (1928-2014) coexists with Basquiat's works. This article aims, therefore, to list the main pictorial singularities of this unique artifact, composed of illustrations initially not intended for children, in contrast to other previous analysis proposals that focus mainly on the understanding of the verbal text (McLaughlin, 2019; Spacey, 2018).

1. Introdução

Como é sabido, a área da ilustração é influenciada, a cada momento, pelas correntes vigentes noutros campos artísticos. É de tal modo assim, que a História da ilustração está povoada de obras ilustradas por pintores, escultores, arquitetos, designers, entre outros criativos. Efetivamente, os ilustradores

> (...) need to be mindful of current affairs and opinion and be contemporary with society at large and trends in visual language and media. Illustrators need to have knowledge, understanding and insight regarding the context within which they are working and the subject matter they are engaged with (Male, 2017, p. 11).

Se, ao longo da História se observa que a ilustração foi maioritariamente utilizada com um intuito elucidativo, na atualidade o paradigma é outro: cada ilustração é, desejavelmente, um acontecimento singular e irrepetí-

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vel, que se manifesta pelo Eu e as suas circunstâncias. A singularidade dos sentidos construídos pelo autor da ilustração é indefinidamente multiplicada, tantas quantas as vezes que seja interpretada, e é essa significação que se projeta no mundo e convida o Outro a ler nela os seus próprios sentidos, de acordo com o exposto por Joana Quental

> o potencial de inovação semântica inerente à expressão pela ilustração em design, reside nesta possibilidade de, pela interpretação sensível do texto (...), o autor apresentar atualizações de sentido: impregnadas de gestos e memórias do seu corpo, das suas hesitações e das suas fragilidades, das suas dúvidas, das suas convicções e das contingências decorrentes do processo. (Quental, 2009, p.298)

Assim, esta abordagem contemporânea da ilustração, própria das práticas artísticas, em que ilustrar não mais se limita à representação e resumo do real, integra influências e participações vindas do domínio artístico.

Life doesn´t frighten me, é um destes exemplos, com a excecionalidade da seleção das obras ter sido póstuma, o que estabelece à partida o papel importante da criadora do projeto, Sara Jane Boyers, na escolha das ilustrações, de entre a vasta obra que nos deixou o artista Jean-Michel Basquiat. Para além deste facto, percebemos que a escolha de Basquiat para a criação deste álbum, precedeu e determinou a seleção do poema que acompanha as ilustrações. O álbum em causa será, por conseguinte, analisado sob o ponto de vista do significado resultante da combinação poema/ilustrações e da ressignificação das obras do artista, tendo em conta questões de intertextualidade e peritextualidade.

A pertinência da escolha de Basquiat como ilustrador será investigada sob vários aspetos, como sejam os ligados à correlação que se estabelece entre as expressões artísticas dos autores, por força do contexto histórico sociocultural de cada um deles. Mas também sob os aspetos relacionados com o domínio espaciotemporal em que ocorre a publicação, considerando que a década de 90 foi palco de fortes mudanças socioculturais, com repercussões inevitáveis na prática do *design* e da ilustração. Efetivamente, esta é a altura em que o foco se dirige no sentido da experimentação, da capacidade expressiva e da espontaneidade (Bomeny, 2012, pp. 66-73), domínios em que Basquiat continua a ser icónico e a que a criadora deste álbum, não foi alheia.

2. Contextualização Biográfica e Espaciotemporal de Jean-Michel Basquiat: Referências e Influências

A criação do álbum *Life Doesn´t Frighten me* aconteceu durante as já referidas transformações socioculturais ocorridas na década de 90. Importa talvez lembrar que, no início dos anos 90, por ocasião do surgimento da primeira edição do volume em análise (1993), a área da ilustração permanecia fortemente influenciada pela que foi apelidada de a década do *design*. De facto, " (...) the 1980´s were when design entered public consciousness for the first time and contemporary design begun to take center stage, for reasons both good and bad." (Zeegen e Roberts, 2014, p. 127).

Com o surgimento das primeiras ferramentas digitais, ainda na década de 80, ocorre uma capacidade de edição sem precedentes, levando a uma rapidez de criação e a uma diversidade de estilos e técnicas, que se vieram a revelar características desses anos. Desde o realismo até ao surrealismo, passando pelos neoexpressionismo e abstracionismo, havia um grande espectro de linguagens em franca exploração. Um dos efeitos colaterais desta transformação foi a proliferação da comunicação pela imagem, de modo a incentivar e a tirar partido de uma sociedade de consumo em efervescência, suportada pelo clima de prosperidade que se vivia, pelo que

> advertising agencies went into overdrive at the pinnacle of prosperity during the decade, keen to exploit the public's thirst for all things 'designed'. (...) Adverts in the 1980's presented a world of fast-paced, go-getting, industrious and ambitious individuals; greed was promoted as a virtue and image was everything. (Zeegen e Roberts, 2014, p.128)

Esta conjuntura beneficiou a ilustração como disciplina, já que resultou no início da educação das audiências e levou a que começasse a ser utilizada comercialmente numa gama muito mais ampla de plataformas. Não obstante, a opulência de orçamentos para campanhas megalómanas levou, muitas vezes, a resultados pretensiosos, egocêntricos, pouco eficazes e de gosto duvidoso.

Não admira, portanto, que outra das tendências dos anos 80 seja uma contrarresposta a este espírito consumista, através da inclusão de elementos culturais e políticos em muitas obras de arte. Vários artistas exploraram questões como a guerra, a política, a sexualidade, a cultura popular e *undergound*, usando a ilustração e a pintura para transmitir mensagens provocadoras, de crítica social e política.

Tendo sido reconhecido pelo seu trabalho, precisamente, durante a década de 80, a contracultura é uma constante na pintura de Jean-Michel Basquiat (1960-1988).

O pintor neoexpressionista e *grafiter* norte-americano, foi considerado o primeiro afro-americano a fazer sucesso no circuito das artes plásticas, de Nova Iorque. Nascido em Brooklyn (Nova Iorque), a 22 de dezembro de 1960, era filho de um haitiano e de uma porto-riquenha. As suas incursões artísticas começaram, ainda, em Brooklyn, em 1977, inseridas nos movimentos *underground* e de *street art* (Abrams, 2017, s/p; Sirmans, 1993, s/p) e, dois anos depois de ter decidido deixar de estudar, a arte de Basquiat é apresentada publicamente, pela primeira vez, em 1980 numa exposição patrocinada pela *Colab* (*Collaborative Projects Incorporated*), juntamente com trabalhos de outros criadores, ainda ativos.

Outras exposições com impacto se seguiram, nomeadamente, em Paris e Nova Iorque. Em 1988, tornou-se amigo chegado de Andy Warhol (1928-1987), com quem colaborou numa série de pinturas e, consequentemente, começou a ser aclamado pela crítica nova-iorquina. No entanto, apesar das tentativas, não conseguiu libertar-se do vício da heroína, acabando por falecer a 12 de Agosto desse mesmo ano, vítima de overdose (Sirmans,1993, s/p).

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Basquiat foi uma parte importante do movimento Neoexpressionista, dos anos 80 (com início na década de 70), que primava pelas tendências informais e figurativas (Bomeny, 2012, pp. 66-73), com muita carga de violência, emoção, humor e *bad painting*. Este movimento surgiu como resposta à arte conceptual e minimalista que dominava o cenário artístico de então. Os artistas aderentes acreditavam que a arte deveria refletir as emoções e a subjetividade do autor, ao invés de se concentrar em conceitos intelectuais ou técnicas formais. Consequentemente, predominava a utilização de cores vibrantes e contrastantes, pinceladas vigorosas e gestuais, de modo a criar obras carregadas de intensidade. Na pintura são seus representantes, por exemplo, o pintor e escultor Anselm Kiefer (1945-), que usa uma abordagem neoexpressionista nas suas representações da História alemã, ou ainda Georg Baselitz (1938-),

também alemão, conhecido pelas suas obras figurativas expressivas e pelo uso de cores intensas.

Já na ilustração propriamente dita, encontram-se vários nomes influenciados pelo neoexpressinismo, referindo-se o do britânico Ralph Steadman (1936-), conhecido por utilizar formas distorcidas e gestuais, no seu estilo grotesco e satírico (Heller e Seymour, pp.128-135).

No caso de Basquiat, uma das suas influências, patente nas várias representações de crânios e do corpo humano, é a anatomia, interesse adquirido em criança, depois de ter recebido da mãe o livro *Anatomia de Gray* (Gray e Carter, 1858), durante uma recuperação hospitalar (Frazão, 2021, s/p; Sirmans, 1993, s/p).

Podemos localizar as suas referências mais longínquas em artistas da primeira metade dos anos 20, representativos do apogeu do movimento Expressionista, em várias das suas correntes estilísticas, designadamente Jean Dubuffet (1901-1985), Willem de Kooning (1904-1997) e, especialmente, Pablo Picasso (1881-1973).

Destacam-se igualmente as suas influências diretas, intimamente ligadas ao turbilhão de alterações sociais, que começaram a intensificar-se nos anos 80, e que acabaram por se repercutir na linguagem de muitos artistas contemporâneos de Basquiat. As suas obras evidenciam uma ligação direta com uma cultura de drogas e da música *pop*, por reação à rigidez e ao racionalismo do Modernismo (Sawyer, 2017, s/p).

Deste modo, e como foi apanágio da década de 80, para além do contexto artístico, o seu legado artístico é sobretudo crítico do contexto sociocultural predominante e traz para a discussão assuntos multidimensionais e complexos da sociedade contemporânea, como a luta de classes e todo o tipo de desigualdades.

3. Considerações sobre Life Doesn´t Frighten Me como um Álbum Poético

O álbum ilustrado caracteriza-se pelo protagonismo da imagem em relação ao texto que, no limite, pode nem estar presente, sendo o discurso exclusivamente visual. No álbum, as ilustrações desempenham, por conseguinte, um papel estruturante que vai além da complementação do texto (como acontece nos livros ilustrados), pois estas pertencem "(...) ao sistema de comunicação do livro, uma vez que a mensagem, sob a forma narrativa ou não, se realiza, de forma articulada, por meio de texto e de imagens" (Ramos, 2011, p.25). Com exceção dos casos em que o autor é o criador de ambas as componentes - verbal e pictórica - a autoria dos álbuns ilustrados é partilhada, existindo "um narrador verbal e (...) um narrador visual (...) assim como a construção de uma sinergia ou simbiose entre texto e imagem com a criação de uma linguagem híbrida, resultado da multiplicação de ambas as linguagens presentes" (Ramos, 2011, p.26).

Como refere Rui Paulo Vitorino dos Santos (2015), o álbum ilustrado é um artefacto que absorve e reflete as mudanças sociais, culturais, políticas e tecnológicas do meio em que é criado (Santos, 2015, p.4) e, por isso, um formato altamente mutável no espaço e no tempo.

De acordo com esta inerência, o impacto da atual omnipresença dos meios digitais, longe de desvalorizar o álbum ilustrado, pelo contrário, faz com que este formato prospere, integrando eficazmente a influência da gramática digital.

Esta evolução progressiva, em curso desde a proliferação dos meios digitais, no final do século XX, tem originado alterações formais, literárias e artísticas do álbum ilustrado, bem como transformações no seu público (alvo e alargado) e numa, consequente, valorização da sua importância na produção de literacia visual e verbal.

Sendo amplamente reconhecido pelo seu papel na iniciação estética e agilização precoce de hábitos de leitura nas crianças, o álbum deixou de ser visto como um formato de nicho e minoritário. A crescente visibilidade e o interesse académico sobre álbum ilustrado, desde o século XVIII até aos dias de hoje, apontam-no com um veículo de fruição estética e reflexiva que visa estimular o pensamento crítico, permitindo a autodescoberta e a do mundo em redor (Santos, 2015, p.346), especialmente nas crianças, mas não em exclusivo. Deste forma, este formato

> (...) continua a oferecer um espaço de motivação e experimentação difícil de encontrar num artefacto editorial impresso. Um artefacto que continua a cumprir a sua função tradicional, mas, ao mesmo tempo, revelando-se como um palco para a inovação, que assegura a sua evolução e reafirma a sua importância social e cultural. (Santos, 2015, p.4)

Dada a sua mutabilidade, torna-se difícil reduzir o álbum ilustrado a uma definição ou catalogação dado que o álbum assimila "aspectos e características (temáticas e formais) de diferentes géneros, alguns não especificamente infantis (...)" (Ramos, 2011, pp.26-27).

De um modo cada vez mais assíduo, o álbum integra referências

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de universos distintos, como resultado, em parte, de experimentações pós-modernas, tornando amplo o universo de destinatários e, consequentemente, impossibilitando a demarcação unívoca de públicos. Este efeito é exponenciado pela frequência com que são utilizados jogos de intertextualidade e "intervisualidade" (Ramos, 2011, pp.27-28).

Como procuraremos demonstrar, as particularidades elencadas deste formato, foram conscientemente utilizadas pela criadora de *Life doesn´t frighten me*, ao fazer uso do artefacto como um todo composto de múltiplos recursos narrativos (Santos, 2015, p.333), de modo a veicular as mensagens pertinentes na conjuntura em que foi criado, com eficiência comunicativa.

O livro *Life doesn´t frighten me* categoriza-se como álbum ilustrado em sentido lato, na medida em que texto e ilustrações participam sincronicamente na construção semântica da obra. Apesar de ambas as componentes terem uma pré-existência independente, a sua conjugação determina a criação de um objeto original, com um sentido inexistente até então. Este é, portanto, um claro caso em que a relação dialógica entre as duas componentes discursivas que coabitam ao longo de toda a obra conduzem à descoberta de novos significados, tal como nos sugere Nodelman (1990), citado por Salisbury e Styles (2012): "Nodelman argued that placing words and pictures 'into relationship with each other inevitably changes the meaning of both', so that they are 'more than just a sum of their parts'." (Salisbury e Styles, 2012, p. 90)

Entre os diversos tipos de álbuns encontram-se os narrativos (com ou sem texto, em prosa ou em verso), os poéticos (ou líricos) e os álbuns portefólio (ou catálogo), onde as imagens e os textos se organizam de forma acumulativa e não causal (Ramos, 2011, p. 29).

No caso em estudo, a escolha do texto de Maya Angelou levam a categorizá-lo mais especificamente como álbum poético, já que, mais do que uma narrativa, expressa liricamente sentimentos, emoções e um estado de espírito, sendo uma reflexão subjetiva sobre medo/coragem.

O álbum poético "caracteriza-se pela combinação de um ou vários poemas com uma sequência de imagens, de forma que ambos interatuam na criação de sentido"(Neira-Piñeiro, 2018, p. 56). Esta tipologia de álbum, quando contempla um poema único distribuído pelas várias páginas, é também chamado de álbum poema, por Neira-Piñeiro, ou de poema visual, por Maurice Sendak (1928-2012) (Lanes, 1984, p. 109).

Assim, nas publicações do tipo álbum poema distinguem-se dois subtipos: álbum-poema a partir de texto poético preexistente, e álbum-poema a partir de texto poético criado especificamente para o álbum (Ramos e Mattos, 2019, s/p).

Apesar de o livro selecionado para análise, se tratar indubitavelmente de um álbum-poema, na medida em que o discurso poético de Angelou se reparte ao longo das páginas ilustradas com obras neoexpressionistas de Basquiat, a excecionalidade da sua criação impede a sua associação clara a um dos subtipos supracitados. Ainda assim, no quinto capítulo será proposta uma análise breve da componente da ilustração, numa perspetiva *sui generis* de cocriação.

As abordagens académicas contemporâneas ao conceito de álbum ilustrado definem-no como um formato especial, em vez de um género literário (Ramos, 2020, p.61), na medida em que o *medium* participa na construção de significado: "(...) an entire medium used to tell a story with all the elements: text, illustrations and object." (Ramos, 2020, p.67).

Efetivamente, o álbum em discussão - *Life doesn´t frighten me* - tal como é característico deste formato singular, inclui peritextos que reforçam o entendimento do livro e lhe adicionam camadas de significado. Características como hidridismo e mutação, apoiam a vertente inovadora e surpreendente destas criações através da mistura das linguagens verbal, visual e gráficas sendo de especial relevância semântica as opções ao nível da tipografia e dos modos de encadernação, por exemplo, enquanto veículos de reforço e de ampliação de significados (Ramos, 2020, p.68). A encadernação cuidada, com reforço de tecido em tons de vermelho na lombada estendida e os nomes dos autores em letras serifadas metalizadas, esteticamente próximas das encadernações artesanais clássicas, comunicam sobre uma distinção superior votada, tanto aos autores como aos géneros pintura e poesia que compõem o álbum, aquando das decisões de criação e *design*. Assim sendo, esta combinação em particular de texto e imagens, bem como as decisões de paginação, determinam a forma como esta obra é percecionada.

Um trabalho artístico como o de Basquiat é alvo de merecida admiração, mas se, neste álbum as palavras não interagissem com as imagens da forma surpreendente, pertinente e desafiante, o livro não seria bem sucedido (Salisbury e Styles, 2012, p. 89).

Falando de intertextualidade, este é também um álbum em que os limites entre imagem e discurso verbal são postos à prova, na medida em que o texto tenta uma ponte com a linguagem de Basquiat nas suas obras (que, em muitos casos, integram letras, palavras e frases manuscritas). Estabelecendo uma analogia visual com esta característica do artista, as palavras passam a funcionar na dupla página como elementos pictóricos ou figurativos. Daqui resulta uma combinação verbo icónica que, vista de um modo global, se aproxima de um "texto visual" (Salisbury e Styles, 2012, p. 89), já que

> a apresentação dos poemas neste formato editorial (álbum ilustrado) parece facilitar a aproximação entre os leitores e a poesia, quebrando alguns preconceitos e barreiras que tradicionalmente se interpõem entre ambos, surgindo as imagens e o design gráfico como forma de mediação por excelência. (Ramos e Mattos, 2019, s/p)

4. O Contributo de Sara Boyers na Criação deste Álbum

Idealizado pela ex-agente musical, colecionadora de arte, autora e fotógrafa americana, Sara Jane Boyers, o poema *Life doesn´t frighten me*, de Maya Angelou, escrito em l976/78, é combinado sinergicamente na obra em análise com um discurso pictórico de Jean-Michele Basquiat, sob a forma de álbum poético distribuído por um total de quarenta páginas. Foi publicado, pela primeira vez, em 1993, como já mencionado, pela

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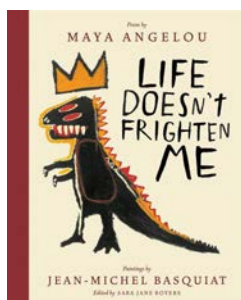
editora Stewart, Tabori & Chang e teve uma reedição comemorativa dos vinte e cinco anos, publicada pela Abrams Books, em janeiro de 2018. Encontra-se traduzido para português do Brasil, com publicação nesse mesmo ano, pela editora Caveirinha.

Não tendo sido possível identificar estudos sobre esta obra, na perspetiva de investigação a que nos propomos, recorremos ao contacto direto com a autora do projeto, Sara Boyers (veja-se a entrevista informal, em anexo).

Fig 2. Capa da edição comemorativa dos 25 anos. (via *Amazon*)

Através da sua resposta a algumas questões foi possível conhecer as motivações e o processo criativo e, com isso, proceder, de forma sustentada, à análise do álbum sob o ponto de vista da ilustração.

Subjacente à criação deste livro está, segundo Boyers, a intenção de produzir um objeto, dirigido quer às crianças, quer ao mediador adulto, que relacionasse arte contemporânea com a poesia e que, subtilmente, evidenciasse o valor destes artistas/escritores.

Este propósito teve como principal motivação a oferta de um volume de evidente posicionamento político dentro do contexto americano, do início da década de 90, relativamente a artistas considerados provocatórios ou subversivos. Assim, trata-se de uma chamada de atenção para uma certa desconfiança recetiva que colocava em risco a atribuição de fundos públicos a artistas e a organizações dos mais variados ramos artísticos.

Sendo a sua formação de base em História da Arte, Sara Boyers, que se movia profissionalmente pelos circuitos das artes, entendeu que Basquiat, seria uma escolha evidente. Apesar de condicionada pelo gosto pessoal, Boyers foi objetivamente direcionada pela força da linguagem artística, pelos temas controversos que o reconhecido criador incorporava na pintura e pela própria história de luta racial e incompreensão social sentida por Basquiat. De facto, embora seja intuitivamente assumido que a autora do projeto procurou no espólio de Basquiat imagens que ilustrassem o poema de Maya Angelou, o processo foi o inverso.

Depois da escolha de Basquiat, Boyers começou a busca pelo poema que melhor dialogasse com o estilo do artista. *Life Doesn't frighten me* destacou-se e, devido à etnicidade e ao histórico de ativista pelos direitos humanos da escritora Maya Angelou, o projeto revestiu-se de um significado sociocultural adicional, desde logo identificado pela criadora, fator que enaltece o referido álbum até aos dias de hoje.

O acesso à obra do pintor, foi, em si, um desafio, já que na altura não havia publicações retrospetivas de Basquiat. Isto exigiu da parte da criadora, pesquisa dispersa de catálogos de exposições, assim como algumas deslocações da Califórnia a Nova York, em visitas à galeria do artista.

O processo de criação do álbum foi bastante artesanal e representativo da experimentação nas práticas do *design* e da ilustração, nos finais da década de 80. Altura em que, ao mesmo tempo que se começavam a manifestar as mudanças significativas da década seguinte, decorrentes do surgimento dos computadores pessoais e de *softwares* de *design*, era

Fig 3. Exemplo de uma dupla página. (via *Amazon*)

valorizada a ousadia e o cunho pessoal (Zeegen e Roberts, 2014, p. 131).

Recorrendo a impressões das imagens e à compartimentação do poema, Boyles testou combinações e sequências até produzir, manualmente, a maquete da disposição final.

Tendo em consideração que o público-alvo seria primordialmente infantil, o processo de seleção de imagens teve necessariamente que ser sujeito à censura pessoal da criadora, já que muito do conteúdo nas pinturas de Basquiat se mostrava inadequado.
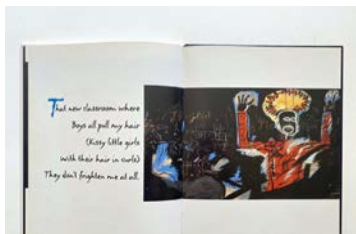
Embora não o tenha feito de forma premeditada, Boyers admite que, pelo facto de frequentar a cena artística de Los Angeles, as suas preferências, tanto no que se refere a Basquiat, como ao *design* final do álbum *Life doesn't frighten me*, possam estar aliadas às tendências vigentes no início da década de 90. Referimo-nos mais propriamente à iconicidade da obra de Basquiat e às reações diversas à revolução digital do início da década de 90 (Zeegen e Roberts, 2014, p. 189) que, no caso deste álbum, se revela muito subtilmente na abordagem dada à tipografia.

5. A Ilustração em Life Doesn´t Frighten Me

Como já se justificou, o álbum ilustrado de tipologia lírica ou poética, *Life Doesn´t Frighten Me* é incomum na sua génese. Se, por um lado, o texto poético era pré-existente à criação do álbum, por outro, a escolha do mesmo dependeu da seleção, *à priori*, do pintor Jean-Michel Basquiat como ilustrador. De outro ponto de vista, apesar desta predefinição do ilustrador e da sua obra, foi o poema - a sua compartimentação intrínseca e a interpretação subjetiva do mesmo por parte da criadora do álbum - a dirigir a sequência, o ritmo e a seleção final das obras. No fundo, é como se o álbum poético *Life Doesn´t Frighten Me* tivesse sido concebido em diálogo colaborativo entre os autores das componentes verbal e visual, por intermédio da criadora do álbum (Sara Jane Boyers). Esta colaboração, resulta, como anteriormente mencionado, num objeto original, onde é inevitável uma releitura do poema, surgida desta nova coabitação verbo-icónica,

> (...) na medida em que a sugestão contemplativa, decorrente da ausência de ligações de tipo causa-efeito ou de sucessão cronológica, transforma cada dupla página numa espécie de verso verbo-icónico, tirando partido das possibilidades do diálogo entre as duas linguagens que compõem o livro-álbum, mas também de tensão entre elas. (Ramos e Mattos, 2019, s/p)

Deste modo, as possibilidades de diálogo estão, muitas vezes, associadas ao confronto, mais ou menos subtil, entre evocações verbais e representações figurativas, como no exemplo da figura 3, em que a figura central desta obra de Basquiat, em alto contraste com o fundo, passa, em associação com o texto justaposto, a ilustrar o/a narrador/a e protagonista do poema, reprentando-o/a como uma personagem, instintiva, imponen-

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te e corajosa. Ou ainda, no exemplo da figura 4, onde a referência a *classroom* se vê representada no que pode ser interpretado como um quadro negro escrito a giz, em pano de fundo, na ilustração.

Fig 4. dupla página do álbum ilustrado. (via *ebay*).

De um modo geral, as obras altamente emocionais de Basquiat, sublimam a tensão já subentendida no texto, entre a postura retórica e o sentimento interior que essa postura deseja combater. A componente da ilustração funciona, neste álbum poético, como um reforço desse antagonismo entre o que é dito (escrito) e o que é sentido, numa clara ampliação da tónica transversal ao poema, assente no enfrentar e superar dos medos.

Na construção desta obra, Sara Boyers votou particular atenção à integridade, no que respeita à relação verbo-icónica a cada dupla página, bem como ao ritmo sequencial da obra na sua globalidade. A atenção cuidada ao ritmo, aliás, estiveram subjacentes, de forma prioritária, durante a seleção das imagens para a composição do livro, bem como na distribuição do poema ao longo das várias páginas.

Do mesmo modo, é possível verificar o esforço na procura da definição de uma unidade gráfica entre a linguagem imagética de Basquiat e o *design* da tipografia, ao longo de todo o volume. Para isso, a criadora recorreu a um *layout* espontâneo, com o texto a mimetizar a caligrafia manuscrita em diferentes tamanhos[3], tal como observado na própria capa. Neste elemento peritextual, a obra *Pez Dispenser* utilizada como ilustração foi escolhida por Boyers e pelo seu editor da altura, devido ao seu carácter emancipador e por comunicar eficazmente com crianças e adultos. De facto, a integração desta representação figurativa de um dinossauro com a coroa de três pontas, tão icónica de Basquiat, com as palavras de Maya Angelou, confere à capa um poder atrativo reconhecido pela *AIGA (The Professional Association for Design)*, através do prémio *AIGA 50 books/ 50 covers*, em 1993.

Apesar do método de criação do álbum ser puramente manual, a premissa vigente do triunfo da experimentação sobre a representação (Doyle, 2019, p.462), posta em marcha pela disponibilidade das novas ferramentas digitais, esteve subjacente às expectativas inerentes ao resultado estético final. Pode argumentar-se, igualmente, que a própria ideia de selecionar pinturas de Basquiat e de as associar a um texto por forma a conferir-lhes um significado sequencial, terá resultado desse caldeirão experimental que se vivia no início da década de 90 e do modo como esse fenómeno condicionava a perceção dos espetadores relativamente à ilustração.

6. Conclusão

As ilustrações deste álbum têm o seu significado intimamente ligado à década em que vieram a lume, bem como à origem de ambos os autores.

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[3] A título exemplificativo recomenda-se a consulta do seguinte link onde é feita uma leitura integral de um exemplar da segunda edição https://www.youtube.com/watch?v=wviha2H-8Mg.

A pertinência de um livro infantil ilustrado por Basquiat tem em tudo a ver com a corrente Neoexpressionista de que foi contemporâneo e que, pelo significado contracorrente, tão bem serve o propósito inicial de Sara Boyers, a criadora do álbum, de contribuir, em última instância, para o despertar de consciências em relação à relevância da arte contemporânea, num contexto sociopolítico que precisamente ameaçava a sobrevivência das práticas artísticas.

A liberdade da linguagem tomada por Basquiat nas suas obras, dá o mote para que graficamente se explorem, neste álbum, as capacidades expressivas da tipografia, assim como um *layout* espontâneo, inesperado e emocional. Consequentemente, a relação texto/imagem fica aberta a múltiplas interpretações, à intertextualidade e à exploração do erro, em consonância com as tendências vigentes na prática do *design* e da ilustração, na década de 90.

Adicionalmente, sendo os autores dos discursos verbo-icónicos do livro, de origens afro-americana (Maya Angelou) e haitiano-americana (Jean-Michel Basquiat), a obra reveste-se de um significado adicional que legitima uma leitura atenta na contemporaneidade. Sublinhe-se o histórico de oposição política ativa de ambos, à discriminação racial e de classes, cada um deles através de uma voz artística identitária. Recorde-se, a este respeito, que de acordo com Alan Male

> illustration is seen everywhere, and its potential and working possibilities are endless. It influences the way we are informed and educated, what we buy and how we are persuaded to do things. It gives us opinion and comment. It provides us with entertainment and tells us stories. (Male, 2017, p. 19)

Assim, apesar de, nem o poema de Angelou (Spacey, 2018), nem as pinturas de Basquiat, terem sido criados tendo em mente o público infantil, a conjugação cooperativa e ousada dos dois discursos, traduz-se numa narrativa sobre a superação dos medos e, numa apologia à coragem, capaz de motivar crianças e até mesmo adultos. Em combinação com as pinturas tensas e urbanas de Basquiat, o poema ganha ainda mais poder. Por outro lado, a qualidade afirmativa do poema medeia e serve de fio condutor a esta sequência específica de imagens. Podemos concluir que texto poético e a ilustração funcionam aqui numa clara ampliação mútua de significados.

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Anexo: Entrevista informal a Sara Jane Boyers

(Introdução espontânea da criadora)

My background is in art and this was an underlying inspiration for creating this book. I was an art history major in undergraduate work and almost all my careers - disparate as they are - are inspired by my love of paintings and graphics. The other element is my interest in political activism and that plays into the creation as well for, at the time I

started to think about this - and I had young children myself - American politicians were complaining about several provocative artists whose work they did not like and because of the work, were thinking of taking away federal funding for artists, paintings as well as theatre etc. So, I decided to do something which ended up creating a book between contemporary artists' work and poetry which would subtly work to show the value and wonder of these artists/writers. So I did :)

LIFE is the first book that I had created/written although I have always had a love of children's books, especially those from Europe where the illustration and graphic techniques were so strong. So, in the early '90s, having "retired" from my first careers - in the music industry both as an attorney and a manager of other recording artists careers, the latter where I myself had used my small graphic talent to promote various musical artists - I felt that this type of book would be the "way in," i.e., reaching both children and their parents. It was also specifically for my own children as well.

Specifically to answer your questions:

#1 - First of all I would like to ask you why Basquiat was chosen. Was it purely based on the sociocultural aspects that connect both authors or was it also a personal choice?

Although most people feel that I found Dr. Angelou's words and then searched for an artist to illustrate or pair with those words, my process was entirely the reverse. I thought about the artists whose work I really liked and Jean-Michel Basquiat, not that well known in the early '90s unless you were in the "art world," which I was, felt like a perfect person. After that choice and before I contacted his father - head of the Basquiat Estate for the artist had died a few years earlier - I started searching for poetry that I felt could be in conversation with the art. It took a little while but when I read Maya Angelou's poem, *Life Doesn't Frighten Me*, that she wrote in 1976/78, it was like magic. That was it.

In that early computer age, I made color xeroxes of various images of Basquiat's art, often taken from an international collection of art catalogues - galleries and auctions - that I had, threw them on the floor; sliced up the lines of poetry and started to select images. Again, without many apps on the computer, I used a cut and paste method to create an original dummy layout. Actually a. lot of fun as it was all tactile. I then used this to find a literary agent - my years in the music/entertainment industry most useful in finding contacts - and acquired a NY agent and then flew to NY (I am in California) to talk to the gallery and ultimately the Basquiat Estate to get their permission to publish this. I similarly spoke to Maya Angelou's agents to obtain the rights to the words.

And no, what drove me to create this book was the art, and then the words, both of which together brought out story, questions and inspired a familiarity with youth and others to venture further into the stories of these and other artists and poets. While there are many sociocultural aspects of the book - the fact that both are African Americans especially - these were not the major parameters for me initially. It was the "conversation," the words talking to the art that I see in museums, in galleries, on private walls. The joining of two conversations to make a third; to ask questions, to raise issues. To me, that is the value of the arts and that is what I had hoped to achieve with LIFE. As well with the second book that I created. that said, as an example of what was achieved I felt was the understanding of these two "artists:" The fact that they were both African American (actually Basquiat's family would be more correctly "Haitian American" for his father was from Haiti and, in fact his mother was from Puerto Rico) was definitely one part of the tale. BUT, they themselves were very different. The broad difference was in generation, in education, in the subject

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matter and presentation of their work. So yes, once I had decided on the poem (for my search for a companion poem had been broad and I had NOT looked exclusively for an African American writer but again, simply to find the right conversation) and it was about the two, there was an additional and important sociocultural basis to discuss. That is what has always interested me. The conversation continues to this day.

The fact that it showcased and brought more attention to African American culture and the gifts they brought to the US "fabric," i.e. our culture and awareness of others and their cultural and societal contributions was important but not the beginning inspiration. The fact that this book was such a success however and brought this to the front was wonderful.

#2 - **Secondly, was this choice influenced by the prevailing trends in design and illustration in the late 80´s and 90's?**

I am an avid reader and I also try to keep up on the arts, again a follower of modern and contemporary art - I was active in the Los Angeles scene- as well as other aspects that interested me. I had long thought of returning to school to get a masters in design which, although some years later when I applied to CalArts for the master and was accepted, I never did attend, too busy with other directions, photography included (which I do professionally at present).

So was I influenced by "prevailing trends?" I am not sure. But, as this was also my first venture into children's books, I wandered many aisles of bookstores, etc. looking for ideas. I was always reading art exhibition and other art related texts. And then, as mentioned I created my own layout. While a professional designer hired by the publisher refined the layout - and won a very prestigious design award for it! (the AIGA best designed books of the Year, only 50 books awarded! - it was basically my layout and I was proud that this happened.

I love playing with art that goes across the gutter, with different sizes and, all the while since I had the privilege of using someone else's art, I was seriously aware that it was important I retain the integrity of each art pieces itself.

Additionally it was important to me that the artist's work be presented with integrity. the work could not be modified, cropped, etc. as Basquiat was becoming a sell known artist and his worked deserved that it be preserved.

#3 - **How was the selection of this particular set of works made? according to what criteria, since Basquiat's body of work is so vast?**

Once I decided upon Dr. Angelou's text, as mentioned, I started to layout color xeroxes along with the text. I had studied what makes up the typical "32-page" spread for children's books so I had the outside parameters of what I could do.

I broke up the text into looking at each 2-page spread as a story line and started to throw imagery at it. All the while, I returned to my own catalogue collection of Basquiat's work, sought out exhibition catalogues from the US and internationally, where he was better known then, and found more and more imagery. I spent time back again in NYC at the artists' gallery looking through more.

A book, as you, an illustrator, no doubt understand, is a story, whether illustrated or no. The story requires all the elements to work. The Basquiat archive then was not only vast but complicated. With the addition of the literary element, Dr. Angelou's poem, the cohesive of each page - text and image - and the continuity of the book was essential to maintain. Each page is important BUT the proceeding of the story requires great consistency from one page turn to the next. The rhythm of the combined story, now one

with BOTH the art and the words, was the requirement of my selection of Basquiat's work. The only other parameter was that since it was initially directed to be a book for youth, although it has crossed over to the adult world for years, I had to employ a bit of personal censorship if the word - or image - content within a Basquiat painting was not suitable for children.

Yes Basquiat's work is vast and because of his drug addiction, he gave away a lot of work and at that point, no real retrospective publication had even started. In English, we would call this a "treasure hunt" that I took on, meaning that one never knows what one might find and in fact, much of it was luck. As well, although legally it was not necessarily necessary (As a lawyer my specialty was intellectual property/copyright) and I had been granted reproduction rights from the Estate) the art world at that time required I go to every collector of an image to gain their permission to use it as well s try to find some good transparencies of the work to go to print. Some were easy to find. Others, I went through the auction houses, Sothebys, Christies, etc. to ask them to send requests to the buyers of Basquiat's work that I intended to sue and they would forward them on.

In fact there was one essential image that I felt extremely important to the story but I could not find either owner of the painting or a good hi-res image of it to use. I was close to giving up when one day one of the curators at Basquiat's gallery - Roger Miller in NYC then - spotted it in a. Spanish auction and I was able to write the auction house and secure the work. It made all the difference.

#4 - **Any story you you'd like to share on why the dinosaur with the three pointed crown for the cover? Was it clear from the beginning? Was that the one essential image that you couldn't find?**

This was not the initial choice for cover I had made .... frankly cannot remember which was the one but I could try to find.

That said, I was lucky to work with my then publisher, Stewart, Tabori & Chang (later absorbed by Abrams Books).

I had asked my agent to send the project to them since I loved their style and the fact that they published so many good European designers/writers/illustrators as well as American. If you remember I mentioned in my previous response that I was captivated by so many European books.

So, as opposed to many of the larger publishers here who, in their children's department, didn't want the author often to even meet the illustrator or designer, I had free rein to be part of the process. This was probably as well since I had made the proposal with the full layout and they liked what I did. So we discussed what would be the most powerful and we all agreed that the painting, PEZ DISPENSER, of Basquiat felt the most empowering but also was very accessible to both children and adults. The decision was thus made.

And no, that was not the "essential" image I referred to. That image, I believe - it's a long time ago! - was another and we were very close to deadline for printing and I received a message from an assistant at the Basquiat Estate' NYC gallery that they had found it, in a Spanish auction catalog. I immediately emailed - very slow in the '90s! - and secured a transparency and their agreement. This was important. Several images could have been replaceable in context but some were not, important to the story and this - even though I've forgotten which one it is - was important.

Visual Novels – Playable Stories and Their Persistence in The Twenty-first Century

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[Desenho/BD · Drawing/Comics]

Abstract

A visual novel is a video game genre that aims to merge literature and interactive gameplay elements. The genre appeared in Japan in the nineteen eighties as a response to the possibilities offered by the hardware that was available at the time, as its static visuals made them a desirable genre for Japanese game designers and developers. Although hardware and technology have evolved over the years, the visual novel genre is still popular (mainly in Japan) to this day. We aim to understand what makes the genre to remain appealing, how it manages to remain relevant and which aesthetic and conceptual changes it had to adopt in order to continue to thrive in the video game industry of the second decade of the twenty-first century.

01. Introduction

Humans have been telling stories ever since before written history began. In prehistory, cave paintings already aimed to depict some kind of imagery that suggested a visual narrative [1]. Peter Brooks, a literature Professor at Yale University claims, in *Reading for the plot: Design and intention in Narrative* that we live immersed in a narrative that is built around our actions, decisions and future aspirations. Stories are something we psychologically need, crave and seek for [2]. A narrative can be defined as one of the most basic forms of human communication, influencing (through story immersion[3]) faculties such as cognition or affect. The main components of the narrative are the characters and the plot. Both are important determinants of the immersive qualities inherent to narrative [3]. Nevertheless, "story" and "narrative" are two different concepts: a narrative is the way a story is told and consists of elements from the story arranged in a specific chronological order [4, 5].

Over the years, stories started adapting their narratives to available media. From spoken tales, to books and, later, to movies, stories evolved in their narrative and the way they could be told and disseminated. Video games are no exception. This particular industry has taken over the entertainment segment and, in the nineties became the largest industry within this field, having nowadays surpassed both cinema and music industries together [6].

3 Story Immersion, or Transportation, refers to the narrative's unique quality of enabling the suspension of disbelief, resulting in a state in which the reader becomes fully absorbed in the narrative world (Green and Brock 2000).

Videogames come in all sorts of genres and can feature a vast panoply of different types of gameplay. A Visual Novel is a video game genre that heavily relies on the use of text to convey a narrative, while taking the shape of a piece of interactive fiction[4]. Therefore, it consists of a game that adopts a 2D environment composed by 2D *manga*-stylized characters on top of a 2D backdrop (background), with text boxes underneath. The player's job is to accompany a story through text, images, music and sound effects. In certain key moments, the user is invited to decide the path the story will take by commanding the protagonist's actions, which will change the plot according to the choices made. This video game genre is closely linked to the bond that is created between the players and the characters and their respective stories, therefore putting a large focus on the players' emotional investment attained through how the story pans out and the affective return they experience from these virtual interactions [7, 8].

02. Visual Novels: Stories You Can Play

The concept of "Visual Novel" emerged as part of the Japanese anime and manga culture and, to this day, it is still a thriving segment of the video game industry, mainly in Japan (the country being able to produce and re-lease four visual novel games in a single month) [9, 10, 11]. A visual novel stands out from other game genres through its branched and interactive narratives whose development depends on the player's interaction with the game's plot. This makes the "visual novel" genre an event of partici-patory nature, that resorts to the player's productivity and input in order to weave and manipulate the events that constitute the narrative, thereby making it possible to circumvent various constraints imposed by video games that feature linear narratives (solely designed by the game authors, hence accepting no input from the player) [12]. As it has been previously mentioned, characters play a key role in this video game genre and, more often than not, these story branches focus on how the relationship with these characters is weaved. In frequent cases, romance is present, therefore the relationships between the protagonist (whose role the player assumes) and the characters are developed in that sense. In consequence, these allow for exploration of the many sides and nuances of the possible relationships within the narrative [13]. Visual novels may ask the player to solely accompany and participate in the narrative through its text and graphics but, sometimes, they also include segments of minigames, that can, for example focus on puzzle-solving situations or require the player to complete rhythm game sequences (*e.g.: Princess Debut*, Cave, 2008). The use of minigames interleaved with the textual side of a visual novel gener-ally helps making it more captivating and engaging to the player [14].

It is also important to mention that a visual novel is not, by all as-pects, a simulation game. A visual novel can be taken as an RPG[5], since the player assumes the role of the protagonist (which is a defining trait of

4 Interactive Fiction denotes the fusion of "interactivity" and "story"— presupposes that the audience must intervene and involve itself in the weaving of the plot, elevating it to the status of "game".
5 Role-playing game.

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RPG games). Moreover, one of the genres that preceded the Adventure RPG was the Text Adventure game, a text-based game that assumed the form of a piece of interactive fiction, that required the player to participate in puzzle-solving challenges and treasure hunts through storytelling techniques that aimed to maximize the players' engagement. These games proved that written language was a powerful and important aspect of games [15]. Nevertheless, Visual Novels can come in many subgenres, and around half of them focus on romantic relationships between the game's character and the protagonist (e.g.: *otome game*[6], *bishoujo game*[7], *eroge*[8], *boy's love*[9]). However, it is wrong to assume that all Visual Novels inherently are a dating sim. There are video games that can be categorized as Visual Novels that have little to no focus on romance.

In a Visual Novel, the player is invited to actively participate in the narrative, rather than simply reading the panels presented to them. Dani Cavallaro also adds that *"as a form of interactive fiction, the visual novel overtly calls upon the players to participate in the production of the text as integrated agents"* [16]. Therefore, visual novel games were able to establish themselves as a game that mainly focused on the narrative and whose visuals consisted of generic backgrounds with character sprites[10] on top—an aesthetic that became known as "Theatrical Storytelling". This is the characteristic that distinguishes Visual Novels from other game genres that can be considered identical in terms of how the player positions himself/herself in relation to the videogame, such as RPGs or Simulations. Visual Novels strictly obey and follow the theatrical storytelling format, whereas simulation and/or RPG videogames are not by any means restricted by this visual format, therefore being more abridging in terms of visuals, user interface, gameplay and type of interaction.

02.1. The Visual and Auditory Aspects of a Visual Novel Game and Their Role Behind Immersion

The immersion phenomenon is what makes Visual Novels so appealing to their players. Immersion was defined by Murray as the experience, often pleasurable, of being transported to a simulated location, allowing the self to have the sensation of being surrounded by an alternate reality that claims all the self's attention and perceptual apparatus [17]. Therefore, when applied to the context of video games, immersion can be described as the sensation the player experiences as being part of the virtual world promoted by the game, this is, the involving nature of game play [18, 19]. It is responsible for affecting a person's perceptual apparatus, causing a feeling of belonging because the interaction with the world where the individual is

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6 A game where a female protagonist gets to develop a romantic relationship with one of the available male characters.

7 Visual novel where a male protagonist has the chance to simulate a romantic relationship with *anime-looking* female characters.

8 Visual novel that features erotic content.

9 Abbreviated as BL, visual novel that focuses on the development of a relationship of romantic nature between two male characters.

10 Computer-graphics term referring to two-dimensional bitmap integrated into a larger scene that often tends to be a 2D video game.

"immersed in" feels non-mediated, leading the person to feel like they are inside the world created by, for example, a computer, instead of just using it [20]. There are several ways to achieve feelings of immersion: for example, reading a book or watching a movie can already promote this sensation. The factors that trigger this process are the same among these situations. Immersion is based upon cognitive processes that sustain sensory perception [21]. When a certain video game's core is based on textual passages, it is safe to say that the text can deliver a level of immersion comparable to that delivered by a 3D-based video game, since immersion is a result from the narrative, from the possibility to interact with the plot and from the bonds established between the player and the Visual Novels' characters [22]. In this sense, visual novels can be highly immersive and, therefore, appealing, since their notoriety and their distinguishing factors lie on their plot and on the possibility that the player has to interact with it, allowing them to place themselves as part of the narrative.

Visually, a visual novel follows the theatrical storytelling format. This genre features static but visually complex and detailed backgrounds, usually in vibrant colors, that aim to depict the scenery where the action is taking place, often being recycled during the game. On top of these backgrounds, there are static or animated sprites (animated sprites can be achieved through the use of Live2D[11], for example) of the characters that the protagonist is talking to or interacting with. These sprites usually portray facial expressions that match the dialogue and/or mirror what the character is feeling. These visual elements are accompanied by a text box, where the text shown can be either a description of the setting or the situation, dialogue snippets or the protagonist's thoughts or inner monologues [23]. If the game is garnished with voice acting, the text that appears in the text box can work as subtitles to what is being said by the characters [24]. Most visual novels represent their characters actions in a particular manner: they suggest that a certain situation has occurred, but it is never directly depicted or represented: it is generally described through textual passages. In certain moments of the game, the visuals of "background with character sprite on top" are replaced by detailed images, called CGs[12], that depict the moments described by the text, aiming to give a more cinematic feeling to the game and to potentiate immersion [25].

Fig. 1 Left: screenshot of the game *Bustafellows* (2019, Extend), illustrating the Theatrical Storytelling format (in *https://ladiesgamers. com/bustafellows-review/*); Right: Screenshot of the game *Bustafellows*, depicting a CG (2019, Extend) (in *https://jpgames. de/2021/03/otome-visual-novel-bustafellows-erscheint-in-einer-collectors-edition/*)

11 Live2D is a technique of generating dynamic 2D graphics frequently applied to *anime*-style characters, while preserving the original 2D charm by using layered and continuous parts (based on a single illustration).
12 Term that refers to the primordial days of Visual Novels in Japan and it literally means "computer graphic." In this sense, it generally refers to bespoke pieces of artwork that are used to accompany specific scenes in a visual novel narrative (Kuiper 2017)

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Character design plays a key role in visual novels, as they are the game assets that create and shape the visual novel's identity. The characters the player interacts with during the playthrough of the game help stimulating the user's imagination and, in this sense, allow the possibility of establishing an emotional connection with the game, deepening the feelings of immersion experienced during playtime. Moreover, the way colors, contours, shapes, light and shadows are used in a character's design can tell the user a great deal about the character's personality, likes, dislikes, quirks, feelings and emotional state. The same happens with character's posture, clothing accessories and range of facial expressions [26]. These details let the player better grasp the narrative through visual cues (interpreted according to the human perception of lights, shadows, shapes and so on) easing the process of navigating the plot through the choices that are expected to be made through the game.

It is important to mention that, besides the sprites of the cast, backgrounds are extremely important and powerful to the conception of a visual novel: are able to convey notions of space and time through illustration and, therefore, actively help immersing the player in the narrative. Backgrounds occupy the most space in a visual novel's visual space. In this context, visual space refers to everything that can be seen on the screen where the game is being played (be it a computer, mobile or gaming console screen). While the notion of space is achieved through the visual portraying of scenery elements, the feeling of time can be incorporated through the correct use of light. This allows for the player to better grasp the surroundings of the narrative without it having to resort to textual descriptions, providing some sense of "*Show, Don't Tell*" [27]. This said, both what is represented and the kind of ambience that is created through the use of light can tell the player a great deal about the characters they are interacting with. Dimmer settings can trigger uneasiness and create tension while brighter, more ample locations usually set the mood to be chirper and more lighthearted. In this case, both elements are used to, according to semiotics, signify elements such as individuality, values, lifestyle, feelings and desires. Thus, backgrounds are not just a scenery, but they convey meaning and let the player learn more about the narrative through visual representation [28].

Not only do character sprites and backgrounds help achieve higher levels of immersion, but background music and sound effects also play a big part as well, making music and sound features of extreme importance in Visual Novel games as they aid in the process of arising an emotional response from the player [29]. Being intercultural concepts, they act as a tool even more compelling than spoken or written language by being able to create images, hence triggering certain emotions and feelings that do not need to be learnt and archived in memory beforehand to be understood or experienced [30].

02.2. A Response to the Possibilities Offered by the Hardware

Back when computers and game consoles emerged, the creative possibilities were highly limited due to the hardware constraints, such as low data-storage and processing [31].

Before visual novels became known as a video game genre, interactive fiction dominated the market presenting several options of games that focused on the narrative. Robert Ciesla presents ELIZA (1966) as the great grandfather of the visual novel genre and *Colossal Cave Adventure* (1975) as the grandfather. Some examples presented by the author as titles who preceded and paved the way for what we identify today as a visual novel include the *Zork* series (1977-1993), the *Enchanter* trilogy (1983-1985) and *Planetfall* (1983) [32].

Visual novels surged in Japan when Enix (nowadays known as Square Enix) released *The Portopia Serial Murder Case* (inspired in titles such as *King's Quest, Sam's Space* and *Mystery House*) in 1983, for the Japanese computer NEC PC-6001. This marked a first attempt of introducing the Japanese citizens and market to a new type of game focusing on narrative. The game was later adapted for NES[13] by Chunsoft (1985) [33, 34]. Thus, in Japan in the eighties, before consoles took over the video game industry, the personal computer was widely accepted as a powerful gaming platform and the visual novel was a highly desirable genre. This happened due to the fact that personal computers already offered screens with a considerable resolution, but their hardware was lacking (since it was missing hardware properties that were available in consoles of that era, such as the Famicom[14]) which made it difficult to develop action games, featuring a lot of movement, to be played on personal computers. This made visual novels seem very appealing because they allowed the game to focus on the narrative through the use of text while remaining mostly static, allowing developers to take profit of what the hardware available in the eighties was lacking. These games developed in Japan were known to be identical to western titles like Mystery House (Sierra Entertainment, 1980), but they gradually transformed into something that could be compared to interactive storybooks, which made them become commonly known as visual novels [35].

Fig. 2 Screenshot of the game *The Portopia Serial Murder Case* (1983) (in *https://vndb.org/v4511/*)

The game's visual aspect gained importance both for narrative development and to help the player solve the puzzles he was confronted with over the course of the game. In addition, *The Protopia Serial Murder Case* already used the style that characterizes the visual novels of today - sprite on background.

Through the years, visual novels started to drift apart from text-based games that required the player to merely solve puzzles, to pay more attention to the actual narrative. Although the concept of the game's plot and gameplay shifted, the visual organization remained unaltered. The first visual novels to appear after *The Protopia Serial Murder Case* resorted to individual panels (inspired by manga's aesthetic) to tell their stories,

13 Nintendo Entertainment System
14 Gaming console released in Japan, in 1983, named "Nintendo Family Computer" (commonly abbreviated as Famicom)

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aiming to allow the player to experience a certain feeling or emotion the same way they would experience it if they happened to be reading a comic strip or *manga* book. Two examples of games that followed this paradigm are: *Snatcher* (1994) and *Metal Slander Glory* (1991). However, this visual model would not allow for the flexibility that exists in visual novels produced today. Due to technical limitations of the available hardware, the artist could not change characters between scenes and the color palette showed inconsistency sometimes (it would not be in tune with the time of day represented, for example). Thus, due to these limitations, several of the visual novels produced at this time resembled manga or comics due to the rigidity of their panels.

In this context, *Tokimeki* Memorial was released in 1994 by Konami, and revolutionized the paradigm and aesthetics of visual novels. This game was the first of the genre to assume and embody the characteristics of what nowadays we know as a dating sim visual novel, while being visually presented through what was previously described as Theatrical Storytelling. This is characterized by static backgrounds that depict mundane situations combined with sprites whose vast array of expressions varied in order to match the narrative or the dialogue. In *Tokimeki Memorial*'s case, the player (assuming the role of a male protagonist) was invited to manage his romantic relationships with the cast of female characters that the game had to offer. The choices the player made throughout the game aimed to influence the narrative by determining which girl the protagonist would end up with. As *Tokimeki Memorial* proved to be successful within the video game market, the franchise produced more games, the most recent one being *Tokimeki Memorial*: Girl's Side 4th Heart, released in 2021 for Nintendo Switch. Besides several games, the franchise was also adapted to *anime* and *manga*.

In this sense, *Tokimeki Memorial*'s gameplay affected the visual composition of visual novels, influencing the aesthetic and the art of future titles within the genre.

Some titles (for example, *Sakura Taisen* and *Revolutionary Girl Utena: Itsuka Kakumeisareru*, both from Sega) tried to make their visual novels play like they were being watched on television by making them look like a Japanese animated series (anime). However, this has failed, and Theatrical Storytelling is still the aesthetic followed by visual novel games up to this day, despite the fact that it has been several years since the first *Tokimeki* game came out.

Fig. 3 Screenshot of the game *Tokimeki Memorial* (1994), the first visual novel that resorted to the "Theatrical Storytelling" aesthetic (in *https://vndb.org/v19*).

0.2.3. Visual Novels of the Modern Day

With the turn of the century, technological limitations that had previously been experienced were finally out of the picture as computers grew more powerful and consoles were created in order to support full 3D immersive games. The new millennium brought upon players the possibility

to participate in simulations of real life through 3D games (for example, *The Sims* franchise) or to be part of a 3D parallel universe interconnected across the globe, where all the players were part of the same community and could communicate and play together in real-time over the internet. This brings forward the main question that this paper seeks to answer — How could text-based and narrative centered games still be relevant in the twenty-first century, when all of the above is now possible?

As mentioned previously, the visual novel genre took off commercially in the eighties but, in this day and age, the genre still has plenty of titles being released each year in Japan and counts on a large number of dedicated fans and followers. Visual novels are relatively simple and easy to produce, involving low production costs, due to the framework they follow. However, the same popularity is not found in western territory, particularly in Europe and the United States. This problem can be justified by the cultural and educational differences of the population - visual novels entail a large investment of time reading textual passages and do not offer immediate satisfaction, which is characteristic of games produced by western companies (e.g., first person shooter games) [36, 37, 38]. Despite this fact, visual novels originally developed and produced in Japan are getting localized faster than in the past. The speed up of this process can only mean one thing: as the Japanese pop culture proliferates in the west (mainly Europe and America), the demand for more content by the fans grows more intense. If the localizations of visual novels are happening faster in the present day than in the past, it can mean there is a growing interest in the visual novel genre in the West, be it because of their branching-path narrative properties, or because of the link this genre shares with the anime and manga universe. This is making visual novels more readily available to be played by the English-speaking population, and therefore, it is possible to conclude that the genre is growing in popularity in the West [39].

One example of a Japanese visual novel that achieved success in the west is the *Danganronpa* franchise. The main *Danganronpa* games (*Danganronpa Trigger Happy Havoc*, 2010; *Danganronpa 2: Goodbye Despair*, 2012; *Danganronpa V3: Killing Harmony,* 2017) were created and developed by Spike Chunsoft and can be characterized as visual novel games that merge investigation segments and other minigames with their lengthy narrative sequences. Visually, the games primarily use 2D artwork for the character sprites, occasionally making them look like 2D cutouts inserted in a world that resembles 3D, despite being, in fact, 2D. This technique usually receives the name of 2.5D and became one of the trademark aspects of the *Danganronpa* franchise [40]. The game follows a group of students that are locked up in a specific place (for example, in *Danganronpa Trigger Happy Havoc*, they are locked inside a school) and, in order to be allowed to leave, they must commit the perfect crime. The game then follows the investigation and solving of the various murders that happen throughout the game. The player is invited to read the story, that adopts a visual novel format, and in specific moments of the game, the user has to investigate the crime scene, talk to other characters and then participate in "Class Trials", where the player has to partake in a series of minigames that aim to uncover the truth behind the murders.

As Crawford and Chen point out, visual novels must evolve if they still want to remain relevant as a videogame genre in the future. This said, the *Danganronpa* franchise attempted to put that to action by developing a VR visual novel demo game – *Cyberdanganronpa VR: The Class Trial* (2016, developed for Playstation VR). Despite still being labeled as a visual novel, this game discards the use of text boxes to present the narrative, opting for speech bubbles that are delivered through monitors that extend downwards from the ceiling. There is also a segment of this game where the player is invited to "shoot false phrases" (this is also a common minigame that is part of the classic *Danganronpa* games) but, being VR, this somewhat assumes the characteristics of a first-person shooter video game [41].

Nevertheless, besides the countless titles that are released in Japan (and surrounding Asian countries) each year, the West is also producing some visual novels of their own. In 2017, "*Doki Doki Literature Club!*", by Team Salvato, took the universe of indie free games by storm, having

Fig. 4 Left- Screenshot of the game D*anganronpa: Trigger Happy Havoc* (2010, Spike Chunsoft) (in *https://www.mobygames. com/game/danganronpa-trigger-happy-havoc/pro-mo/promoImageId,2861/*); Right: Screenshot of the game *Cyberdanganronpa VR: The Class Trial* (2016, Spike Chunsoft)
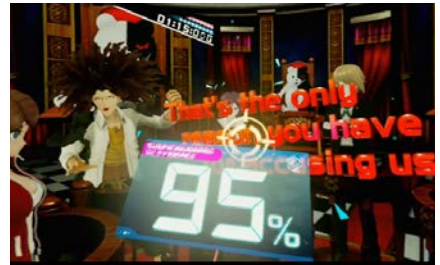
been downloaded in the tens of millions. This game was designed in order to appeal to both anime enthusiasts and non-enthusiasts and counts with a dark psychologically dense plot behind the colorful and cute anime-like visuals [42]. It is also relevant to point out that, because the visual novel is a genre that emerged in Japan, it is common that west-produced visual novels follow the same visuals and aesthetics as Japanese ones, this is, they embody the "manga-esque" visuals that characterize and are commonly associated with the genre [43].

The lead programmer Dan Salvato also states that the visuals that seem to be mismatched with the density and complexity of the plot serve as a satire to the light, cute and cheerful aesthetic usually found within the visual novel genre [44].

It is plausible to affirm that, all in all, visual novels are still a popular video game genre, despite the fact that there is no longer an evident need to resolve hardware obstacles. Now, it is important to understand the main reason why these simple video games still manage to achieve that.

Fig. 5 Screenshot of the game *Doki Doki Literature Club!* (2017, Team Salvato) (in *https:// vndb.org/v21905*).

0.2.4. What Makes Them Worth Playing and Still Relevant

Visual novels are still thriving as a genre, mainly in Japan. What makes this video game genre captivating is the way the narrative is able to immerse the player by the power of words alone due to their visuality.

Thus, the role of language answers the concept of immersion and focuses on selecting objects from the textual world and transporting them to the user's imagination universe, where they acquire a fictitious presence and are part of a certain context, integrating a scenario, thus gaining a life of their own. Such will contribute to generate a feeling of full immersion, due to the interactive and nonlinear characteristics of the narrative present in a visual novel game [45]. Moreover, in visual novels, the players assume the role of the protagonist. Immersion plays a key role in this fact, since it helps delivering affirmation of identity and, more often than not, visual novel players seek to identify with the narrative, looking for a form of escapism, which can be attained by immersion - the feelings of belonging to the world of the visual novel [46, 47].

Robert Ciesla explains that visual novels are immersive because the reader's imagination is stimulated and, therefore, set free while in contact with the written narrative. He explains that such as 3D graphics (that are usually perceived as strongly immersive), words are information. While the 3D graphics offer the full visual experience, words require interpretation and therefore open the doors for the reader to use their imagination. More often than not, it is common to feel that reading a book is pretty much watching a film but inside your head. Visual novels offer this chance, as most of the action is described through words instead of being shown, but the character sprites and the backgrounds help the player build the setting inside their head, leaving the rest up to their imagination (how the action plays out beyond the imagery provided by the video game). And, as mentioned previously, because visual novels offer an open invitation for the players' imagination and input to play a key role, this video game genre is considered immersive and this is why it still appeals to users [48].

According to Crawford and Chen, visual novels on their own can be seen as immersive as VR environments, although immersion is achieved through different factors: while 3D environments, like those that can be found in VR games, manipulate and stimulate the players' senses, visual novels usually try to appeal to the players' emotions, therefore toying with their feelings through psychological manipulation, instead of sensory. The authors also state that "*to prevent visual novels falling into the same disregard as (...) interactive fiction, they must be willing to adapt their features to fit the possibilities given by the latest developments in technology*". This means that it is possible for visual novels to evolve and enter the VR realm, in order not to fall into oblivion. For this, they must adapt themselves, instead of solely replicating what can already be found in regular visual novels (2D graphics) to a VR context. VR visual novels using 3D graphics and animation might be just the future for the genre. It is also important to resort to more animation sequences as well as implement more situations where the player gets to directly interact with a game [49].

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03. Conclusion

Interactive fiction paved the path for the emergence of text-based adventure games and, later on, visual novels. Unlike its predecessors, visual novels stood strong through the years, having adapted themselves, building their own space in the video game shelves in the West. Such may have happened due to the growing popularity of Japanese pop culture among fans from Europe or America. However, Visual Novels as a genre are still highly underexplored in an academic sense, which results in a considerable lack of publications and bibliography in the English language. Such can possibly be attributed to the fact that they are a very specific and niche video game genre emerged from a culture other than ours.

Nevertheless, in order to keep the genre from falling into oblivion or from being overshadowed by the emergence of VR 3D-based immersive games or other genres that offer quicker satisfaction to the player, it is crucial to give visual novels the space they need to evolve and adapt to the nonstop technological evolution we experience each day.

Moreover, visual novels are considered immersive as narrative text-based games, since stories are something that humans inherently need and, by coming in contact with a narrative, the player is psychologically and emotionally stimulated, which allows the user to be immersed in the narrative's universe because of his feelings and emotions, instead of experiencing immersion through sensory stimuli. Thus, these emotional stimuli can come from the text composing the narrative itself, but also from the sprites of the characters and their designs, from the backgrounds and their representation of space and time, from the soundtrack and from the employed sound effects. In conclusion, visual novels still persist due to their immersive properties.

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Historical genre comics: comics as an additional educational tool in classrooms

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Abstract

There was experimentation with comics as an additional educational tool in school and university classrooms for quite some time. However, most of these studies fail to provide tangible findings proving how comics can be more efficient than alternatives as a communication-educational tool. The aim of this article is to increase knowledge on how historical genre comics can be successfully used in secondary school history classrooms. The author of this article presents data and insights gathered through the focus group method used with four different groups of high school students – two groups of each 10th and 5th graders. Findings indicate that comics of the historical genre help students to understand the past better, identify with the people of the period, and attractively present historical events. Finally, the article concludes with a discussion on what further research should be implemented to answer how best to use comics as an additional educational tool in school classrooms.

01. Introduction

The idea of using comics as an educational tool is not new in communication and education sciences. This fascination with comics as an additional educational tool is grounded on a few observations gathered over the years. The first factor is the perception of comic books as more entertaining than textbooks, especially among school-age readers. Thus, the information provided in comic book format has greater potential to capture and maintain the student's interest [1], [2]. Secondly, there is strong empirical evidence that when scientific comics are presented through personal narratives (which are easier for readers to identify with), it significantly improves understanding and recollection of instructions and data [3], [4]. Furthermore, Boer [5] argues that the comic book medium fosters pauses and ambiguities that heighten emotional impact and educational value. However, rigorous research with high school students is necessary to fully understand how comic media can be used effectively and successfully in classrooms.

Yet, there is still a considerable knowledge gap on how comics can be best used in the classrooms or what particular educational benefits they can

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bring to the students. This situation is not unexpected since research with children is strictly regulated and must meet the highest ethical standards. It is precisely because of this situation that studies in classrooms are usually conducted by educators themselves, whose participation in experiments makes the data obtained during the study not very reliable [3], [6].

Interestingly, since the birth of the comics medium, attempts have been made to use this artistic expression as a substitute for historical textbooks. Yet, historical comic works often fail to achieve their goals. Syon [7] suggests that this happens because when the historical comic takes too little distance from textbooks and becomes just a shell for key historical events and phrases, it loses the element that fictional stories set in the past have in order to mesmerise the youth. But, as Nedzinskaitė-Mitkė [8] argues, that comics of the historical genre have creative powers that are exceptionally well suited to tell narratives of epic scale visually and, by employing medium's one of the most important creative communication tools – stylisation – comics can tell visually compelling stories. However, further studies are needed to identify methodologies on how best to approach comics of the historical genre to use them as supplementary education curricula.

The author of this article, during the 2021-2022 academic year, in cooperation with one of Vilnius high schools, conducted focus group interviews with school students (fifth and tenth graders) in order to identify how comics of the historical genre can be used as an additional educational tool. To be able to compare how comics can help students to identify with historical periods, a control group was used in both grades. The results show that groups that read comic book could identify significantly better with the motives of fictional characters of the historical period. Furthermore, groups that read the comic book could identify much better the correct reasons for some particular historical events to start as opposed to control groups that presented only an artificial understanding of the causality of the events.

02. Literature review

The idea of using comics as an additional educational tool in classrooms is not new and has been discussed extensively in the past [9], [10], [11]. The first studies that examine this possibility can be found as early as 40s [12], [13]. Subsequent academic research goes further and raises ideas about the use of comics as a means of communication in scientific and cultural institutions (e.g., museums) [10], primary [14], [15], and secondary [16], [6] schools and higher education institutions or even in separate scientific information publications [17]. It is necessary to note that several textbooks have been published in the USA in comics format. Also, doctoral science theses in comics format have been defended. Thus, the idea of using comics as an additional or main educational tool is not new.

However, Wallner and Barajas [6], after reviewing 55 texts (research articles and doctoral theses) on comics as an educational tool, argue that there are still considerable knowledge gaps on this topic and that more studies in an educational context are needed. Wallner and Barajas [6] also identified that most studies focus on students' reading preferences regarding comics

rather than, for example, what they learn by using this particular medium. And in this regard, while most studies confirm that students enjoy comics, this is hardly a novelty. Farinella [3] noticed that a lot of this research is done in the classroom by teachers who are also comic book authors, with a small and possibly biased sample size. Therefore, Farinella argues, 'while comics have been studied as a tool for classroom education, their application to the specific challenges of science communication remains largely unexplored' [3]. Thus, the answers to such questions as "If comics became regular school reading, would students' interest in them fade?" and "Should we focus on the readers, the materials or on both?" [6] are very important in order to close the knowledge gap as opposed to another study that would confirm that students in university and school are happy to choose comics as an alternative (given a choice between this medium and a conventional textbook).

The comics as an additional educational tool still lack a holistic generalisation, with most studies stressing that they are only review studies and stating that further research is needed to identify any patterns. The biggest concern is that it is still unclear exactly how effectively comics can be used in education [19]. Furthermore, there is almost no research to show whether the medium of comics helps to absorb information more effectively than alternatives. In other words, although previous researchers firmly believe in the comics medium's potential, they rarely present any tangible evidence of how or with what teaching methodology it could yield measurable positive results. Thus, although the topic of comics as a potentially very useful communication tool for educational purposes has been presented quite often in academic texts, there are still a lot of unanswered questions regarding comics as an educational-communicational tool.

Finally, since the researchers of this article used the focus group method for data collection, it is very important to consider the advantages and challenges of this research approach. This method is favoured when researchers want to get insights from respondents that only debate within the group can provide [20]. Focus group methodology can be regarded as a specific research method within qualitative methodology with its form of methodological criteria and procedures [21]. Therefore, a focus group is a type of in-depth interview accomplished in a group whose meetings present characteristics defined concerning the proposal, size, composition, and interview procedures [22]. One of the key elements of this approach to data gathering is an active interaction in the group [23]. It is important to address that the participants influence each other through their answers and expressed ideas, insights, and perceptions during the discussion. The interviewer directs and stimulates the discussion with comments or additional questions. Usual data-gathering approaches are transcripts of the group discussions and the interviewer's notes and reflections.

The term "focus" is important as it emphasises that the discussion conducted in the group has a precise topic of interest rather than broad subjects [24]. And as Masadeh [25] points out, the primary goal of focus group sessions is not to generalise but simply to help develop a set of questions to be asked in the subsequent questionnaire. Thus, the focus group is an exploratory method in its nature. This technique is particularly useful when the topic has been minimally researched [26].

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03. Methodology

This study's first and most important challenge was obtaining permission to conduct research experiments with minors. The author of this article first contacted the school, and after obtaining preliminary consent to cooperate with the experiment, the necessary contracts with the educational institution were prepared and signed. Finally, additional information was prepared and sent to the student's parents to familiarise them with the scope and aim of the study. It is important to note that the researchers previously did not work in the school or with it in any capacity or form and, thus, had no previous relationship with the students.

Coordination with history teachers was needed regarding the selection of grades that were the best for the study. Since the comic of the historical genre, which was selected for the study, portrayed the Lithuanian Wars of Independence at the beginning of the twentieth century (period of 1919-1920), only those grades that had a discourse on Lithuanian history could participate in the study. Therefore, only fifth, tenth and twelfth grades could participate in the experiment (other grades were learning world history). However, because twelfth-grade students usually undergo intense preparation for the final year exams, it was decided not to interrupt their studies and exclude them from the experiment. Therefore, two grades were selected for the experiment. It is important to note that by choosing two different grades, researchers also had an opportunity to test at what students' age comic books as a medium is more effective as an additional educational tool.

Fig. 1 Comic book used in an experiment
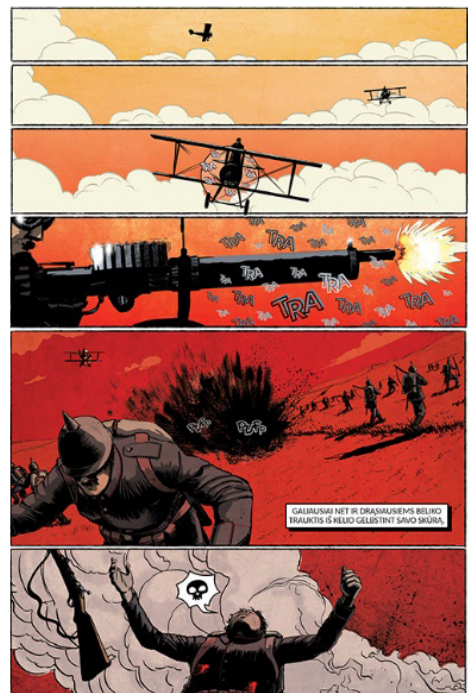
Thirty units of comic books were handed over to the school (the usual number of students in one group is around thirty students), and teachers distributed them to the students. The distribution of the comic books was arranged to correlate with the period when the Lithuanian Wars of Independence were discussed during the lessons. Per the recommendation of the school's teachers, the students had two weeks to read the comic.

After students read the comic and had the introduction to the Lithuanian Wars of Independence in the classroom, a meeting between the students and the researchers was organised. The meeting occurred at school during the regularly scheduled history lesson and lasted one academic hour (45 min.). Teachers were absent during this meeting, so their presence would not affect the students' answers.

The focus group method was chosen to gather students' perceptions about the phenomenon. There were a few reasons why this method was chosen. First, there are very few studies on the topic. Thus the exploratory approach to data gathering was the most logical choice. Second, this approach allows the interviewer to direct and stimulate the discussion with comments or additional questions if an interesting view is voiced within the group. And third, this method will help develop a set of questions for future classroom experiments. It is important to note that the recommended number of people for discussion using the focus group method is around 8-12, but in order not to divide the student class as a whole unit and not to change groups' dynamics during the discussion, it was decided not to break the class in smaller groups and to conduct the discussion with an entire class of 26-29 students.

As it was already mentioned, the author of this article conducted a focus group interview with four groups of school students (two groups from both fifth and tenth graders; in each grade, one group would read the comic and another would not) in the academic year of 2021-2022. The sessions with the students were conducted on 2021-12-06 with the tenth graders and 2022-03-25 with the fifth graders. The choice to use a control group was necessary so that author of this experiment could compare results between the classes that had read the comic and those that did not.

During these sessions, the interviewers would have 15 questions for both groups and six additional questions for the group that has read the comic book. It is very important to emphasise that from the beginning of this study. It was decided that comics should not be perceived as a substitute for textbooks. In other words, comics were presented only as an additional educational tool, not an alternative. Therefore, the questionnaire did not contain questions that required an exact answer that could be qualifiable as true or false (for example – when was the battle of <…>?) but only inquired about students' opinions about certain historical aspects.

The session started with an introduction, a quick presentation of the study, and its aim to the students. First, a few questions were designed to warm up the group (engagement questions) by asking the students who like history lessons, who hates them and why. Students were also asked if they liked when textbook information was supplemented with illustrations or videos. The next question asked the students if it would be ok if

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they would get additional homework to read comics or watch films. After that few questions were inquiring how students perceived the historical period of the Lithuanian Wars of Independence, focusing on whether students can identify with people who lived a hundred years ago. The question of this section was, "Do you think that in Lithuania a hundred years ago people your age were different from you or were they similar?" with immediate addition for clarification ", Would you behave differently in their place?". Finally, one more question was added just before the sessions as the teacher advised the moderators of this experiment to ask students how many of them read the comic book, as she was not convinced that everybody was.

The group that read the comics was inquired if they knew about specifics of the Lithuanian Wars of Independence (that were presented in the comics but not in the textbook) and if afterwards they researched additional information about the events or characters presented in the narrative. Then students were asked if they believed that events in the comics were portrayed historically correctly. The following questions inquired about students' opinions about the protagonist's actions presented in the comics. And finally, students were asked if they liked the experience of reading comic book and if they would like to use comics as an additional educational tool in the future. It is important to state that the initial goal of these particular questions was to determine if comics medium helps students to develop historical thinking and, in turn, if comics medium can re-elaborate and renegotiate the meanings of the concepts studied, as Weber [1] suggested.

Finally, two methods were chosen to capture better the data obtained in these sessions. The first method was audio recording. The second method was in-session notes. It should be noted that since two researchers participated in the focus group sessions, one asked the questions, and the other took the discussion notes. However, the first two sessions had technical issues and poor-quality audio recordings. The second session had better audio recording hardware. However, because of the Covid, all students had to wear masks. Thus, an audio recording was impaired again. Consequently, in-session notes became the key document for extracting discussion data.

04. Results

The answers to the ice-breaker question about who likes/dislikes history subjects and why varied. Among tenth graders in each group, five students loved history subject and 4 hated it. In the first group of fifth graders, 13 students stated that they loved history subject in school, and only one said that he or she disliked it. In the second group, five students liked history subject and 8 disliked it. The key reasons why students like history subjects in school are – "because the events in history really happened" and there are "really cool periods in Lithuanian and world history" (students presented various periods that they particularly like). The key reasons why students dislike history are "it is hard to remember" and the knowledge about the past "does not add anything".

The answers to one of the first questions among all groups presented no surprises. All four groups stated they prefer when textbook information is supplemented with visual or audio-visual information. Students often explained that visual information is not only more interesting but at the same time it allows them to understand the context of their history lessons better. Interestingly, both groups in the tenth grade were very positive about any teacher's initiative to present historical information visually. However, there was a strong demand to present information in small, "chewable" doses. Thus, for example, documentaries up to 15 minutes were most appreciated. The same attitude was displayed when students were asked if they would like to be given to read/watch/listen, etc., some popular culture products as homework. Students' answer, "We already have hectic schedules," was cited as the main reason for not wanting any content that is of a longer length.

Although tenth graders (both groups) were generally much more sceptical about the use of comics (and other popular culture products) during their studies, it was among tenth graders that a greater qualitative difference was seen between those who read and those who did not read the comics. Students who read the comics could better identify with Lithuanian Wars of Independence participants. Tenth graders who did not read the comics firmly stated that it is difficult for them to identify with Lithuanians who participated in the Lithuanian Wars of Independence (further discussions on this issue confirmed this). In addition, every tenth-grade student who did not read the comics thought that the key reason why 100 years ago, the youth fought for independence was economic (people who joined the military were promised land). This perception is incorrect, but the focus group discussion aimed to gather students' views, so tenth graders were not corrected during the session. However, when this insight was presented to their teacher (after the session was over and students left), it was commented that this misconception is quite often. It is most likely because of the particular phrasing in the textbook.

Both groups of fifth graders were significantly more enthusiastic about the possibility of using popular culture products as an additional educational tool. However, what surprised the researchers, both groups could identify with the people of the past quite well. In other words, the difference between the group that read comics and the control group was minor as opposed to tenth graders, where the difference between the groups was clearly visible. In addition, fifth graders could formulate ideas and observations about issues not covered in textbooks. As opposed to tenth graders, who often struggled and even remained silent as a whole group if the information to answer the question asked was not presented in the textbook (even though the question inquired about their opinion about the particular event but not a piece of factual information).

Interestingly, during sessions, it was identified that the fifth graders would not critically evaluate the products of the popular culture of the historical genre. In the opinion of the absolute majority of students, if a creative work contains historical content, it should be historically correct. In other words, fifth graders do not question how much the author(s) of a

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popular culture product accurately depicts various historical periods and how much is the product of his or her imagination.

Almost 1/3 of the tenth graders did not read the comic book. Only two students did not read the comics among fifth graders. Students that did not read the comics were asked not to participate in further discussion. Both groups that read the comic could answer about the motivation for the actions of the fictional characters in the comics. Among tenth graders, no one did additional research about the elements presented in the comics. However, few students stated that they usually do that. In this particular case, no elements in the narrative required additional research. In the fifth graders' group, four students admitted that they did additional research about some characters (wanted to know if they were real or fictional) and some technical elements about the weaponry used in the Lithuanian Wars of Independence period. Interestingly 2/3 of the fifth graders believed that all the characters and most of the events in the comic were fictional.

Finally, students who read the comics liked this exercise and wished it would become common practice in the school. Interestingly, it was observed that among tenth graders, the group that read the comics was much more willing to repeat such an experience. In contrast, the group that did not read the comics was very sceptical about the benefits of reading comics. The key reason why students liked the comics as an additional education tool was that the entertainment element, attention-grabbing visual details, and historical information were much easier to understand and remember. The fifth graders who did not read the comics were also asked if they plan to read it in the future. 24 out of 29 students claimed that they are planning to read comics.

05. Discussion

The experiment with the high school students aimed to verify several hypotheses empirically, the most important of which is whether comics of the historical genre can be successfully used as an additional educational tool. The main premise for this hypothesis was formed based on Buhle [4], Pustz [27] and Weber [1] studies, which suggested that narratives in comics, unlike information in textbooks, allow students to identify with characters (who lived in the past), understand their motivations and fears, and thus provide context to the events in the past. During the research, this hypothesis was fully proven - both groups that read the comics could better than the control groups identify with people of historical periods. However, it is important to note that among the senior students, the difference was significantly bigger than among the younger students. In other words, students who read the comic not only expressed that they understood why the youth participated in the fight for independence a hundred years ago but also did not indicate the economic factor (gaining land) as the main motivation to join the resistance.

Interestingly, the group of senior students who did not read the comics was much more sceptical about the benefits of the comics of the historical genre. This suggests a prevailing prejudice that comics are an entertainment form suitable for children only. This notion is somewhat

supported by the fact that younger students did not find any issues with the comic medium. Furthermore, younger students said they would read the comics after the experiment.

It is necessary to note that this experiment confirmed the notion expressed in most of the previous studies that students generally enjoy reading comics. But, as stated in the literature review section, it is hardly a novelty. However, the fact that students are happy to choose comics is related to the perception that this medium is an easier form of learning.

It is necessary to discuss tenth graders' desire to receive information in small doses and in an easily consumed format (for example, documentaries). This might suggest that students' motivation to read comics as an additional educational tool would be higher if the reading material were divided into small parts and presented over a longer period rather than presented all at once. Again, however, more data is needed for any conclusive insights.

This experiment supports the premise that one of the key communicative strengths of comics in the school classroom is the ability to provide historical information in a visually rich format. Furthermore, findings suggest that students effectively absorb and understand information related to fictional characters' experiences. Interestingly, these findings somewhat support Farinella's [3] statement that the narrative structure is intrinsically easier to follow and remember. Thus, it is safe to argue that comics, as a medium that presents engaging visually based information with a relatively small amount of text, can be particularly successfully used in schools to teach history subject.

However, and it is very important to address, the comics medium itself will not be enough if the content (mainly narrative) is low quality. No comic book will help if it cannot tell engaging stories with its audience. And in the Lithuanian case, data suggest that older students are biased towards comics medium. Thus, lower-quality comics would likely negatively affect students' motivation to read comics as homework for school.

Although these findings propose a very optimistic future for using popular culture products (especially comics) as an additional educational tool, other aspects significantly complicate this possibility. For example, Vadillo [28] noticed that "history is a conceptual construct that can be used or abused depending on the comic book creator". Thus, the fact that younger students believe that cultural products of the historical genre are historically accurate means that every comic book needs to be critically analysed and approved by educators to incorporate any of it into the study process. Otherwise, as Pustz [27] noticed, there is danger involving casual learning (i.e., through entertainment works) when the original text is flawed or inaccurate.

Finally, it is important to note that this experiment was exploratory in nature. Thus, further studies and a bigger sample pool are necessary to close the knowledge gap on this topic. On the other hand, it is evident that comics as a medium appeal to young people, and this fact needs no further proof. Farinella [3] elegantly puts that "the real power of comics is not to illustrate but to give structure to our thoughts, breaking down information into small digestible units (panels) and then reassembling them into the large picture", therefore the future of research on this topic

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should focus on understanding how comics can be the best of two words (entertainment and science), rather than to look how to produce textbook in the shape and feel of a comic book.

6. Conclusion

The Lithuanian case study provided interesting insights into how comics could be used as an additional educational tool to teach history subjects in classrooms. The data from the experiment points to the potential for popular culture products with a historical narrative to be used as an additional educational tool to help students better understand the past, identify with the people of that period, provide a broader context of events, and present it in an attractive way (i.e., students are significantly more motivated to access this type of information).

Interestingly, providing comics in classrooms to two different age groups revealed different benefits and challenges. Senior students are significantly less motivated to read comics, but significantly higher qualitative results were recorded after they read them. The opposite situation is with younger students – they are much more motivated to read comics. Still, the benefits of reading comics are less significant compared to senior students. There is also a conflict with younger students due to their belief that historical entertainment portrays events historically accurately.

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Culture of comics in Croatia before and after 1991

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[Desenho/BD · Drawing/Comics]

Abstract

This study analyses the comic-book market in Croatia in its period as a former Yugoslav republic (from 1926 to 1990) and as an independent state (from the 1990s until today). The main research problems encompass the publisher, author, illustrator and the reader/consumer's points of view. Quantitative and qualitative methodologies were used to provide the answers to the research questions that were set out. The research methods used were content analysis methods on Web materials of comic-book publishers, comic-book stores and comic-book websites and a literature overview on publishing and print culture. A questionnaire survey on MA Publishing students provided insight into the young reader's comic-book reading habits. The study's main conclusion is that the comic market in Croatia is greatly reduced compared to before the 1990s when Croatia became an independent state. Due to the war of independence and the economic and cultural situation in the country following it, many Croatian authors and illustrators went to work for foreign publishers.

01. Introduction

Comic books were popular in Croatia from the 1960s to the 1980s. Whole generation was raised on comics in those years. Then, in the 1990s, everything changed.[2] Comics are different now than they use to be. The golden age for book-length comics in Croatia was the 70s and 80s. Alan Ford formed the taste of a whole generation of young people.

From the beginning of 1971 to the end of 1981, 6 611 comic book titles were published in Yugoslavia, and 716 730 500 copies were sold. Yugoslavia was fifth in Europe in comic book publishing by the number of Per capita copies sold. Due to the Croatian War of Independence in the 1990s and the hard economic times that followed it, two generations have grown up without comics. Darko Macan, a well-known Croatian comics author, wrote: "Croatian comics are, in the lack of the present, obsessed by the past." [1]

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2 Laslavić, Ž. Strip - Od masovne kulture do elitizma, Lider (04. lipanj 2015. https://lider.media/lider--trend/strip-od-masovne-kulture-do-elitizma/ (accessed on February 20, 2023)

02. Culture of comics
before 1991

The development of civil society in need of an ever-increasing amount of information and news after the First World War strengthened the publishing industry. The number of editions of newspapers and the number of their sections increased, spreading into different kinds of areas of life. The editor of Zagreb's newspaper *Jutarnji list*, to attract young readers, took the American model in the Sunday issue of his newspaper and 1923 published a page of the American comic book Winnie Winkle by Martin Brenner, translated into Croatian as *Dogodovštine malog Ivice*. This Croatian comic hero with an American background was widely accepted and in further years led to the creation of domestic comic characters. [2]

 A comic book named *Maks i Maksić*, by Sergej Mironović Golovčenko, was published in Croatia in 1926 by the publishing house *Kopriva*. It was based on the well-known children's book *Max und Moritz*, written and illustrated by German painter Wilhelm Busch (1832–1908). [3]

The first episode of a comic book written by a Croatian author was *Vjerenica mača*, published in May of 1935 by *Novosti*. The author/illustrator was Andrija Maurović [4] Readers were thrilled with the interesting historical adventure content of the comic, with lots of romantic and dramatic intrigues.[3]

The growth of the publishing industry and the appearance of domestic authors are the main characteristics of comics history until the Second World War. During the time of the collapse of the Kingdom of Yugoslavia and the emergence of the Independent State of Croatia, the magazine *Zabavnik*, over its whole three-year run, sold 150,000 copies. [5]

It was distinguished by its high graphic aesthetic and published in a four-colour print. *Zabavnik* was ideologically neutral and had unique comics. For these reasons, it gained great popularity. Nevertheless, after May 1945, when the City of Zagreb was occupied by the National Liberation Army, its publication was stopped. The Communist Party considered comic books to be "capitalistic fabrications for quick profits and to mislead people, especially uncritical youths and children". [6]

The Court of Literary and Cultural Criticism was brought forward in January 1946 in Belgrade's newspaper *Borba*, the organ of the KPJ (Communist Party of Yugoslavia) and thus the promulgator of the official position of the government, calling for a "boycott of publishing as a black-and-white commodity that undermines folk and literary heritage, and drugs and poisons and adversely affects the youth". [7]

From the 1930s until the 1960s, Andrija Maurović, Krešo Kovačić, Franjo Fuis, Stanko Radovanović, Marcel Čukli, Norbert Neugebauer and Rudi Aljinović, were the most important comic book writers and illustrators. [8]

3 Biografije crtača i scenarista: Andrija Maurović, Stripforum, http://www.stripforum.hr/leksikon/autori/maurovic-andrija/ (accessed on February 23, 2023)

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In 1950, a group of comic book authors and illustrators grouped around the comic and satiric magazine *Kerempuh*[4]. Its editor-in-chief was Fadil Hadžić, a well-known Croatian writer, screenwriter, film director, painter and journalist. Shortly after the magazine was launched, he was able to print 170,000 copies.

"Even the famous *French Creek Stream*, a mixture of a serious and satirical magazine, never reached this number of copies... We used the weak points of the Croatian newspaper *Vjesnik*, and we could print up to three pages of black-and-white photographs on five pages. We printed it in four-colour and gathered a supreme elite of cartoonists and writers, and Gustav Krklec started writing his epigrams under the pseudonym Gavran."[9]

Kerempuh was of even greater importance because the circle of people who worked on it created the first Croatian cartoon, *Veliki miting*. Its authors later established the famous Zagreb Cartoon School and the political–satirical cabaret *Kerempuhovo vedro kazalište*, which after a year and a half took the name *Komedija*.

Hadžić pointed out that the origin of *Koprive*, a humorous magazine designed for all people, dates to 1906. He recorded the existence of over 300 humorous magazines, but most of them were published only once. According to Hadžić, the first humorous Croatian magazine was *Podravski jež* (1861), while Branka Sorokin (Croatian Information and Documentation Society), claims that it was *Zvekan*, which was published from 1867 to 1869, and then later as a part of the first Croatian illustrated newspaper, Dom i sviet, from 1890 to 1903.[5]

The second generation of comic book authors in Croatia gathered around the fun weekly magazine for youth *Plavi vjesnik*. From 1954 to 1966, the publisher of *Plavi vjesnik* published around 180 numbers.[6] With technological changes in print production, such as the adoption of multi-colour gravure printing, which increased the visual quality of comics, the editorial position of Nenad Brixy and a permanent set of collaborators, artists and writers, *Plavi vjesnik* entered its golden age. [10]

After the golden age of *Plavi vjesnik*, at the end of the 1960s and in the early 1970s, came a third great gap in the history of comics, due to a lack of new authors of Croatian comics. Investing in the uncertain future was an economically risky venture, so the comics that could be found on the pages of current magazines were light and commercialised. However, at the beginning of the 1970s, as a result of the general cultural and political climate of the time, the Western underground strip came through various channels to Croatian readers.

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4 Kerempuh, a humorous–satirical weekly, was launched in September 1945 in Zagreb. From October 1955 to November 1956 it was published as a monthly literary magazine of satire and humour. From 1958, it was published again as an independent weekly newspaper and continued later as an add-on to the Sunday issue of Vjesnik at the end of 1965. Many writers and artists collaborated on it, and it was published on eight pages in newspaper format. Average print runs were around 170,000 copies, http://www.enciklopedija.hr/natuknica.aspx?id=31248.

5 NSK, Stare hrvatske novine: Portal digitaliziranih novina, http://dnc.nsk.hr/newspapers/LibraryTitle.aspx?id=1d116e58-4a39-40ba-9954-319c95fb11ea (accessed on January 16, 2023)

6 Strip magazini, časopisi i revije, Plavi vjesnik (1954. – 1973.), http://www.stripforum.hr/leksikon/magazin/
plavi-vjesnik/ (accessed on January 17, 2023)

At the beginning of 1974, *Pegaz*, a magazine on the history and theory of comics and other visual graphic media began to be published. The Krešimir Zimonić comic Luna appeared in it. At this time in France, Jean Giraud Moebius, Philippe Druillet, Jean-Pierre Dionnet and Bernard Farkas were publishing (under the joint name of *Les humanoïdes associés*) a magazine of horror and science fiction. This magazine changed the paradigm of the world of comics and had a huge impact on contemporary European comics. [11]

Another major comic magazine was published in 1976: Polet, edited by Mirko Ilić and Pero Kvesić. In 1977, a group of artists and comic authors called *Novi Kvadrat* was formed. [12] Members of the group included Mirko Ilić, Krešimir Zimonić, Igor Kordej, Radovan Devlić, Ninoslav Kunc, Joško Marušić, Krešimir Skorzet, Nikola Konstadinović, Ivica Puljak and Emir Mešić, as well as others who were not formal members of the group but were also creators. The most significant titles released of the time were: *Déjà vu, Košmari jednog građanina koji nije platio porez and Anno domini 1527*.[7] Dubravko Mataković is a Croatian illustrator and author, best known for his grotesque comic books (Fig. 3). His first comic book *Crvenkapica* was published in the *Omladinski* list in 1982.

03. Culture of comics
after 1991

After the 1990s, many Croatian authors began to work for American publishers (including Darko Macan, Edvin Biuković[8], Goran Sudžuka and Esad Ribić). American superheroes in those years were saying what Croatian author Macan thought comic characters should, and looked the way Croatian illustrators imagined them. [13] Other Croatian authors that worked abroad were: Goran Sudžuka (Y: *The Last Man, Hellblazer: Lady Constantine and Ghosted*), Goran Parlov (for the Italian publisher Sergio Bonelli Editore and in the USA, *Outlaw Nation, Punisher...*), Esad T. Ribić (*Loki and Silver Surfer: Requiem*), Danijel Žeželj (*Sun City, Sophia...*) and Milan Trenc (*Koščak*), who parodied the French–Belgian tradition of cartoon heroes (Nord Zucker and Peter Mayne). [14]

While the Croatian realistic tradition, due to non-marketability, is rarely present, largely seen in school journals (e.g., *Svebor and Plamena* by authors Goran Sudžuka and Darko Macan, historical comics and adaptations by Željko Lordanić, e.g., Branka, *Seljačka buna, Zlatarevo zlato*) other artistic traditions are found. Cartoon drawing was done by the dramatists and screenwriters Darka Macana (*Borovnica, Sergey*) and Stjepan Bartolić

7 Krešić, H.: Booksa, Hrvatski strip i strip u Hrvatskoj-2. dio, (July 2 2007), http://www.booksa.hr/kolumne/povijest-stripa/hrvatski-strip-i-strip-u-hrvatskoj-2-dio (accessed on March 5, 2023)

8 His first comic, *Dokaz*, was released in 1987, and he later created the popular Salvatore, a small lousy strip that constantly loses body parts. After briefly working for the *Dečje novine Edvin* occasionally worked for the German magazine *Gespenster*. The stories that he worked on with Darko Macan for the magazine, as well as their other collaborations, have been compiled by the *Quotes* album, released in two editions, in 1993 and 2000. From 1992–1994 in *Modra Lasta* magazine he illustrated comics of popular Croatian children's novels by Ivan Kušan. At the same time, he created a new comic series called *Funny Comix* under the pseudonym *Pepe Orbito* for the magazine *Ende*. Since 1993, he has worked for American publishers, drawing *Grendel Tales: Devils & Deaths and Grendel Tales: Devil's Choices* (screenplay by Darko Macan, 1996), *X-Wing Rogue Squadron: The Phantom Affair and Star Wars: The Last Command* (screenplay by Mike Baron on Timothy Zahna's novel, album 1999) and *Human Target* (screenplay by Peter Milligan, album 2000), and a series of short comic strips, in releases such as *Strange Adventures and Weird War Tales Special*. He was also involved in animation and illustration. He received an award for the best young author in 1992 at the *Vinkovci Salon of Comics*, and in 1995 he received the "Russ Manning" award as the most promising young author. Available online at: http://www.fibra.hr/autori/edvin-biukovic/74/ (accessed on May 4, 2023)

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(*Gluhe laste*), followed by Dubravko Mataković, who worked in underground art, a tradition of alternative art by the authors gathered around the *Wild Eye* and *Komikaze* groups: Dušan Gačić, with his daily comic strips and adaptations of Miroslav Krleža, especially the ink technique and the expressionist movement, along with Magda Dulčić, Irena Jukić Pranjić, Ivana Armanini, Igor Hofbauer, Helena Janečić, Helena Klakočar (*Nemirno more*, 1999), Dunja Janković, Ivan Marušić and Sonja Gašperov, among others.

During the war period, the Croatian genre of war comics reminded its readers of what they had already seen: *Superhrvoje*[9] is an attempt to hybridize the comic Superman with the motive "of a national, patriotic warrior story where the forces of good are Croatian patriots." The heroes of these comics rely on elements of pop culture and can also be seen as propagandizing attempts trying to adapt to the taste and values of the youth. Other comics of a similar genre were: *Mudraci*[10]*, Čistači*[11]*, Savjest*[12]*, Vatreno pranje*[13] *and Priča o kacigi*[14] [15]

In the 2000s, a new Croatian underground comic book scene appeared: the magazine *Endem*, the publishing fair *Crtani romani šou* the comic book festivals in Zagreb and Makarska. The main characteristic of comic books in the 2000s is their commercialisation of the market. Damir Raič, the editor for the comic book publishing house *Libellus*, says that the bestselling comics are the Italian *Alan Ford, Zagor, Dylan Dog* and *Tex Willer*.

There are a lot of comic strips in Croatia, but they are only sold in runs of a few hundred at a time. By comparison, in the 80s, some of the most popular comics in Yugoslavia sold tens of thousands of copies. Croatia has some publishing houses, but the market is exceptionally small. [16] *Magazine Q* was published by Darko Macan from 2003 to 2013.[15] It specialized in high-quality Croatian comics which were often accompanied by notable comics from all over the world. The superhero *Lavanderman*[16] appeared in Croatia in 2008. Between the second and third issues of the comic centred around him, a film was released, *Lavanderman: istina ili mit?*.

9 As an addition to *Profile* and in the first independent issue in the newspaper *Nedjeljna Dalmacija*, 1992. At the very beginning of the Croatian War of Independence, to Germanist Hrvoje Horvat (the historian and the son of Croatian emigrants), from Croatia comes an unusual shipment: a stone statue from his Croatian friend, the poet Stjepan. Hrvoje recognizes the symbol as a call from the homeland and goes to war to grasp Dalmatian Zagora. There, during one of the enemy attacks, he acquires a supernatural power and becomes a man of stone, who uses stone power to oppose the enemy. The announced extension of this comic has not been printed.

10 *Plavi Zabavnik*, 1992. The plots of these are summarized. In the first part of the comic, the main character is a young man, who just arrived at the battlefield (*Žutokljunac*). His fellow warriors help him and he becomes, in the second part, an insane but serious warrior named *Divljak*.

11 *Plavi zabavnik*, 1992. Nada, a woman warrior, joins the leadership of the Croatian Army.

12 *Plavi zabavnik*, 1992. The young man Marko goes to territory under the control of the Yugoslav army (JNA) to visit his mother in the hospital. JNA soldiers capture him and force him to fire at a Croatian city. He refuses and, after taking the life of the one forcing him, he dies.

13 *Plavi Zabavnik*, 1992. Following an attack by Yugoslav aeroplanes, the crew of a tourist aircraft are trying to hit the enemy with an unconventional weapon: an explosive-powered washing machine.

14 *Plavi Zabavnik*, 1992. The Croatian army re-occupied their positions and forced the enemy to flee.

15 Hellblazer Wiki, Darko Macan, http://hellblazer.wikia.com/wiki/Darko_Macan (1 February 2023)

16 Lavanderman lives in Jelsa on the island of Hvar, and spends time in local discotheques and popular taverns, and in one of these taverns, he took on his first shape, in the unconventional *konoba* Dalmacijaland. Toni Bobanović, who published under the name Toni Faver, created the Lavanderman character together with Vančo Rebac. Over many happy nights in Dalmatia, the character of this figure, whose real name was Boris Bunčuga, was slowly depicted, linked with Hvar. After an accident at the lavender production factory, he took on some of the characteristics of this famous plant, above all its intense aroma. From then on, Boris Bunčuga rode around on Hvar island in a purple Vespa, helping wherever his healing remedy can serve.

04. Research

04.1. Aim and scope
of the research

This study analyses the comic culture in Croatia in its period as a former Yugoslav republic (from 1926 to 1990) and as an independent state (from the 1990s until today). The main research problems encompass the publisher, author, illustrator and the reader/consumer's points of view.

The main challenges to entering the comics market from the publisher's perspective are:

> the high investment (designers, editors, translators) required and the lack of financial reward, the small market and the small number of copies. From the authors' and illustrators' points of view, it is easier and more cost-effective to work for foreign/European publishers. From the reader's and consumer's point of view: comics cost too much, you can download them from the web and the habit of reading comics has been lost. To conduct the research, research questions were set: Who was in the past, and are today comic book publishers, illustrators and authors in Croatia? How the comic book culture in Croatia, before and after 1991, has changed and what influence those changes?

4.2 Research sample
and methodology

Quantitative and qualitative methodologies were used to provide the answers to the research questions that were set out. The research methods used were content analysis methods used on Web materials of comic-book publishers, comic-book stores and online databases. In the literature overview of publishing culture in the 1990s, the theoretical base was analyzed in the context of the technology, political and sociocultural circumstances in Croatia.

In addition, as an insight into young readers' habits, a questionnaire on a small group of publishing students was used to determine their reading habits of books and periodical publications in general and comic books in particular. The survey consisted of three parts: part 1. Reading habits in general, part 2. Habits of reading periodicals, part 3. Habits of reading comics. The research sample of respondents was 38 students, 27 female. and 11 males. Their age is 30 (1), 28 (1), 26 (5), 24 (10), and 23 (20). All of the respondents from the research sample were MA students at the Faculty of Humanities and Social Sciences of the University of Osijek in Osijek, Croatia.

4.3 Research results

4.3.1 Research results of comics
publishers, illustrators and authors

The content analysis of web sources found a total number of 256 publishers, cultural institutions (art galleries, libraries) or other institutions that published comics. Before 1990, there were 45 publishers and 211 publishers

after 1991. The total number of Croatian authors and illustrators was 310. As shown in Table 1, most comic book publishers before 1990 were based in Zagreb. The two largest and longest-running newspaper publishers (*Vjesnik* and *Slobodna Dalmacija*) also published the largest number of comics.

Table 1 The main Croatian comic book publishers until 1990 (by the No. of editions).

Publisher	City	Editions	From	To
Vjesnik	Zagreb	37	1952	1990
Slobodna Dalmacija	Split	30	1969	1990
Stvarnost	Zagreb	12	1975	1984
Lykos	Zagreb	9	1962	1963
Privlačica	Privlaka	8	1986	1990
Kondor	Lipovljani	8	1988	1990
Kršćanska sadašnjost	Zagreb	5	1976	1986
Istarska naklada	Pula	3	1984	1986
Lykos & Epoha	Zagreb	3	1962	1963
Ustaški nakladni zavod	Zagreb	3	1943	1945
Savjet saveza pionira NR Hrvatske	Zagreb	3	1949	1952

After 1990, as shown in Table 2, *Vjesnik* and *Slobodna Dalmacija* were replaced by the *Bookglobe* and *Libellus*, two independent comic book stores in Zagreb, which published many Croatian and foreign comics. Web technology also boomed, with a shift to web stores and online sales. The main characteristic of the Croatian comic book market in the 1990s is the escalating number of small independent publishers with short lifespans.

Table 2 The main Croatian comics publishers after 1990 (by the No. of published editions).

Publisher	Publications	Year from	Year to
Bookglobe	101	1994	2013
Libellus	62	2005	2016
Strip-Agent	61	1993	2016
Fibra	54	2006	2016
Vjesnik	37	1990	2002
Ludens	36	2001	2016
Egmont	36	1995	2016
Mentor	30	2003	2016
Slobodna Dalmacija	30	1990	2005
Algoritam	24	2007	2015
Stripforum	14	2008	2016
Vedis	11	2007	2016
Strijela 92, Borgis, Korpus	11	1992	2011
Moria	10	1990	1993
LM info	10	2002	2008

M-Press	9	1994	1995
Večernji list	9	2008	2010
Ideoteh	8	1998	2008
Privlačica	8	1990	1995
Tino	7	2006	2016
One2play	7	2010	2012
Petikat	6	2001	2013
Van Gogh	6	2005	2016
Udruga CRŠ	6	1998	2016
Unigena	6	2010	2016

As Table 3 shows, Walter and Norbert Neugebauer were the authors and illustrators of the most published comics, each of them appearing in over 500 publications.

Table 3 The main Croatian comics authors and illustrators (by the No. of comic titles).

Authors and illustrators	Number of comic book titles
Neugebauer, Walter	575
Neugebauer, Norbert	530
Maurović, Andrija	460
Macan, Darko	429
Dovniković - Bordo, Borivoj	152
Zupan, Zdravko	105
Kordej, Igor	99
Radilović, Julio	86
Devlić, Radovan	79
Maslovara, Nikola	69
Krulčić, Veljko	51
Kukić, Dario	51
Tikulin-Tico, Tihomir	50
Solanović, Robert	45
Bešlić, Stanko	44
Beker, Žarko	43
Delač, Vladimir	43
Biuk, Krešimir	38
Petruša, Frano	37
Mataković, Dubravko	36
Voljevica, Ico	36
Zimonić, Krešimir	34
Gotovac, Frano	29
Bartolić, Štef	27
Ilić, Mirko	27

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4.3.2. Publishing culture in the 1990s

Based on the previous research in the field of publishing in Croatia, and the political and social-economic aspects of changes that took place during the 1990s, some of the key facts were presented.

The information age and the development of information technologies at the end of the 20th and the beginning of the 21st century had a revolutionary impact on changes in publishing, and thus on changes in the design of graphic products. With the emergence of the global market and the change in market sales channels, the structure of the publishing business has changed. The creation of large conglomerates in exchange for small publishing companies changes the way of doing business and the visibility of publishing products. Electronic publishing creates an electronic book, as a new form of product. At the same time, the problem of digital databases, as guardians of book content, appeared. Actual bookstores are being replaced by online bookstores. City bookstores are getting a new look. They are starting to become entertainment centres, they mostly have cafes in their composition, and by organizing various events, such as guest appearances by authors, etc., the strategic aim is to attract an interested readership. [17] Together with the changes in the organization and business, the functions and professions in the publishing industry are also changing. In the new market conditions, the evaluation and role of the editor as the creator and bearer of the publisher's reputation are often replaced by profit. Globalization of markets and publishing companies creates international companies and the language of communication that is beginning to prevail in English. [18]

The emergence of the Macintosh computer in the 1980s influenced the development of digital graphic design, and the emergence of Mosaic (a revolutionary graphic Internet browser that displayed images and text) in the 1990s marked a new era of digital media. [19] New, digital media coexist with print media. Although, digital media changed the way people communicate. Gutenberg's innovation in printing machines influenced the turn from the oral to the written word. Digital media shifts written words into visual communication messages. The invention of the printing press in the 16th century demanded basic literacy. Digital media and new forms of transmitting ideas demand information, visual, digital, and other literacies. [20]

Communication media are emerging and evolving in the context of the social and cultural sphere. Made by people, influenced by people and used by people. Through people's traditions, learned ways of thinking and manners. In the 1990s, the Croatian book, just like the entire Croatian society, went through a period full of challenges. The war and the post-war situation were the main reason for the reduced number of new book titles and the reduced demand for books. Croatia also experienced an economic crisis and hyperinflation. Many publishing houses founded during Yugoslavia rapidly disappeared. New ones were created instead. The collapse of the old political system caused the greatest collapse of the former network of bookstores. The creation of a new business model for the recovery of the Croatian book market was still in its infancy. [21] The crisis of Croatian publishing in the 1990s was connected with the state-legal changes that Croatia was going through, primarily because of turning to the free market, which accompanied

the transition and privatization of economic entities, including publishers. Most of the global publishing changes, such as digital disruption, globalization, etc., didn't affect Croatian publishers at that time but were delayed for a decade. They were struggling with a different kind of crisis – one based on political changes. New work models led to significant problems for publishers. The negative effects of transition and privatization in Croatia can be reduced to the quick enrichment of a "new" business class, along with the economic difficulties that caused resistance to the privatization process. [22] Many publishers to survive expanded their business to the book trade.

Regarding the comics, and previously stated facts about how most of the illustrators from Croatia went to work in America in the 1990s, Benedict Anderson's [23] concept of the nation as the imagined space of collective belonging could be explained. Most of the young people in ex-Yugoslav countries before the 1990s were amazed by America as a concept. American Dream was something they were longing for. The perfect country with the perfect protection and freedom for everyone.

4.3.3 Research results from the student questionnaire

The questionnaire was used to determine the student's reading habits of books and periodical publications in general and comic books in particular. The survey consisted of three parts: reading habits in general, habits of reading periodicals and habits of reading comics. In the first part, most of the respondents from the research sample reported liking to read. Only one student stated that he/she doesn't like to read. Science fiction was the most popular genre, while horror and romance were the least popular genres.

Participants' responses to a survey question on the genres of nonfiction they like to read are scattered through the genres; from technology and health to travel books, biography or self-help literature. Religion books were less often read.

Very interesting answers came from the part of the survey that investigated students' habits in book buying. The most prominent element in the book purchase decision was a summary of the content (29%), mostly found in a web source or on the back of the book itself. After that, the author and his reputation, in 23%. The cover page was considered a decisive element by 18%, the same as the book title the deciding factor. This was surprising because it had been expected that the visual appearance of the cover would have a large effect on book consumers/readers.

Students prefer foreign authors to Croatian, 89% to 11%. The reasons for this could be various. It could be attributed to the superior marketing of foreign publishers, the existence of movie adaptations of bestsellers, and the prevalence of translations into Croatian, but also to the lack of interest and knowledge about the Croatian authors or lack of marketing skills of domestic publishers.

In the part of the survey that investigated respondents' habits in reading periodicals, responses were different for newspapers and magazines. Most respondents (55,3%) read the newspaper in an electronic format every day or a few times a week, and 7,8% or 3 participants stated that they don't read the newspaper at all. Magazines are read less often than newspapers: every day or a few times in a week (26,3%), a few times a month or even less often (52,6%),

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mainly in an electronic format. 7 participants or 18,4% don't read magazines at all. To the survey question "Do you like to read comics? Why?" 15 respondents, or 39,5%, said they liked to read comics and half of those answered that they preferred the printed format over the electronic format. The reasons they like to read comics are "because they are funny, exciting, easy to read and understand and relaxing." Students who answered that they did not like to read comics generally said it was "because I don't find them interesting, I don't have the habit of reading them, and in my local library there are no good comics to borrow." Superheroes and science fiction were the most common comic book genres. Comics were rarely read, even by those who stated that they liked to read them, only a few times a month (47%).

Students' knowledge of comic book publishers, authors and illustrators was disappointing. Only a few students knew the biggest Croatian comic book publishers, illustrators and authors. They mentioned Dubravko Mataković among authors and illustrators, and among publishers, four of them mentioned *Fibra*, one *Slobodna Dalmacija*, three *Algoritam* and one *Ludens*.

05. Conclusion

The study's main conclusion is that the comic market in Croatia is greatly reduced compared to before the 1990s when Croatia became an independent state. Most Croatian comic book publishers before 1990 were based in Zagreb. The two largest and longest-running newspaper publishers (*Vjesnik* and *Slobodna Dalmacija*) also had a greater number of comic editions. Walter and Norbert Neugebauer were the most published authors and illustrators, each of them with over 500 comic publications.

Due to the war of independence and the economic and cultural situation in the country following it, many Croatian authors and illustrators went to work for foreign publishers. The main characteristic of the Croatian comic book market after the 1990s is the escalating number of small independent publishers with short lifespans. Due to the war of independence and the economic and cultural situation in the country following it, many Croatian authors and illustrators went to work for foreign publishers. The main characteristic of the Croatian comic book market after the 1990s is the escalating number of small independent publishers with short lifespans. The crisis of Croatian publishing in the 1990s was connected with state-legal changes. Most of the global publishing changes, such as digital disruption, globalization, etc., didn't affect Croatian publishers at that time but were delayed for a decade. Many publishers to survive expanded their business to the book trade. The transformation of the comic book market in Croatia over the past few decades reflects the broader social and cultural changes that have taken place in the 1990s.

From the students' survey answers, there appears to be a lack of interest and a lost culture of reading comics. Students prefer foreign authors. Respondents' periodical reading habits varied between newspapers and magazines. Half the respondents answered that they like to read comics, preferring the printed format over the electronic one. Superheroes and science fiction were the most common comic genres read by the students.

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Desenhar Castelões: exploração visual para uma identidade territorial
Drawing Castelões: visual exploration for a territorial identity

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Resumo

Este artigo descreve um projeto de intervenção liderado por uma pesquisa de doutoramento em Design, baseado em um contexto de produção artesanal do linho no território de Castelões. O projeto teve como objetivo desenvolver um conjunto de elementos gráficos para utilização nos produtos da *AmaCastelões* (Associação das Mulheres Agricultoras de Castelões) e na comunicação interna e externa da comunidade e do território em que se insere. O *Ciclo do Linho* em Castelões é um processo totalmente artesanal e de grande valor cultural e social que permanece na região através da sabedoria transmitida de geração em geração, desde tempos imemoriais. O território de Castelões tem características singulares em relação ao Ciclo do Linho, ao patrimônio histórico e aos ativos contextuais como a natureza, a arquitetura, entre outros. Em estreita colaboração com a comunidade de Castelões, buscou-se criar recursos que conduzam ao desenvolvimento da identidade visual da associação, parte da qual já iniciada através da concepção e desenvolvimento da marca "AmaCastelões". O passo seguinte foi direcionar a investigação para a forma como as pessoas percebem e vivenciam o território, informando assim o desenvolvimento de um programa de identidade visual. A oficina "*Desenhar Castelões*" foi realizada numa aldeia da freguesia, Múceres, onde está sediada a AmaCastelões. Representa uma investigação qualitativa fundamentada na *fenomenografia* de Marton, com foco na contribuição para uma compreensão integrada do território por meio da coleta de perspectivas individuais sobre ele. O trabalho colaborativo entre artesãs, habitantes e guias locais, estudantes, professores e profissionais de Design, permitiu que os participantes contribuíssem com os seus olhares e habilidades, produzindo imagens capazes de gerar sentimentos de orgulho e pertença e de fortalecer o envolvimento da comunidade no processo.

Abstract

This article describes an intervention project led by a doctoral research in Design, based on the context of artisanal linen production in the territory

Palavras-Chave

Investigação em design; potencial territorial; Ciclo do Linho; fenomenografia; identidade visual

Keywords

Design research; territorial potential; Linen Cycle; phenomenography; visual identity.

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of Castelões. The project aimed to develop a set of graphic elements for use in AmaCastelões products (Association of Women Farmers of Castelões) and in the internal and external communication of the community and the surrounding territory. The Linen Cycle in Castelões is a completely artisanal process of great cultural and social value that has remained in the region through wisdom passed down from generation to generation since ancient times. The territory of Castelões has unique characteristics related to the Linen Cycle, historical heritage, and contextual assets such as nature, architecture, among others. In close collaboration with the Castelões community, the goal was to create resources that contribute to the development of the association's visual identity, part of which has already been initiated through the design and development of the "AmaCastelões" brand. The next step was to focus the research on how people perceive and experience the territory, thus informing the development of a visual identity program. The workshop "Drawing Castelões" took place in a village within the parish, Múceres, where AmaCastelões is located. It represents a qualitative investigation grounded in Marton's phenomenography, focusing on contributing to an integrated understanding of the territory through the collection of individual perspectives on it. The collaborative work between artisans, residents, local guides, students, teachers, and design professionals allowed participants to contribute their insights and skills, producing images capable of generating feelings of pride and belonging, and strengthening community involvement in the process.

01. Introdução

Este artigo apresenta um processo de intervenção desenvolvido em Castelões/Múceres (Fig. 1) -- freguesia do centro de Portugal situada no concelho de Tondela, distrito de Viseu -- liderado por uma investigação de doutoramento em Design que tem como foco a criação de um quadro semântico para a compreensão do conceito de "inovação" nas culturas tradicionais, especificamente em contextos de produção artesanal.

Fig. 1 Imagens ilustrativas de Múceres - Castelões. Fonte: Arquivo da investigação.

DESENHAR CASTELÕES: EXPLORAÇÃO VISUAL PARA UMA IDENTIDADE TERRITORIAL DRAWING CASTELÕES: VISUAL EXPLORATION FOR A TERRITORIAL IDENTITY

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O objetivo deste projeto é desenvolver uma identidade visual na forma de um conjunto de elementos gráficos para a aplicação nos produtos da *AmaCastelões* (Associação das Mulheres Agricultoras de Castelões), bem como para a comunicação interna e externa da associação e do próprio território para a sua proteção e continuidade.

O Ciclo do Linho em Castelões configura um processo totalmente artesanal e de grande valor cultural e social que permanece por vários séculos na região através da sabedoria transmitida de geração em geração pelas mulheres da aldeia (Fig.2). Em Portugal a produção do linho esteve presente por todo o país com uma tradição observável já desde o período pré-romano (Oliveira, Galhano, e Pereira 1991) "organizado num sistema produtivo doméstico e rural, de meios técnicos rudimentares" (Sequeira e Melo 2012). Há vestígios da presença do cultivo do linho e da sua utilização têxtil na Península Ibérica que remontam a 2500 a.C. em jazidas da província de Almería, hoje Espanha, e a 2000 a.C. no Algarve, Portugal (Oliveira, Galhano, e Pereira 1991). O Ciclo do Linho em Castelões é de especial importância, porque parece ser um dos únicos locais onde ainda se produz o linho artesanal como se fazia outrora no país. Castelões mantém a tradição da produção do linho desde a semente até o produto há mais de vinte anos na AmaCastelões.

No entanto, os cenários de intervenção são múltiplos e podem passar pelo estudo da história e do patrimônio cultural para a divulgação das Rotas pertencentes ao território, nomeadamente, a *Rota do Linho,* a *Rota Gastronômica* e a *Rota dos Laranjais*; também pela observação do modo de vida e cultura local: da

agricultura ao saber-fazer artesanal do linho; da prática de desenvolvimento da economia territorial: com a comercialização de produtos locais, tanto artesanais como as laranjas de Castelões e seus derivados, por exemplo; bem como na criação de oficinas e cursos voltados para a produção do linho. Ainda pode-se construir cenários desejáveis relacionados ao turismo, ao artesanato e mesmo à investigação em diferentes áreas que o território permite, nomeadamente, antropologia, sociologia, sustentabilidade, entre outras. Sendo crucial promover a socialização, a convivência, o saber-fazer, a intergeracionalidade, a melhoria da autoestima e da qualidade de vida e bem-estar para a comunidade local.

Sendo assim, o cenário escolhido para apresentar neste trabalho, que visa contribuir para a construção da identidade visual local, consiste na descrição de uma oficina de desenho realizada na aldeia de Múceres. Esta escolha corrobora Lia Krucken (2009) quando afirma que "o sentido de pertença e o orgulho dos moradores de um território dependem muito da imagem as-

Fig. 2 Primeira linha de imagens, da esquerda para a direita: preparação da terra para semear o linho, as sementes de linhaça. Segunda linha, da esquerda para a direita: o maço, a espadela sobre as fibras de linho e o cortiço, a dobadoira e a caixa dos novelos para urdir a teia da AmaCastelões. Fonte: Arquivo da investigação.

sociada à região, à sua herança cultural e história social e económica". Nesse sentido, apresenta-se o processo de intervenção do design para a valorização da identidade e a promoção do território em questão no que diz respeito à identidade visual de Castelões. Espera-se resultados significativos e positivos para a comunidade, com melhoria da qualidade de vida, desenvolvimento econômico e promoção da cultura do território. Por fim, foram escolhidos os ícones mais representativos para desenvolver um sistema iconográfico, que compõe o que se chamou de *Uma Identidade Visual de Castelões* obtida a partir dos desenhos resultantes da oficina *Desenhar Castelões*.

02. A construção de Uma Identidade Visual de Castelões

Este território tem características singulares quanto ao Ciclo do Linho, ao património histórico, incluindo as tradições, a materialidade, a visualidade, e ativos contextuais como a natureza, a flora, a fauna, a arquitetura, entre outros – e ainda assim as artesãs empregam em seus bordados diferentes desenhos presentes em revistas adquiridas em quiosques. Após o árduo trabalho das mais de vinte etapas que compõem o Ciclo do Linho – "da semente à toalha" –, as flores e formas encontradas nas revistas eram bordadas aleatoriamente nos produtos (Fig. 3). No entanto, estas imagens pouco ou nada identificavam a AmaCastelões e tampouco o território onde está inserida. Neste caso, a globalização e a padronização dos bordados a partir de revistas podem considerar-se como ameaças à fragilidade do artesanato tradicional.

No entanto, identifica-se um imenso e singular repertório imagético na aldeia. Nesse quadro, um dos objetivos passa por explorar a riqueza natural, cultural e visual, e construir um sistema de identidade visual que conecte melhor a prática do bordado ao capital territorial. Para tal, a investigação identificou a oportunidade de se propor um momento de imersão para co-desenvolver a identidade visual com as artesãs, a fim de potenciar e valorizar os atributos visuais e identitários do território. Foi necessário explorar com as artesãs e participantes da oficina – principalmente estudantes de design – a necessidade de utilizar referências visuais locais, nomeadamente, imagens, desenhos, figuras que pertençam à localidade, que tenham relação com o território e com o fazer do Ciclo do Linho, especificamente, suas ferramentas, cores e detalhes para melhor identificar a origem, a história e a comunidade que o produz. O processo de identificação dos elementos gráficos identitários deu-se com pessoas da aldeia, estudantes, professores e profissionais de design. Assim, a oficina realizada na sede da AmaCastelões, em Múceres, durante um sábado, foi dividida em três fases. A primeira fase foi a de conhecer o território (Fig. 4), falar com as pessoas da aldeia, registrar por meio de desenho e fotografia os elementos característicos do local. O público convidado compôs-se de artesãs, alunos, professores, investigadores e profissionais da área do Design e, ainda, de jovens guias locais voluntários.

Fig. 3 Exemplos de bordados feitos pela AmaCastelões antes da intervenção da oficina Desenhar Castelões. Fonte: Arquivo da investigação.

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Durante o período da manhã, munidos de material para o registro foto-
gráfico e desenho, saíram pelas ruas da aldeia os cinco grupos, compostos
por quatro ou cinco pessoas e mais um guia local. Ao longo do percurso, os
participantes registraram imagens e ouviram histórias sobre a localidade.

Fig. 4 Imagens representativas da primeira etapa da oficina Desenhar Castelões: os grupos reconhecendo o território. Fonte: Arquivo da investigação.

No segundo momento, foram feitos desenhos e representação gráfica
das imagens coletadas no terreno e que identificam Castelões (Fig. 5). A
terceira e última etapa foi a de digitalizar os desenhos e compilar as ima-
gens fotográficas para então transformá-las nos ícones que representam
as referências sociais, cultu-
rais, ambientais, históricas
alusivas ao território, com-
pondo assim *Uma Identidade
Visual de Castelões*. Estes
ícones serão usados como
referência para os bordados
feitos pelas artesãs da Ama-
Castelões, com o objetivo de
valorizar a imagem, a história
e o patrimônio territorial.

Fig. 5 Imagens representativas da segunda etapa da oficina Desenhar Castelões: Processos de escolha das imagens e desenho dos elementos identitários do território. Fonte: Arquivo da investigação.

O trabalho colaborativo
permitiu que os participantes contribuíssem com os seus conhecimentos
e habilidades, resultando em projetos que geram senso de pertencimento,
orgulho e engajamento da comunidade (Krucken, 2009), o que se pode consi-
derar importante para a sustentabilidade das intervenções a médio e longo
prazos. Portanto, a investigação concorda com a autora que diz que o design
pode atuar em parceria com a comunidade local e outras áreas do conheci-
mento para promover uma abordagem colaborativa e integrada na valoriza-
ção do patrimônio cultural material e imaterial do território (Krucken, 2009).
Nesse sentido, o quadro de mediação selecionado para o uso das sínteses
gráficas dos elementos do território servirá de referência para os bordados
dos produtos em linho da AmaCastelões. Também será possível utilizar como

inspiração para o desenvolvimento de embalagens para os produtos, em estampas para serigrafia, em carimbos, cartazes e outras peças gráficas para a comunicação da associação. A importância do quadro de mediação está na garantia de que os resultados da oficina sejam aplicados de forma adequada e que atendam às necessidades e expectativas da comunidade.

03. Uma hermenêutica através da reinterpretação semântica e semiótica

Ao observar a desconexão semântica entre os resultados da prática e as concessões prospectivas da sua riqueza patrimonial, a investigação consultou estudos em contextos paralelos de intervenção em que narrativas visuais correspondentes à ruralidade e ao fabrico tradicional tinham frequentemente um profundo significado cultural e histórico. A intenção central, a este respeito, era investigar os fatores subjacentes que podem ter impedido uma síntese semelhante das tradições culturais de Castelões, histórias, costumes e crenças localizadas na arte visual e/ou nos artefatos.

No caso da tecelagem de Almalaguez, por exemplo, os motivos e padrões intrinsecamente produzidos nos tecidos assumem imagens simbólicas transmitidas através de várias gerações de tecelões, e mantêm laços estreitos com a proveniência histórica, territorial e cultural do ofício, incluindo a assimilação de influências culturais externas durante os quase mil anos de existência da profissão (Gomes, 2018).

Castelões e o Ciclo do Linho, em conjunto, representam um património comparável em nuances, se não na antiguidade. No entanto, a investigação postula que as diferenças na amplitude e complexidade dos respectivos processos podem ter estimulado um conjunto diferente de prioridades para ambas as culturas - cujas ofertas e perspectivas podem ser relacionadas, mas não idênticas. Em Almalaguez, o tecido é feito principalmente a partir do fio de algodão pré-fabricado, enquanto o processo "da semente à toalha" em Castelões começa com o cultivo da linhaça, e percorre as 22 etapas manuais, incluindo a fiação e a tecelagem para então chegar ao tecido de linho que é posteriormente transformado em vários produtos como naperons, toalhas de rosto, toalhas de mesa e colchas. Pode-se também argumentar que as duas práticas se encontram em fases diferentes do ciclo de vida cultural, uma vez que o tecido Almalaguez também foi historicamente produzido a partir de linho cultivado localmente. A consequente transição para o fio de algodão industrial pode ter sido necessária pelas dinâmicas socioeconómicas e sociopolíticas semelhantes aos fatores que precipitaram o declínio da fabricação tradicional de linho em Castelões, e em outros polos em Portugal. Assim, enquanto a iconografia incorporada nos motivos e padrões de Almalaguez é uma componente fundamental da proposta de valor e transmite um sentido de lugar e identidade, em Castelões os bordados no tecido são ornamentais, não tendo ainda qualquer margem para a promoção da identidade, memória e significado.

Em resposta, o projeto de pesquisa liderado pelo design tem trabalhado em estreita colaboração com a comunidade e instituições locais para criar recursos que conduzam à instituição da identidade artesanal, parte da

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qual já foi iniciada através da concepção e desenvolvimento da marca Ama-Castelões. O passo correspondente, portanto, foi direcionar a investigação para a forma como as pessoas percebem e vivenciam o território, o que, por sua vez, poderia informar o desenvolvimento de um sistema associável de identidade visual. A oficina, nesse sentido, empregou uma abordagem de investigação qualitativa baseada na fenomenografia, cujo foco era obter uma compreensão integrada do território por meio da coleta de perspectivas individuais sobre ele (Fernandes, 2005). A investigação considera essa abordagem particularmente aplicável, pois fornece uma visão diferenciada da percepção das pessoas sobre o lugar, como o vivenciam e como se relacionam com ele. Isso inclui respostas emocionais, pré-associações e preconcepções em relação aos elementos ambientais e o seu sentido geral do lugar, que quando considerados em conjunto, podem capturar a essência do território, e a iconografia resultante pode orientar futuras experiências.

Desta forma, o projeto aplicou a definição de *fenomenografia* de Marton (1986) como "um método de investigação para mapear as formas qualitativamente diferentes em que as pessoas experimentam, conceptualizam, percebem e compreendem os vários aspectos de um fenómeno" num quadro objetivo de aprendizagem multilateral e geração de conhecimento. A fenomenografia também se tornou um ponto central para um processo intelectual que não era metodologicamente estabelecido desde o início, e em que foi dada grande ênfase em permitir que o contexto orientasse as explorações metodológicas.

A componente fotográfica do exercício foi também importante, uma vez que ajudou a identificar os atributos territoriais e pontos de referência que mais eficazmente impressionaram a sensibilidade dos participantes, que podiam, portanto, indicar os aspectos e elementos a destacar ao interpretar um sentido do lugar através da concepção gráfica. A imersão no contexto pode também ajudar a descobrir valores culturais, naturais ou históricos inesperados do território, no sentido de defender características lexicais únicas, e como tal, uma identidade característica que pode repercutir em quem visita ou vive em Castelões.

Outro aspecto de particular importância para a natureza fenomenográfica da atividade foi a diversidade dentro do grupo participante: o envolvimento dos habitantes locais com os não locais garantiu perspectivas tanto EMIC como ETIC (Pike, 1954). A perspectiva EMIC neste trabalho refere-se ao olhar interno, ou seja, dos guias locais que através do seu ponto de vista sobre o que é identitário do território conduziram os convidados pela aldeia. Por outro lado, a perspectiva ETIC deu-se a partir da visão externa dos participantes da oficina, que através do seu olhar "estrangeiro" captaram os elementos representativos da identidade local.

Portanto, o objetivo de integrar essas duas perspectivas diferentes sobre a cultura de Castelões foi duplo:

1. A recolha de perspectivas EMIC permitiu construir um quadro de conhecimento que melhor reflete os valores, o sistema de crenças, os costumes, os processos e as sensibilidades daqueles que residem no contexto. Ajudou também a prestar atenção aos significados dos ele-

mentos culturais conforme são compreendidos por aqueles para quem o contexto faz parte intrínseca da identidade pessoal.

2. Esse quadro, durante o processo de mediação, foi devidamente articulado com as observações externas sobre os componentes materiais e comportamentais da cultura, com o objetivo era obter entendimentos que não fossem influenciados pela inculturação e que pudessem levar a associações analógicas e/ou metafóricas inesperadas, porém vantajosas.

Juntas, as duas categorias de percepção informaram a abordagem do projeto em relação à mediação como um todo, e se manifestaram especialmente nas estratégias de suporte à co-inovação.

O grupo se destacou pela diversidade: de nacionalidades (cinco países), multicultural (quatro continentes) e etária (entre os 20 e os 70 anos). Dentro do grupo encontravam-se artistas, designers e artesãos. Em conjunto, o material visual produzido proporcionou uma avaliação diversificada da cultura visual, material e processual. A interpretação desses dados visuais em um sistema gráfico de identidade visual exigiu uma articulação de avaliação subjetiva e objetiva, no entanto, o fluxo do processo foi mantido direto, começando com uma observação elementar do material de origem.

Os principais atributos visuais foram então desconstruídos, o que incluiu uma inspeção adicional de formas, cores e texturas, tipologias e tipografia, para revelar tendências visuais e contextuais. Uma vez que essas tendências foram estabelecidas, uma série de ações interpretativas, tanto analógicas quanto digitais, foram realizadas para chegar a um conjunto de ícones que pudessem comunicar efetivamente valores e mensagens territoriais e se tornar um modelo para o desenvolvimento do sistema de identidade visual mais amplo. Uma observação importante é que a integração dos membros da comunidade local no processo criativo auxiliou a cultivar significados culturais e sociais associados aos elementos visuais, o que ajudou a priorizar e/ou enfatizar facetas-chave e determinar uma estrutura semiótica. Este processo está em curso, estando previstos novos conjuntos de oficinas para as diferentes estações do ano (primavera, verão e outono), de forma a dar conta das diferentes tonalidades do território que possam surgir. Exploração futura de elementos tipográficos também está em consideração.

04. Discussão

A prática do bordado em Castelões é desenvolvida para dar acabamento às peças de linho produzidas na AmaCastelões. As artesãs escolhiam os desenhos apresentados nas revistas de bordado e não olhavam para o seu próprio contexto e assim não reconheciam os elementos que poderiam representar a iconografia – os "marcadores de identidade" (Krucken, 2009) locais. E, assim, os produtos da AmaCastelões mesmo passando por todo o processo árduo de produção e manutenção do saber-fazer, não representavam a identidade do território, deixando uma lacuna na comunicação da origem do produto, e na informação do saber-fazer tradicional que Krucken (2009) defende ser "importante para a recuperação e a perpetuação da tradição e da história dos produtos, distinguindo e exaltando as comunidades que os produzem e as regiões de origem" (p. 101). Este é um dos objetivos da investigação, ou seja,

DESENHAR CASTELÕES: EXPLORAÇÃO VISUAL PARA UMA IDENTIDADE TERRITORIAL DRAWING CASTELÕES: VISUAL EXPLORATION FOR A TERRITORIAL IDENTITY

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articular e conectar tradição e inovação para propor ações e estratégias que potencializam o desenvolvimento do território através de novos produtos. Diferentes métodos de recolha de imagens foram utilizados pelos participantes, nomeadamente, desenho, fotografia, elementos físicos. Entretanto, os processos de criação dos ícones também foram diversos, desde a observação das imagens fotográficas (Fig. 6) que serviram como base para o desenvolvimento do ícone, como a digitalização dos desenhos e a sua interpretação para chegarem às sínteses gráficas (Fig. 7) por meios digitais.

Como resultado (Fig. 6 e 7), gerou-se um conjunto de ícones que se entende como estudos da identidade local e da cultura do linho, incluindo desenhos da flor e da semente do linho, da sementeira ou baganha, das pedras que eram usadas para construir as paredes das casas da aldeia, da laranja de Castelões e da laranjeira, arquitetura das casas, elementos gráficos pertencentes à sinalética dos nomes das ruas, elementos talhados na madeira presentes no interior da capela, da vegetação, entre outros.

A criação dos ícones teve como objetivo uma síntese dos elementos visuais da aldeia e do linho, o que permitirá que a identidade visual seja utilizada de forma criativa e inovadora nos produtos de linho da AmaCastelões (Fig. 8). Neste contexto, os participantes da oficina e a comunidade se envolveram e contribuíram com ideias e desenhos para representar a identidade local. Isso demonstra o valor que a comunidade atribui ao patrimônio cultural e à produção artesanal local, e a disposição para experimentar novas formas de utilização desses elementos. Deste modo, pode-se utilizá-los por exemplo para estampar com serigrafia os tecidos produzidos com linho, nas embalagens dos produtos de Castelões, o que permitirá que a identidade local seja disseminada de forma mais ampla. Além disso, o uso dos ícones como base para os bordados que as artesãs aplicam nos produtos de linho poderá dar ainda mais personalidade e valor simbólico aos produtos.

Fig. 6 Interpretação: desenvolvimento dos ícones a partir de imagens fotográficas. Fonte: Arquivo da investigação.

Fig.7 Interpretação: desenvolvimento dos ícones a partir de desenhos. Fonte: Arquivo da investigação.

Fig.8 Aplicação do ícone em bordado no produto. Fonte: Arquivo da investigação.

A oficina de desenho revelou-se uma oportunidade efetiva para iniciar a exploração visual de Castelões o que incluiu captar elementos identitários através da fotografia, do desenho e de relatos das artesãs e dos guias locais. O resultado da colaboração entre os habitantes e os participantes foi importante para entender e reconhecer a identidade local de forma mais direta, detalhada e aprofundada.

Foi, ainda, sugerido criar estampas e combinações dos elementos coletados durante a oficina, que poderão ser utilizados como base para os bordados, carimbos ou outras técnicas de aplicação nos novos produtos da AmaCastelões. Com isso, será possível promover a inovação na produção artesanal, criar produtos em diálogo hermenêutico com a cultura e as tradições locais, contribuindo para aumentar a base de elementos identitários do território.

Agradecimentos

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Desenhar à inglesa pela mão caligráfica de António Jacinto de Araújo, um desenhador da escrita

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[Desenho/BD · Drawing/Comics]

Resumo

Este artigo apresenta uma investigação sobre o desenho de escrita do calígrafo português António Jacinto de Araújo. Em 1794 surge em Portugal a sua obra Nova Arte de Escrever, um manual de caligrafia dedicado à caligrafia Inglesa. Do ponto de vista da **problemática** defende-se aqui uma posição em torno de uma abordagem fortemente geométrica à caligrafia, assente em postulados próprios, uma nomenclatura própria, partindo da oval enquanto esteio geométrico do trabalho. Os **objetivos** desta pesquisa passam por uma clara interpretação da sua terminologia, no geral e na especificidade, particularmente na análise do *intervalo*, do *meio intervalo*, das *mistelinhas*, das *linhas primitivas* e das *curvelinhas*, enquanto elementos basilares do desenvolvimento da sua caligrafia. Já no que à **metodologia** diz respeito partimos para um mapeamento da geometria construtiva, descrita recorrendo a gráficos produzidos para esta investigação, para assim ser possível analisar e relacionar a nomenclatura com o grafismo observado. Os **resultados** obtidos, partindo da descrição de uma seleção de estampas essenciais, permitem no final obter uma clara e detalhada percepção da abordagem do autor ao estilo caligráfico em epígrafe.

Abstract

This article presents an investigation on the writing/drawing of Portuguese calligrapher António Jacinto de Araújo. In 1794 his work Nova Arte de Escrever appeared in Portugal, a calligraphic manual dedicated to English calligraphy. From the point of view of the **problematic**, a position is defended here around a strongly geometric approach to calligraphy, based on its own postulates, its own nomenclature, starting from the oval as the geometric mainstay of the work. The **objectives** of this research go through a clear interpretation of its terminology, in general and in the specificity, particularly in the analysis of the *interval*, the *middle interval*, the *mix-lines*, the *primitive lines* and the *curved lines*, as basic elements of the development of its calligraphy. As for the **methodology**, we started with a mapping of the constructive geometry, described using graphs produced for this investigation, so that it is possible to analyze and relate the nomenclature with the observed graphics. The **results** obtained, starting from the description of a selec-

tion of essential prints, allow us, in the end, to obtain a clear and detailed perception of the author's approach to the calligraphic style in epigraph.

01. Introdução

A indústria das artes gráficas encontrava-se em franco desenvolvimento no final do século XVIII, mas a caligrafia continuava a ser observada como a atividade da *arte de escrita* por excelência, enquanto a tipografia e o desenho de tipos de letra para punções correspondia a uma prática de carácter instrumental[1]. Neste sentido podemos afirmar que os calígrafos eram nessa época os *artistas da letra*. A prática da caligrafia era também uma necessidade social tendo em conta o carácter personalizado de uma carta manuscrita. A posição do escrevente, a maneira de pegar na pena, a forma do aparo e o desenho das letras, continuavam a ter um desenvolvimento considerável neste período, só negado com a chegada da máquina de escrever e do teclado.

É neste contexto que surge em Portugal a *Nova Arte de Escrever*[2] do calígrafo António Jacinto de Araújo, um manual de caligrafia dedicado à caligrafia *Inglesa*; um volume oblongo, sensivelmente inferior ao formato A3, constituído por 25 páginas de texto seguidas de 25 estampas dedicadas exclusivamente à caligrafia *Inglesa*. A única obra deste autor é editada no século XVIII, concentrada num estilo caligráfico singular tendo em conta a sua leitura pessoal do espírito da época. Jacinto de Araújo não é um erudito da história da caligrafia nem um estudioso da evolução da escrita no ocidente; é, em primeiro lugar, um calígrafo de grande destreza e com grande capacidade de observação tendo em conta a forma como mimetiza determinados autores ingleses. Por outro lado, revela sentido de oportunidade ao selecionar a caligrafia *Inglesa* tendo em conta que se tratava, no seu tempo, de uma caligrafia convencionada em toda a Europa e em breve também nos Estados Unidos da América.

O seu trabalho é revelador do abandono da caligrafia *Portuguesa* de Andrade de Figueiredo e da implantação da caligrafia *Inglesa* em Portugal, refletindo uma nova abordagem, correspondendo a uma visão da caligrafia *Inglesa* nem sempre de traçado ágil mas rigorosa e reveladora de formas verdadeiramente originais. A sua didática é bastante coerente e no seguimento do seu trabalho mostra bom senso e espírito prático na realização da caligrafia.

02. Interlocutores de Jacinto de Araújo

Jacinto de Araújo realizou um dos trabalhos mais criativos e pessoais, no contexto da caligrafia em Portugal, tendo sido professor de escrita e aritmética em Lisboa e membro correspondente da Academia Imperial de S. Petersburgo, de acordo com os dados apurados por Francisco da Silva, no primeiro volume do *Diccionario Bibliographico Portuguez*[3]. O investigador regista ainda o facto de este calígrafo ter escrito um manual de matemática, factos que aqui compilamos para assim nos apercebermos da personalidade multifacetada que também se revela no seu legado caligráfico.

O retrato biográfico realizado por Francisco da Silva no *Diccionario Bibliographico Portuguez* enquadra em grande medida a vida e obra de

Jacinto de Araújo. Importa ainda destacar que o manual de Jacinto de Araújo, embora pouco estudado, é referido em inúmeros dicionários, sintoma da sua divulgação no seu tempo[4].

A obra de Jacinto de Araújo tem sido claramente menosprezada no que toca ao estudo da caligrafia em Portugal. Ventura da Silva é a excepção à regra, tendo-se referido ao seu manual de caligrafia com dedicação e até radicalismo no que diz respeito à crítica caligráfica da obra.

Neste sentido recorremos inevitavelmente a este autor para dele recolhermos uma verdadeira *farpa queiroziana* recaindo sobre um seu contemporâneo e *rival*. Ventura da Silva é demolidor na sua análise à *Nova Arte de Escrever* afirmando que o seu autor aborda a caligrafia "facetadamente, com graça pesada e fradesca dos humanistas do seu tempo"[5], descrevendo assim, aquelas que são, no seu ponto de vista, as fracas qualidades do calígrafo. Ventura da Silva vai ainda mais longe ao afirmar que a obra de Jacinto de Araújo se deveria denominar: "*Nova Arte d'Escrita Araujeutica*, derivada assim do seu apelido Araújo" [6].

03. A perspetiva da caligrafia inglesa

A designação "*caligrafia Inglesa*" pode levar a equívocos que Jacinto de Araújo esclarece logo no início do seu tratado: "chama-se inglesa, ou porque foi inglês o seu autor, ou porque em Inglaterra foi seguida" [7]. Na verdade, trata-se de uma criação francesa de Lucas de Materot, consubstanciada na obra *Les Oeuvres*, de 1608, que constitui uma contribuição fundamental para a sua criação. Assim a caligrafia *Inglesa* é um produto que chega às mãos de Jacinto de Araújo através dos calígrafos franceses, que a criaram e dos calígrafos ingleses que a aperfeiçoaram. A obra de Jacinto de Araújo surge no período áureo desta caligrafia, que se regista entre 1720 e 1800, absorvendo os ventos que vinham simultaneamente de França e Inglaterra.

Apesar de se denominar Inglesa é uma caligrafia ignorada em Inglaterra a partir do início do século XX onde, até essa altura, houve grandes calígrafos deste estilo caligráfico como Martin Billingsley, Edward Cocker ou Charles Snell. O responsável pela rejeição da caligráfica *Inglesa*, em Inglaterra, foi Edward Johnston que a partir de 1899 a excluiu dos currículos de caligrafia, iluminura e stone lettering da Central School of Arts de Londres.

04. As influências de Jacinto de Araújo

Não temos referências sobre os manuais de caligrafia a que Jacinto de Araújo teria tido acesso. Observando a obra dos vários autores de caligrafia é nos calígrafos mais tardios, que produziram a caligrafia *Inglesa* clássica, que encontramos paralelos estilísticos tendo em conta a regularidade dos traços e a padronização gráfica presente nestas obras – Jacinto de Araújo desenvolve uma caligrafia mecanicista que se aproxima muito da de três autores ingleses que revelam estas características[8]: John Ayres, Charles Snel e George Bickham, autores que a partir do trabalho de Lucas Materot e o de Van den Velde criaram um estilo graficamente clássico, desenvolvendo a fortíssima herança francesa. John Ayres é já um autor pleno da caligrafia *Inglesa* clássica. Na primeira década do século XVIII, Ayres edita uma obra fundamental

para toda a Europa: *A Tutor to Penmanship* que se destaca pelo equilíbrio da caligrafia e pela qualidade visual do manual, de que aqui mostramos um fragmento.

A caligrafia de Ayres é pouco gestual, extremamente calculada no seu traçado, com alusões mínimas ao carácter cursivo de muitos dos autores anteriores e, neste sentido, muito apropriada para a gravura em cobre, sendo um estilo *cooperplate* pleno. Tendo isto em conta, depois de Ayres a caligrafia *Inglesa* passou a ser utilizada de forma profícua nos ateliers de gravura. O seu desenho de escrita tende a esconder a mão e a expressão ao criar fios condutores formais entre letras, sendo perceptível que as letras são constituídas por elementos retirados de outras letras. Esta natureza normalizadora e padronizadora é uma das marcas mais fortes do trabalho de Jacinto de Araújo que também segue este postulado ao mimetizar de forma sistemática os traços entre as letras, produzindo uma caligrafia mecanicista e construtivista.

05. A geometria caligráfica de Jacinto de Araújo

Para descrever o desenho da caligrafia *Inglesa*, Jacinto de Araújo produziu a sua própria nomenclatura: um conjunto de designações que permitem compreender melhor as suas opções formais e geométricas. De forma generalizada, considera-se que a caligrafia *Inglesa* se baseia numa forma oval inclinada, sendo a altura igual ao dobro da largura. Oito letras são caligrafadas partindo do esquema da letra 'a': 'b', 'c', 'd', 'e', 'g', 'o' e 'q', e seis letras pelo principio do 'n': 'h', 'm', 'n', 'p', 'v', 'y', conforme indica Jacinto de Araújo. A altura das maiúsculas é três vezes o das minúsculas. Os pontos e as gotas devem ficar ovais. O traço grosso da letra corresponde aproximadamente a um décimo da altura da letra 'a' minúscula. A geometria que Jacinto de Araújo enuncia organiza-se em primeiro lugar pelas letras que apenas são constituídas pelo *corpo primitivo*: 'a', 'c', 'e', 'i', 'm', 'n', 'o', 'r', 's', 't', 'u', 'v', 'x', 'y', 'z' e que consecutivamente apenas ocupam o *espaço primitivo*. Para as letras com ascendentes e descendentes que ultrapassem o espaço primitivo estendem-se as *hastes superiores* e *inferiores* que apresentam fórmula própria: aqui a altura, para cima ou para baixo é de dois espaços, iguais ao primitivo, sendo um e meio se não terminar em curva.

Jacinto de Araújo usa alguma terminologia específica como seja o *intervalo*, que é a distância existente entre duas linhas rectas, por exemplo de uma mesma letra. Já o *meio intervalo* é a metade do intervalo que se usa quando entre duas letras há meio espaço. O autor evidencia uma capacidade de criação semântica notável, leia-se o termo *mistelinhas*, que refere linhas mistas feitas de rectas e curvas. Um bom exemplo é o arco da letra 'n' que surge na continuação de uma recta. As *linhas primitivas*

que Jacinto de Araújo também designa por *linhas grossas* são traçadas com a pena totalmente assente no papel, isto é, com os dois bicos da pena. As *curvelinhas* são linhas totalmente curvas; trata-se de uma estrutura filiforme, curva, que está do ponto de vista da nomenclatura, muito bem descrita.

As linhas designadas *rectas* são as linhas que se mostram oblíquas na letra mas não têm curvas. Assim, partindo deste pressuposto, temos a designação de linhas *oblíquas*, também definidas como *inclinadas da extremidade inferior para a direita*. A *linha perpendicular* é referida por Jacinto de Araújo, tendo em conta as estruturas de apoio geométricas que permitem

o cálculo da inclinação da letra. Na caligrafia *Inglesa*, como em muitas outras, não há linhas perpendiculares à linha de escrita, visto a caligrafia ser sempre inclinada. As *linhas paralelas* colocam-se não só ao nível construtivo e geométrico mas também ao nível da geometria da própria letra, como nas duas linhas rectas paralelas da letra 'u'.

O *vértice* corresponde ao ponto de encontro de uma *linha perpendicular* com uma *linha paralela* definindo assim a inclinação estrutural da caligrafia.

O *diâmetro* é outra designação importada da geometria para a caligrafia. Assim, qualquer círculo ou elipse, neste caso, têm uma linha estruturante ao meio, denominada *diâmetro*, que a organiza em duas partes iguais. A letra 'o' com a sua inclinação própria tem a meio uma linha estruturante com a mesma inclinação que serve de apoio ao aprendiz.

Rombóide é a mais interessante desta lista de designações de geometria caligráfica, correspondendo à grelha ou quadrado uniforme onde todas as letras individualmente encaixam, sendo de estrutura inclinada. Um rombóide é "um quadrilátero de ângulos não rectos, dois opostos, com lados iguais entre si em cada um, e os outros dois não"[9]. Jacinto de Araújo define este termo como uma figura "de que os lados opostos são paralelos e iguais"[10]. Por seu turno, o *rombo* é uma figura semelhante ao *rombóide* mas sem inclinação, uma figura quadrilátera, podendo ou não ter os lados iguais.

A última designação da nomenclatura caligráfica de Jacinto de Araújo é a *diagonal* que se usa enquanto elemento de apoio geométrico para a construção da caligrafia. Podemos afirmar com segurança que Jacinto de Araújo é o primeiro autor a criar uma nomenclatura para a geometria caligráfica em Portugal.

06. Uma questão fundadora: a inclinação da caligrafia *Inglesa*

A caligrafia *Inglesa* realiza-se com um ângulo de inclinação de 54 graus com a linha horizontal, sendo a ponta do instrumento riscador pontiagudo e a grossura das letras obtida pela pressão na pena segundo a
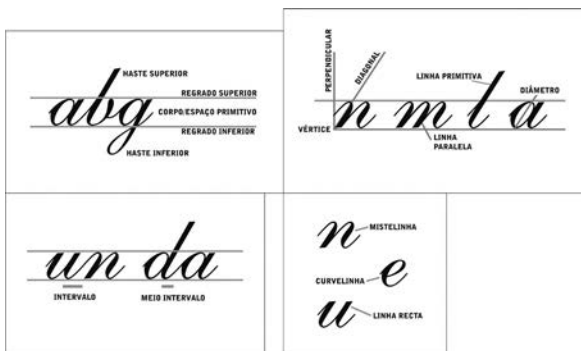
Fig. 2 Nomenclatura caligráfica de Jacinto de Araújo

inclinação indicada. No sexto capítulo do seu manual, Jacinto de Araújo concentra-se na inclinação da letra, aspecto fundador para uma estratégia estilística da caligrafia, visível na estampa A do manual, a única que se encontra no corpo do texto teórico, facto que obrigou o calígrafo a deno-miná-la de forma diferente, abdicando da numeração que segue em todas as estampas caligráficas. A estampa A incide em primeiro lugar sobre a obliquidade das letras, em segundo lugar sobre a altura da caligrafia e num último momento sobre o espaço entre palavras na caligrafia.

Fig. 3
Jacinto de Araújo
- Estampa A
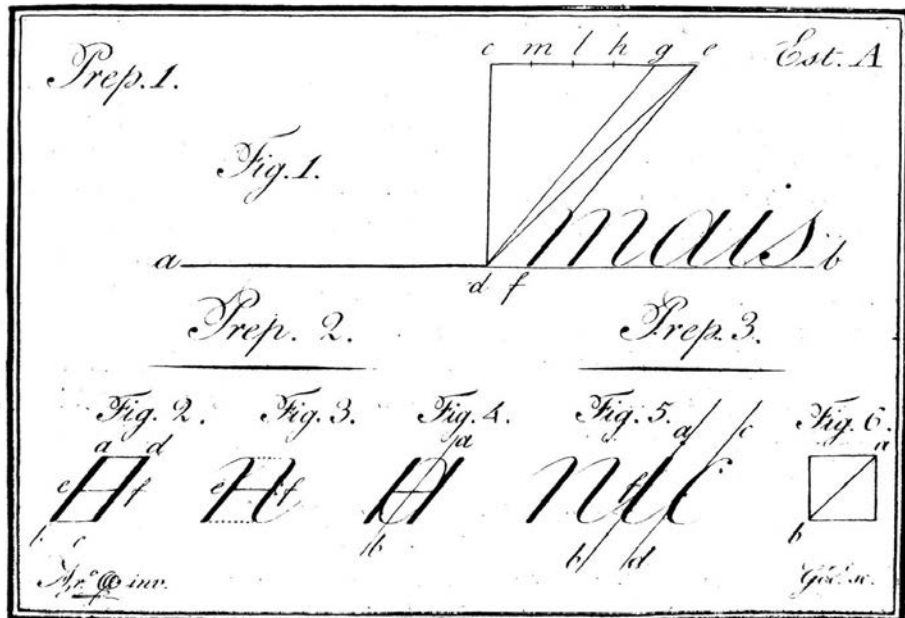
1. Na fig. 1 a recta *'ce'* está dividida em cinco partes e é do mesmo tama-nho que a recta *'cd'*. A recta *'ed'* terá então 45 graus de inclinação.
2. A inclinação da caligrafia corresponde à linha que une um dos pontos que subdivide a recta *'ce'* – o ponto *'g'*, com o ponto *'d'*.
3. As rectas *'gd'* e *'ef'*, que apresentam a mesma inclinação, correspon-dem à inclinação da caligrafia.

Constata-se que o método de Jacinto de Araújo não refere os graus de obliquidade ou inclinação da caligrafia sendo, contudo, a sua geometria de grande rigor. O autor reforça a ideia não só de racionalidade mas também de legibilidade, leitura e inclinação, tão importantes para o entendimento entre quem escreve e quem lê, e para a produção de um objecto de comunicação que ligue eficazmente a instância de produção e a instância de recepção.

Refere ainda, sobre a questão da inclinação, que se deve "observar huma certa *obliquidade,* que se acommode ao movimento natural dos dedos, e ao officio ora de hum, ora de ambos os lados da penna; e ao mes-mo passo ao melhor ponto de vista: na qual certeza tem vacilado a maior parte dos bons escripturarios"[11].

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07. A ergonomia no método caligráfico de Jacinto de Araújo

A manipulação do instrumento riscador e a posição do corpo do indiví-
duo que realiza a caligrafia são factores fundamentais para a sua correta
realização. Sobre o instrumento riscador, o calígrafo refere as penas da asa
esquerda tendo em conta a adaptação à mão direita, sendo melhores as "da
Holanda já preparadas: este preparo se faz metendo-se na cinza, arêa fina
com um calor medíocre até se presumir, que este lhe tem absorvido as suas
partículas oleosas de que são acompanhadas"[12]. A preparação da pena é
um dado muito importante na caligrafia. Pode observar-se na estampa 3 o
pormenor da feitura do aparo e a limpeza da zona onde a mão vai segurar.
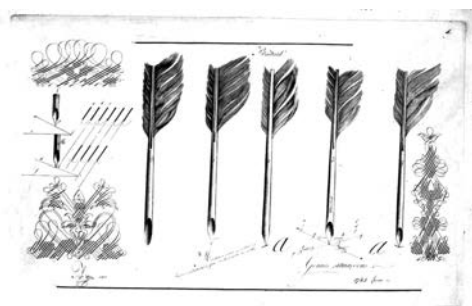
A estampa 4, em complemento, mostra como se prepara o aparo. Da
esquerda para a direita, corta-se a grossura da pena que é depois desbastada
de ambos os lados. A fenda deve ser paralela ao canudo. Ainda na estampa 4, a
pequena figura no canto superior esquerdo revela que a fenda está mais encos-
tada à esquerda e o bico da direita é sempre mais largo e mais comprido; a pena
grande, terceira a contar da esquerda, dá a ver a forma oblíqua do corte do bico.

Fig. 4 & **5**
Jacinto de Araújo
- Estampas 3 e 4

08. As estampas caligráficas de Jacinto de Araújo

A partir da estampa 7, Jacinto de Araújo inicia um conjunto de estampas
eminentemente gráficas, para a construção correta da caligrafia *Inglesa*.
Cada uma destas estampas está parcelada em números (tendo o calígrafo
utilizado figuras para parcelar anteriormente a estampa A). Nestas estam-
pas podemos constatar o uso duplo da pena, em bico e deitada, permitindo
a realização ágil e natural dos traços mais finos e mais grossos. As linhas
grossas ou primitivas, dado o seu volume, precisam que os dois bicos da
pena assentem
no papel, ou que
a pena esteja dei-
tada. As linhas
finas, de ligação,
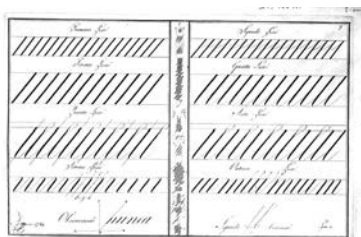são feitas com o
bico da direita,
mais fino.

Fig. 6 & **7**
Jacinto de Araújo
- Estampas 7 e 8

O primeiro passo para aprender este estilo caligráfico é a realização das linhas rectas primitivas que devem ter uma grossura constante e uma distância igual entre elas. Na estampa 7 pode observar-se a primeira lição de linhas primitivas, no canto superior esqurdo, e o exercício da segunda lição, à direita, que consta de linhas primitivas donde sai em curvatura uma linha fina que vai ao encontro da recta seguinte.

A terceira lição da mesma estampa revela o bom senso de Jacinto de Araújo e a noção de construção de um método verdadeiramente pedagógico: "quasi todos os mestres d'Escrita nesta cidade tem usado com bastante fatuidade das linhas mais compridas na primeira lição, parecendo-lhes que nisso consiste o método da arte, e o desembaraço do discípulo", contudo, Jacinto de Araújo considera que "as linhas da *primeira lição* animam o discípulo, e com mais facilidade procuram a firmeza da mão, o movimento natural dos dedos, e flexibilidade do pulso: logo constituindo o discípulo nestes atributos, pode formar linhas ainda mais compridas, que as da primeira lição"[13].

Na estampa 7, constatamos ainda que para o calígrafo português existem duas características que na generalidade fazem a boa caligrafia: a "igualdade das linhas" e a "regularidade das extremidades"[14].

No sentido de abordar estas duas questões, o calígrafo realizou uma *observação*, assim designada, na zona inferior da estampa 7, à direita, onde se pode verificar que a recta *'ab'* corresponde à zona fronteira onde se muda para o bico fino da direita. A linha primitiva está representada em contorno para melhor se perceber a relação entre o grosso que termina e o fino que se inicia fazendo a curvatura que forma o conjunto da *mistelinha*.

A quarta lição da estampa 7 é dedicada às *mistelinhas*. Podemos observar a linha oblíqua *primitiva* a cheio que dá lugar à curva inferior de ligação com a letra seguinte, num contínuo repetitivo. As *mistelinhas alternativas* podem ser vistas nas lições quinta, sexta e sétima da estampa 7 onde é fundamental verificar a alternância entre recta e curva na parte superior da linha primitiva. A sétima lição revela também ligações entre traços circunscritos ao espaço primitivo, podendo tratar-se de uma ligação entre 'u' e 'n'.

Na oitava lição, onde se dá continuidade à análise dos traços realizados no interior do espaço primitivo, pode observar-se o espaço entre letras: quando uma letra acaba em curva (na zona inferior) e se liga a outra letra, iniciada em curva (na zona superior) deve dar-se um espaço e meio generoso entre letras; constatamos ainda que Jacinto de Araújo numerou as linhas deste espaço: entre a linha quatro e cinco temos um espaço mais meio até à linha seis, revelando grande integridade gráfica.

As estampas 8 e 9 são realizadas por Jacinto de Araújo com racionalidade, depuração e com uma noção perfeita da função pragmática da caligrafia. Neste sentido, observe-se também a letra 's', que se *fecha dentro de si própria*, onde a gota terminal se vai juntar à primeira linha inicial oblíqua que vem da letra anterior; constate-se ainda a letra 'b' que não fecha a curva do espaço primitivo, evitando o contacto com a haste.

Na estampa 8, à esquerda, podemos ver ainda o espaço do corpo primitivo (3) e os dois espaços superiores (1 e 2); em baixo temos os espaços inferiores (4 e 5). De notar que os espaços 1 e 5 estão divididos ao meio:

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como regra temos que as ascendentes sem curva se prolongam um espaço e meio para cima e as que têm curva ocupam dois espaços, como se pode verificar na terceira e quarta letras 'l', a partir da esquerda, numeradas no topo com 1 e 2. Verifique-se também a haste descendente da letra 'p' que ocupa um espaço e meio para baixo e a letra 'j' que é exemplo de um prolongamento de dois espaços inferiores, tendo em conta que integra uma curva. Temos ainda a letra 'f', que ocupa toda a extensão de espaços, quer superiores quer inferiores.

No que diz respeito às linhas auxiliares para a concepção da caligrafia, é fundamental observar novamente a letra 's', apoiada por duas rectas oblíquas auxiliares que ajudam o escrevente a perceber que a letra ocupa um espaço unitário e permitem verificar os intervalos anteriores e posteriores que garantem a unidade desse mesmo espaço.

Na estampa 8, no N.º 10, onde um 'l' se liga a um 'j' (tendo a primeira uma curva superior e a segunda uma curva inferior) o autor junta as duas letras no interior de um espaço unitário para que a sua ligação seja natural. Podemos observar que a segunda lição, ao meio da estampa 8, recebe da primeira lição, no topo, quatro rectas estruturantes auxiliares que dão continuidade à inclinação e à modularidade dos espaços, sendo possível observar ainda quatro dos casos mais problemáticos da caligrafia: as letras 'p', 'q', 'd' e 'b' (no N.º 16 da mesma estampa) formadas a partir da letra 'o'. Andrade desenha duas estruturas curvas no espaço primitivo onde uma haste única se desenvolve um espaço e meio para cima e para baixo.

Vejamos agora a terceira lição que diz respeito às letras que apenas ocupam o espaço primitivo. A letra 'a' que vemos à esquerda, na estampa 8, inicia-se a meio desse espaço formando a curva e a pequena haste que tem por função ligar-se à letra seguinte. Sobre a letra 'e' (no N.º 13) e a letra que lhe sucede à esquerda, refere Jacinto de Araújo que "devem ser feitas sem parar a penna, ficando de huma para outra letra um intervalo igual a duas grossuras de qualquer das linhas primitivas, que lhe corresponde"[15]. Podemos afirmar que o espaço entre a letra 'e' e a letra que lhe suceder à direita é mínimo, pois a separação faz-se dentro do espaço da própria letra 'e', tendo em conta que esta apenas ocupa meia unidade desse espaço.

Podemos observar na terceira lição a letra 'o' que é feita de uma só penada, embora, neste caso, a curva da direita deva ter metade da grossura da curva da esquerda. Neste sentido, sempre que numa letra se regista uma segunda curva à direita, esta deverá ter sempre meia grossura, como podemos verificar em 'b' e 'v'. A letra 'x', que na estampa 8 tem o N.º 16, é uma das mais longas, ao ocupar dois espaços, com duas curvas em forma de 'c', uma delas invertida; tal como a letra 'z' no N.º 17, que ocupa também dois espaços, tendo uma linha diagonal que se liga a duas curvas.
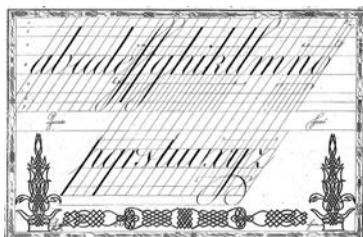
Fig. 8 & 9

Jacinto de Araújo - Estampas 9 e 10

Na estampa 9 está representada a caligrafia *Inglesa*, num estilo que Jacinto de Araújo denomina *Bastardo*. O calígrafo divide a letra verticalmente em sete unidades: três espaços unitários ao centro e quatro meios espaços nas extremidades, onde se podem desenvolver as curvas terminais. O autor opta desta vez por colocar o alfabeto pela sua ordem natural, de 'a' a 'z'. Esta estampa permite-nos observar com maior clareza a meia grossura dos traços de algumas letras, como a curva da direita do espaço primitivo da letra 'b', a seguir à qual a pena tem que se elevar para realizar a curva de ligação com 'c'. As letras 'c', 'd' e 'e' terminam o seu traçado numa curva que se liga naturalmente à letra seguinte. É importante verificar que a letra que se encontra à direita do 'e' deve afastar-se apenas meio espaço. Saliente-se também que nas ligações entre 'l', 'm' e 'n' existe sempre um espaço e meio, demonstrando a dinâmica espacial que existe entre letras.

Na segunda linha da estampa 9 há a destacar o facto de que a haste das letras 'p' e 't' sobe, ultrapassando apenas em meio espaço o corpo primitivo, para o que o calígrafo constrói uma linha horizontal auxiliar *'ab'* que delimita o topo da haste. A letra 'v' que Jacinto de Araújo apresenta tem má legibilidade, tendo em conta que é muito similar à letra 'u', registando apenas meia grossura na curva da direita. Esta *peregrinação* pelo alfabeto, de 'a' a 'z', cria situações alfabeticamente impossíveis, pois nunca um 'b' terá à sua direita um 'c', um facto que dá uma certa poética à estampa 9. As maiúsculas do estilo *Bastardo* da caligrafia *Inglesa* evidenciam uma maior originalidade, subvertendo a racionalidade que temos vindo a verificar até aqui. Ao centro da estampa 10 podemos ver um epílogo onde algumas das letras se sobrepõem, no interior de dois quadrados, construindo uma composição visualmente complexa e elegante mas caligraficamente ilegível. No quadro inferior estão sobrepostas as maiúsculas 'X' e 'Z'. Estas maiúsculas caracterizam-se por uma certa *dureza* geométrica, aspecto que oferece à caligrafia uma particular mecanicidade, o que não impede que estas capitulares sejam legíveis e pouco decoradas.
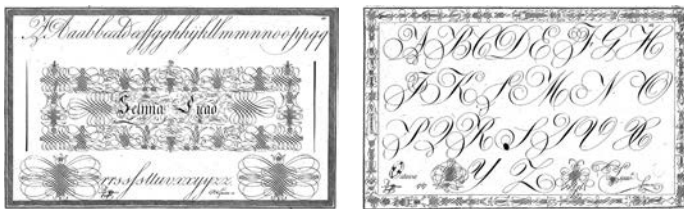

Fig. 10 & **11**
Jacinto de Araújo
- Estampas 11 e 12

O alfabeto caligráfico *Bastardinho* da estampa 11 é em tudo similar ao *Bastardo* que temos vindo a observar, variando apenas na dimensão. Jacinto de Araújo acrescenta elementos decorativos que se revelam de grande interesse, como seja a haste curva das letras 'd' e da letra 'p' que evidenciam um improviso caligráfico que contrasta com uma certa mecanicidade presente no 'y', algo desarticulado. O alfabeto caligráfico maiúsculo *Bastardinho* é mais interessante do que o *Bastardo*. Continuamos a sentir uma certa falta de naturalidade dos movimentos apesar de a letra ser agora mais equilibrada e graficamente mais consistente. Alguns dos seus elementos decorativos nem sempre se integram com harmonia no contexto individual da letra e no todo do alfabeto, onde se regista grande contraste entre letras. Na letra 'O' podemos verificar que há uma enorme

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variação de espessuras no traço à medida que a decoração se aproxima do interior da letra. De referir ainda, segundo Jacinto de Araújo, que as letras podem ser feitas de uma só penada com excepção do 'A' e do 'K'.
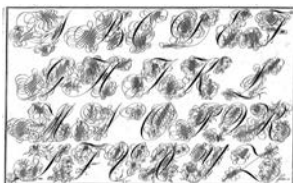

Fig. 12 & **13**

Jacinto de Araújo ~ Estampa 13 e 16

Na estampa 13 observamos o terceiro e último alfabeto maiúsculo apresentado na *Nova Arte de Escrever,* neste caso um alfabeto ornamentado. Como regra, as linhas decorativas têm a quarta parte da espessura das linhas primitivas das letras, facto que permite uma boa legibilidade, apesar da enorme variedade de elementos decorativos. No que diz respeito ao entendimento da caligrafia enquanto prática artística, refere Jacinto de Araújo que o aprendiz não é obrigado a produzir os traços de lançaria, bastando unicamente desenhar os traços principais de cada letra, tendo em conta que a decoração faz parte de outro universo.

O trabalho do calígrafo chega agora a um patamar de maior detalhe construtivo, patente na estampa 16, onde a mesma estrutura geométrica constrói as curvas da letras 'c', 'o', 'a' e 'd' (visível no N.º 2 e 3 do canto superior esquerdo da estampa). Um dos aspectos mais importantes desta estampa diz respeito à letra 'o', presente no N.º 7. Nele se verifica que, para além da diagonal que divide a letra ao meio, duas rectas oblíquas auxiliares permitem observar (entre elas) com clareza, a meia grossura da linha primitiva da direita, por contraste com o fino da curva superior e inferior, bem como a grossura inteira da linha primitiva da esquerda. É de referir também o N.º 9 onde se observa a letra 'd', com duas hastes, uma delas terminando em curva, constituindo uma excepção em relação a tudo o que temos vindo a verificar. No N.º 14 da mesma estampa, o calígrafo opta por sobrepor o traçado das letras para explicar as analogias de desenho individual, patente nas letras 'g', 'm', 'n', 'o', 'p', 'q' e 'f'. Este raciocínio é retomado no N.º 15 para as letras 'n' e 'r' que se iniciam à esquerda, de forma similar, mas que se desenvolvem de maneira totalmente diferente na metade da direita.

Conclusão

Em conclusão podemos afirmar que, ao contrário do que afirma Ventura da Silva, o trabalho de Jacinto de Araújo revela grande preocupação em torno da legibilidade e do equilíbrio gráfico da caligrafia *Inglesa*, absorvendo eficazmente os princípios de determinados calígrafos ingleses, como John Ayres, Charles Snel e George Bickham

O autor recorre de forma sistemática a linhas auxiliares que assentam sobre directrizes geométricas rigorosas permitindo que cada letra, individualmente, se construa de forma coerente. Este recurso à geometria cria uma continuidade estilística entre todo o alfabeto caligráfico, favorecendo uma certeza de decifração maximizada. Ao utilizar um grande número de linhas auxiliares e uma geometria construtiva constante, Jacinto de Araújo produz uma caligrafia de natureza mecanicista tendo em conta o aprisionamento expressivo das linhas principais e a forma como as linhas secundárias não escapam, como noutros autores, às regras grá-

ficas estabelecidas, formando um todo homogéneo. Como consequência desta opção o calígrafo produz uma caligrafia sem espontaneidade e onde a natureza cursiva da escrita é negada, tendo em conta o forte carácter construtivo que cada letra apresenta.

As opções construtivistas de Jacinto de Araújo são de grande utilidade para o aprendiz de caligrafia que encontra no seu método didático um rigor e uma objectividade que lhe permitem construir sem assistência de um professor cada uma das letras do alfabeto, graças, precisamente, à enorme quantidade de linhas de apoio e à forma como a caligrafia segue uma norma construtiva constante e fácil de reproduzir, pois que não gera situações de improviso gráfico e todos os parâmetros estão estabelecidos à partida, dentro de uma norma gráfica.

A decoração presente em determinadas estampas mais avançadas da caligrafia *Inglesa* nunca interfere com a letra, facto que comprova que a caligrafia de Jacinto de Araújo é operativa, pragmática e de carácter instrumental, afastando-se claramente de uma prática meramente decorativa ou de demonstração de virtuosismo pessoal. Apesar disto, Jacinto de Araújo não abdica da criação dos denominados alfabetos ornamentados (maiúsculas), avisando o aprendiz que não é obrigado a produzir a decoração e que esta concorre para a arte do desenho, um tema que o calígrafo não trata no seu manual, revelando a enorme objectividade do seu método de ensino da caligrafia, que pretende apoiar eficazmente o aluno.

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Desenho e Observação para Médicos: o desafio de ensinar os estudantes de medicina a desenhar

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Abstract

Drawing and observation for doctors is a course of drawing specially created for medicine and dentistry students at the University of Porto. This course challenges students to recognize the importance of drawing and its visual language as a learning tool to support their academic training. Considering that teaching within medicine context is based on the observation of the human body and the images that represent it, the practice of drawing can become useful not only in understanding anatomy but also as an important tool for communication between doctors and patients. The possibility of understanding and communicating through their images helps to consolidate and complement cognitive and communication skills relevant to their areas of training. The development of this course is part of the research project DRAWinU – Drawing Across University Borders (i2ADS-FBAUP).

01.Introdução

Em 2021, a reitoria da Universidade do Porto desafiou algumas instituições culturais, entre as quais Faculdade de Belas Artes da Universidade do Porto, a criar um conjunto unidades curriculares de competências transversais que contribuíssem para abrir horizontes e enriquecer a formação académica dos seus estudantes. Dentro deste enquadramento, eu e o Professor Mário Bismarck consideramos que seria importante repensar a clássica ligação entre o Desenho e a Medicina, compreendendo de que forma é que o exercício do desenho poderá contribuir atualmente para melhorar a capacidade de observação, compreensão e consolidação dos conhecimentos explorados nos cursos de Medicina.

Partindo do princípio que estes estudantes aprendem e se debatem com a necessidade de diagnosticar através da observação, o exercício do desenho pode melhorar a sua capacidade de observar, analisar e entender as estruturas do corpo humano, promovendo em simultâneo o desenvolvimento de uma linguagem visual útil na comunicação com profissionais de saúde e doentes. O reconhecimento destas valências contribuiu para a concepção da unidade curricular de Desenho e Observação para Médicos, acessível aos estudantes de Medicina e Medicina Dentária do Instituto de

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Ciências Biomédicas Abel Salazar (ICBAS), da Faculdade de Medicina da Universidade do Porto (FMUP) e da Faculdade de Medicina Dentária da Universidade do Porto (FMDUP).

Com a duração de um semestre, esta unidade curricular explora um programa focado numa abordagem aos conhecimentos básicos da literacia e linguagem visual do desenho, dividido em quatro módulos: anatomia e proporção; observação e análise do doente; prática do desenho no campo da cirurgia e representação gráfica de estruturas microscópicas. Esta estrutura estimulou a curiosidade e o interesse manifestado pelos estudantes ao longo do semestre, assegurando desta forma o acesso à UC no ano letivo de 2022/2023. A sua continuidade irá contribuir para melhorar a robustez do programa proposto e permitir em simultâneo a análise do desenho como ferramenta pedagógica na área da Medicina.

Considerando o trabalho que foi desenvolvido com os estudantes na primeira edição desta UC, este artigo procura partilhar os resultados obtidos ao longo do semestre e problematizar a utilidade do desenho enquadrado na formação académica dos estudantes de Medicina e Medicina Dentária.

02. Metodologia

A primeira edição da UC de Desenho e Observação para Médicos foi lecionada a partir de sessões com um carácter prático e laboratorial (2h semanais) compiladas em 26h de contacto presencial por semestre. As aulas desenvolveram-se entre sessões teórico-práticas através da exposição oral dos conteúdos enunciados no programa e um conjunto de exercícios que procuraram explorar a prática do desenho assente na experimentação e consolidação dos conceitos expostos.

Os exercícios incidiram, numa fase inicial, sobre o desenho de observação do natural focado na análise das estruturas internas do corpo humano. Esta abordagem foi suportada pela interação dos estudantes com o Teatro Anatómico Nuno Grande (ICBAS) e o seu espólio de peças com o objetivo de estimular o primeiro contacto com o desenho. Á medida que os estudantes iam dominando os materiais, a gramática e as estratégias do desenho de observação, introduziram-se novos exercícios ligados ás questões da comunicação visual, com um enfoque particular no desenvolvimento de uma linguagem gráfica útil na interação com os doentes.

A metodologia de ensino implementada nesta UC resultou de um encadeamento de quatro ações: observar, desenhar, aprender e comunicar. Observar constitui-se como o pilar essencial a partir do qual se desencadeia o exercício do desenho. Como consequência desta ação os estudantes aprenderam inicialmente a representar o corpo humano, desenvolvendo através de exercícios práticos a sua perceção visual, na espectativa de compreender, assimilar e memorizar a morfologia das estruturas anatómicas internas. Esta estratégia contribuiu para potenciar o desenvolvimento da memória visual dos estudantes com o intuito de sustentar o amadurecimento da linguagem gráfica aplicada à comunicação com os doentes no futuro.

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03. Anatomia e Proporção: Observação e Representação do Corpo Humano

> The skill of observation learned from artists can thus be brought to
> the clinical setting where observation plays an important role in both
> diagnosing and understanding the underlying concerns of the patient.
> Ultimately, doctors need to learn how to see.
> Susan Mengxiao, 2013

O desenvolvimento do olhar e da capacidade de observação continua a ser uma ferramenta essencial para os estudantes de Medicina. É através da visão que o médico consegue muitas vezes despistar o problema apresentado pelo doente. Apesar das novas tecnologias contribuírem com o aparecimento de exames importantes na recolha de dados científicos úteis para a realização de um diagnóstico, a capacidade de observar o doente e de extrair informação através desta ação permite orientar a resolução do problema. A observação do doente, desde o momento em que este entra na consulta, estimula a recolha de pistas importantes para o diagnostico, ajuda a adequar as perguntas do médico à situação especifica do doente e consequentemente permite definir uma estratégia terapêutica. Por isso se infere que aprender a ver para saber o que se está a ver, poderá, em alguns casos, ser mais importante do que saber tudo acerca de uma doença e não conseguir identificar visualmente os sinais que a denunciam. [1]

Esta consciência sublinha a importância do olhar na formação dos estudantes de Medicina, promovendo em simultâneo o arranque do programa de Desenho e Observação para Médicos. O primeiro módulo, Anatomia e Proporção, inicia-se com uma contextualização histórica do desenho na área da Medicina, considerando a preponderância do seu papel como um instrumento de observação e análise do corpo humano. É na presença de um conjunto de imagens que representam o corpo humano, desde a antiguidade clássica até à atualidade, que se começa a desmistificar a prática do desenho de observação do natural.

A exploração deste módulo fomenta o desenvolvimento da perceção visual, intimamente ligada à prática do desenho de observação, a partir de três conceitos fundamentais: forma, proporção e volume. Este encadeamento focou inicialmente a representação das morfologias presentes nas estruturas do corpo humano, através do contorno dos seus limites. O estudo das morfologias realçou a importância da proporção na definição do posicionamento e organização dos elementos que compõe a forma, criando uma base sólida para se abordar a representação da tridimensionalidade.

Na coordenação destes conceitos, os primeiros exercícios propostos focaram a observação de um conjunto de órgãos de porco – coração, fígado e vísceras – com o objetivo de explorar a sua morfologia através da perceção e representação da forma geral, dos seus limites (contorno) e do espaço que estes elementos ocupam. Ao contornar com um lápis os limites da forma, os estudantes conseguiram abstrair-se da complexidade dos elementos que compõe as estruturas anatómicas, simplificando deste

modo o exercício do desenho de observação. Privilegiou-se a utilização livre de materiais riscadores (canetas, lápis de cor, grafite, marcadores, entre outros) no contacto com o suporte de papel, promovendo acima de tudo um espaço de experimentação prática e reflexão sobre a importância da observação para a concretização do desenho.

Fig. 1. Primeira aula de Desenho e Observação para Médicos: introdução ao desenho de observação.

O conhecimento adquirido acerca da representação da forma serviu de elo de ligação para se introduzir a noção de proporção, considerando o entendimento das relações existentes entre as diferentes partes que compõe o corpo humano. Se anteriormente o foco incidia no reconhecimento dos limites presentes nas diferentes estruturas do corpo humano, o estudo da proporção acrescenta um grau de complexidade ao desenho porque desafia os estudantes a comparar, medir e a posicionar corretamente todos os elementos observados, com o objetivo de criar uma representação credível acerca do corpo humano.

Tomando como ponto de partida a observação externa e interna do corpo humano, o estudo da proporção abordou algumas estratégias úteis à conceção do desenho, entre as quais: a utilização dos cânones, problematizando a divisão do corpo em várias partes iguais através dos exemplos de Policleto, Lissipo e Leonardo da Vinci (olhar para a cabeça como uma unidade de medida), a implementação dos processos de medição e comparação entre as alturas e larguras observadas e o seu respetivo nivelamento. A aplicação prática desta metodologia procurou desenvolver a coordenação entre o olhar e a utilização do lápis como um instrumento analítico preponderante para o desenvolvimento do desenho. É através da ligação entre estes dois elementos que os estudantes procuram observar e analisar o corpo humano, utilizando simultaneamente o lápis para medir, comparar e relacionar todos os elementos que o compõe.

O estudo da proporção conduziu à necessidade de entender a volumetria do corpo humano, destacando em primeiro lugar a modelação da estrutura exterior para depois se compreender a representação das estruturas internas. Os desenhos realizados sobre o sistema muscular privilegiaram a utilização da linha na construção do volume, considerando o potencial deste elemento gráfico no processo de mimetização das texturas observadas nos músculos. O estudo do volume compreendeu ainda a representação do claro-escuro focado numa experimentação de técnicas e materiais do desenho. Foi a partir da interpretação da luz e da sua reflecção nas superfícies do corpo humano que se procurou

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representar a tridimensionalidade de algumas estruturas anatómicas (recorrendo à observação de imagens sobre dissecação) com o objetivo de mimetizar esses efeitos num suporte bidimensional.

04. Observação e Análise do Doente: Aprender a Comunicar Através do Desenho

Fig. 2 Exercícios de desenho focados na representação do corpo humano: sistema muscular (definição da proporção) e respetiva articulação do joelho (definição da volumetria), 2022

> The manual clinical drawings are often selective, schematic or sketchy, significant in the moment of their making and consigned to the wastepaper bin at the end of a conversation. Some are kept on medical records, or retained by the patient as a personal object. (...) Such drawing takes place to explain care needs and sometimes in order to reach a common technical, diagnostic understanding.
> Philippa Lyon, 2016

O ensino e a aprendizagem da medicina baseia-se na observação do corpo humano e das imagens que o representam. A presença constante da representação neste contexto, conduz de forma intuitiva à prática do desenho integrada pelos estudantes no estudo da anatomia, revelando em alguns casos um uso posterior desta ferramenta na comunicação entre médicos e doentes. Shaaron Ainsworth, professora na University of Nottingham, sublinha a importância de estimular os estudantes ligados à área das ciências a desenhar com o objetivo de se desenvolverem estratégias práticas que motivem a aprendizagem e sustentem a possibilidade de comunicar visualmente no futuro. [2] Lucy Lyons, investigadora, complementa esta ideia e refere que o ensino do desenho deveria integrar os cursos de medicina para depois ser aplicado na prática médica. [3]

O segundo módulo integra prática do desenho no processo de observação e análise do doente, considerando o estudo de doenças e respetiva formulação de diagnósticos. Neste contexto, o desenho é entendido como uma forma de expressão universal que opera no domínio do visual com o objetivo de complementar o discurso médico. Diante da terminologia complexa que caracteriza o universo da medicina, a natureza expedita do desenho realizado em consulta pode ajudar à visualização dos problemas apresentados pelo doente. É a partir desta base que se enquadram um conjunto de exercícios que procuraram fomentar o desenvolvimento prático da linguagem visual, adaptada à representação gráfica de patologias e da componente terapêutica, com um enfoque na comunicação com os doentes. Dentro da abordagem prática rea-
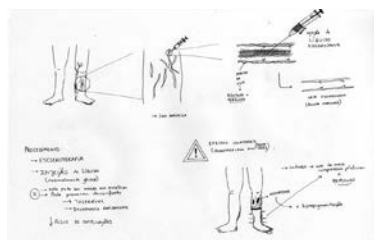
Fig. 3 Exercício de desenho focado na explicação de uma escleroterapia para o tratamento de varizes.

lizadas na sala de aula, destaca-se um exercício que teve por base a análise de um caso clínico que desafiou os estudantes a identificar a doença e a desenhar o plano de tratamento que seria comunicado ao doente. Os desenhos resultantes desta experiência conduziram ainda à simulação de uma consulta, na qual os estudantes foram confrontados com a necessidade de desenhar e explicar a estratégia terapêutica em tempo real, conciliando desta forma o discurso médico com a linguagem visual do desenho.

05. Prática do Desenho no Campo da Cirurgia: Análise e Representação de Procedimentos Cirúrgicos

> Surgeons have to write up their notes after surgery. Many already make little doodles and diagrams as there are many aesthetic as well as clinical judgments made that need to be explained.
> Lucy Lions, 2017

O reconhecimento do desenho como uma língua franca pode ser fundamental para o exercício da medicina, principalmente quando se realça o seu potencial como ferramenta processual de construção do pensamento. A possibilidade de estudar e preparar um procedimento cirúrgico na ação do desenho pode ser bastante revelador na criação de estratégias úteis ao entendimento mais aprofundado das ações implícitas durante o processo de execução.

Para Francis Wells, o desenho é uma ferramenta útil na sua atividade enquanto cirurgião cardiotorácico antes e depois de entrar na sala de operações. Se por um lado os riscadores servem o propósito de preparar a intervenção que irá realizar, diante do corpo deitado na mesa cirúrgica, é a pinça que adquire uma nova função quando alcança o sangue extraído do tórax e desliza num pedaço de papel esterilizado. Para Wells este momento é bastante útil na medida em que permite recapitular a estratégia utilizada ao longo da cirurgia e comunicar através do desenho o reparo de uma válvula mitral, partilhando o conhecimento extraído da experiência. [4]

Partindo deste exemplo, o terceiro módulo volta a sublinhar a capacidade comunicativa do desenho, mas debruça-se sobretudo na possibilidade de utilização desta ferramenta na estruturação do pensamento e compreensão de alguns procedimentos cirúrgicos. O objetivo não se foca apenas na representação da cirurgia, mas sim na oportunidade de ver o problema através do desenho, abrindo a possibilidade de traçar, formular, selecionar, excluir e enfatizar os contornos do assunto que cada estudante quis analisar. Na ativação deste processo, os estudantes foram incentivados a fazer um reconhecimento dos principais

Fig. 4 Exercícios de desenho: representação de uma sutura de ponto interrompido simples (esquerda) e ilustração de um procedimento cirúrgico para a correção do estrabismo (direita)
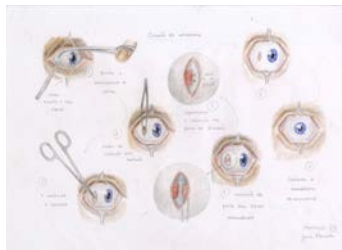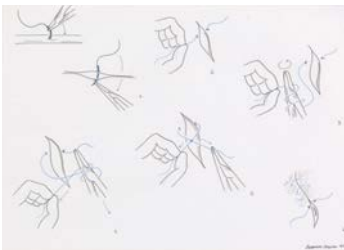
instrumentos cirúrgicos e da forma como estes são manipulados pelas mãos na ação da cirurgia. Realizaram alguns desenhos de observação e memória que serviram de preparação à representação final da cirurgia selecionada por cada estudante. No suporte de papel foi possível pensar sobre as diferentes etapas da cirurgia, perceber o que é importante representar, qual é a sequência das diferentes ações e como é que se irá dar forma à informação implícita no procedimento.

06. Representação Gráfica de Estruturas Microscópicas: Desenhar a Realidade Observada ao Microscópio

> Paper-and-pencil drawings for the uptake of form-function relationships of basic tissues has been a teaching tool for a long time, but now seems to be redundant with virtual microscopy on computer-screens and printers everywhere. Several studies claimed that, apart from learning from pictures, actual drawing of images significantly improved knowledge retention.
>
> Monique Balmens 2015

O ensino da histologia foi suportado durante vários séculos pela utilização do desenho que cumpria a função de representar as estruturas observadas ao microscópio com o objetivo de assegurar o entendimento das relações entre a forma e a função dos tecidos biológicos. A obra Micrographia de Robert Hooke (1665) abria a possibilidade entusiasmante de conhecer o universo da microscopia através do desenho, apresentando em detalhe uma variedade de objetos do quotidiano, elementos de origem vegetal e algumas espécies de insetos cujas especificidades dificilmente poderiam ser observadas a olho nu. A ação reveladora do desenho foi, no entanto, substituída pelo aparecimento da fotografia e da microscopia virtual que apesar de suplantarem a função de representação da realidade não substituem a utilidade do desenho enquanto ferramenta de aprendizagem e retenção do conhecimento.

Reconhecendo no desenho a capacidade de desmontar e interpretar o conhecimento científico, o módulo dedicado à representação de microscopias integrou um conjunto de processos e técnicas ligadas à construção de modelos visuais, com o objetivo de desmistificar a utilização do desenho face à necessidade de compreender e consolidar a complexidade epistémica abarcada pela Histologia. Na impossibilidade de trabalhar a partir da observação direta ao microscópio nos laboratórios das diferentes faculdades de Medicina, os estudantes analisaram um conjunto de fotografias correspondentes a vários cortes histológicos sobre a pele da planta do pé, disponibilizado no Atlas de Histologia da Universidade Federal de Goiás. [5]

Assente na observação das imagens, os estudantes começaram por estudar as particularidades intrínsecas ao tecido da planta do pé e identificaram um conjunto de estruturas: epiderme, derme, hipoderme e respetivos componentes adjacentes com o objetivo de enquadrar e

localizar a presença destes elementos no desenho, reconhecendo em simultâneo a sua ordem, composição, morfologia e textura. A construção deste desenho teve como ponto de partida a criação de uma grelha sobre a imagem do corte histológico e respetiva replica no suporte de papel. Ao circunscrever a imagem num sistema reticular gerou-se o guião que orientou o desenvolvimento da representação, sobretudo na necessidade de posicionar corretamente as estruturas anteriormente identificadas.
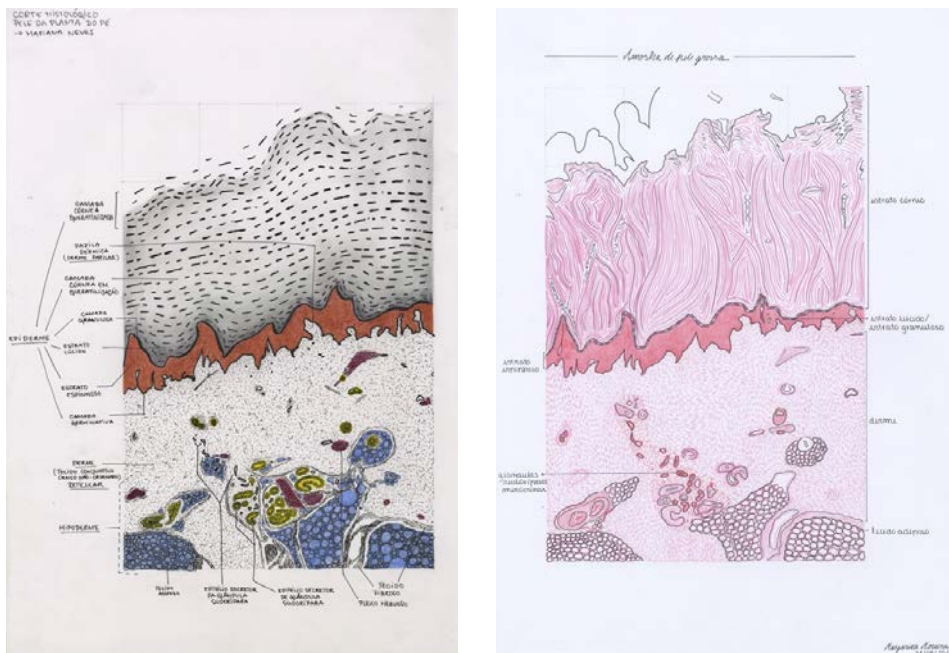
Fig. 5 Exercício de desenho focado na representação de um corte histológico da planta do pé.

Este processo de mapeamento, comumente utilizado na produção da ilustração científica, facilitou a implantação do desenho no suporte e abriu a possibilidade de se explorarem uma variedade de técnicas e materiais (lápis de cor, canetas e marcadores) evidenciadas num conjunto de referências visuais que foram apresentadas na sala de aula.

07. Considerações Finais

A imagem é uma ferramenta incontornável no ensino e aprendizagem da medicina. É a partir da visualização que se estimula, analisa e questiona o conhecimento entre professores e estudantes. Na sala de aula as representações têm o poder de revelar, tornar explícito, fortalecer a imaginação e testar conhecimentos diante das limitações do discurso verbal e escrito. Não se aprende sem imagens, muito menos num curso de medicina que se debruça na capacidade de observar, interpretar e conhecer o corpo humano e as suas estruturas funcionais, para posteriormente estar apto a enfrentar os desafios visuais do diagnóstico clínico.

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Apesar de existir a necessidade de se desenvolver as habilidades de análise visual, os estudantes passam grande parte do curso a observar e a interpretar as representações que se encerram na história da medicina, muitas delas produzidas por ilustradores científicos, evidenciando uma passividade consentida no que toca a prática do desenho. Esta atitude é fortemente sublinhada pela máxima de que é preciso ter um dom para desenhar e isso inibe a possibilidade dos estudantes criarem modelos visuais úteis ao entendimento e memorização dos conteúdos lecionados nos cursos de medicina. Por outro lado, e face à complexidade das matérias abordadas, existe uma fatia considerável de estudantes que veem no desenho uma ferramenta de estudo.

Numa tentativa de ultrapassar barreiras e preconceitos, a UC de Desenho e Observação para Médicos procurou aproximar a prática do desenho aos estudantes de medicina com o objetivo de trabalhar questões técnicas e processuais que possibilitem a utilização do desenho no contexto das aprendizagens realizadas nos cursos de medicina. Ao longo do semestre, os estudantes puderam apreender os principais conceitos e processos integrados na história do desenho, salientando a sua relação com a ciência, e amadurecer as capacidades percetivas no entendimento e representação da realidade observada, nomeadamente no que respeita ao estudo da forma (morfologia). A consolidação dos processos básicos de representação gráfica, conduziu à compreensão do corpo humano e respetiva comunicação de conceitos ligados ao universo da medicina. No final do semestre, o domínio da linguagem visual foi alcançado pela maioria dos estudantes que reconheceram as mais valias do desenho enquanto ferramenta de comunicação no contacto com profissionais de saúde e doentes.

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Drawing skills, tracing and attention – towards drawing without hands

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[Desenho/BD · Drawing/Comics]

Abstract

Is there a drawing skill integrating a common ground for the perception of the things in the world? This is one possible question regarding an approach to the function of drawing today. There is no straight answer to this question because there is no univocal definition of drawing. Nonetheless, it is possible to delineate one important skill that is developed through the practice of drawing: attentive look. Attention, as addressed in these lines, is an educated perceptual skill that permeates the ability to see and to draw[2]. I will argue for the value of traced drawings.I am assuming that the acquired knowledge and understanding of the visual field, integrating different parts in relation to each other and to the mind of the drawer, is this common ground; and that drawing as the mediation of this visual perception is the required skill. I will also suggest that attentive drawing can be measured and made visible using digital technologies, namely EEG interfaces, as an artistic undertaking.

01.Introduction

One of the most widespread biases towards drawing is that it is seen as an exclusively artistic discipline. This argument is grounded in historical facts, but above all it is a social and cultural construct based on the popular assumption of the artist as a descriptor of the world.

My argument is simple: today, in the advent of new forms of non-human intelligence, this is a too simplistic assumption, because everybody is increasingly becoming the "curator" and descriptor of their worlds; as in Neal Stephenson's novel "Snow Crash"(1993)[1] or in William Gibson's "Spook Country"[2] (2007), and almost everybody has the inner perception of being able to represent it by any available technological mediation, augmentation or generation system, with drawing being left out of this equation. Let me quote a paragraph from a 2009 EACEA report on artistic education in Belgium, as an illustrative example of the apparent fungibility[3] of drawing:

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2 Drawing ability should be understood as being ontologically different from what is commonly called a drawing gift.

3 "Fungibility is exchangeability. Fungibility also means getting anatomized into exchangeable parts to be stored, shipped, sold, combined with other parts for a new product, or decomposed entirely for elimination. When parts are worth more than the whole, the living being ceases to exist as a meaningful unit. Fungibility means that "life" is reduced to just another state of matter, to plug and play into machines of re/production. Chickens grow like vines into cages; cattle are planted in boxes of mud where they are watered, fertilized, and fed growth serum. In modern animal industrial processes, the "livestock" are already in a state of living death." [3]

> "The use of ICT [Information and Communication Technologies] is felt to be important in the Flemish Community of Belgium, because it allows pupils who are good at coming up with ideas, yet not as good at drawing, for example, to use ICT to provide them with alternative ways of realizing their ideas." [4]

Two main thoughts surface from these lines, one is the contextualization of drawing as an artistic, or difficult, issue and the other is the understanding of drawing as a tool for the consensual representation of given models. I believe that this description of drawing (in the education curricula context) is antithetical, since it locks ideas into a pre-existent and culturally produced plethora of possible forms without considering the fact that the mind of the drawer also translates into the drawing and that there is always a perceptive common ground, allowing thoughts to become a perceptible form.

Another bias regarding drawing today is embedded in our visual minds, and can be summarized in the following Hoffman and Richards paragraph:

"Clearly your visual system is equipped to describe the shape of an object and to guess what the object is from the outline. This guess may just be a first guess, perhaps best thought of as a first index into a memory of shapes, and might not be exactly correct; it may simply narrow the potential matches and trigger visual computations designed to narrow them further." [5]

The drawer's mind is permanently scanning, constructing, and reconfiguring reality to keep it stable and accessible, and this processing effort tends to substitute actual vision during a drawing process; unless the drawer is a skilled drawer, acknowledging that memories will try to impose their will upon the light received on the retina. To draw is also an enquiring upon a subjective inner vision: "... observation drawing constitutes a way to deconstruct the collective representations and figures that each subject receives from his culture while contributing to deepen his own subjective process of reconfiguring the world." [6]

Observation drawing is a way of training the ability to relate the visual actuality with the visual mind – it is an attentive process; and traced drawings, as suggested in section 4, are a powerful way of exercising the visual mind towards attention.

Along this text I will approach the use of drawing machines, borrowed from the sciences and arts, as seeing and drawing machines used for the discovery of the things in the world and for its interpretation as a contextual construction. Since those are tracing machines, I will argue that tracing can be a form of inquiring upon our perceptive biases while acknowledging the creation of a subjective visual world as integrated in a common ground of interrelated marks.

This article proposes a reflection on drawing and attention, and the use of digital technologies as a way for enhancing its significance. Proposing an artistic experiment of the drawer's attention during a drawing action, following Siegfried Zielinski reasoning on what a laboratory can be in the context of media art:

"In this sense, one can speak of artistic experiment. Thus, one can refer to a studio with mainly technical equipment and a focus as a laboratory. In a laboratory, research, development, and tests are undertaken; results are discarded or gained. Such work is connected with a peculiarity of artistic praxis, which it shares with science and industry. The difference is that it possesses far greater significance for art.; indeed, for some it is the very essence of art: intuition, the very specific way of looking. It is inextricably linked with the most important source of energy for artistic praxis, namely, the imagination." [7]

02. Why drawing (today)?

Is there any purpose on drawing that we can't find anywhere else?

I believe that the simple answer for that question is yes, and no. But this is the simple answer to the question of a special purpose on drawing, and we'll get there after sketching an answer to the first question – the difficult one.

"'There is no way to make a drawing – there is only drawing.', Richard Serra remarked in a well know interview. 'Anything you can project as expressive in terms of drawing – ideas, emotions, language structures – results from the act of doing.' Simply put, for Serra and for many artists of his generation, 'Drawing is a verb.'" [8]

I believe that drawing is a very powerful learning and thinking tool - not only in the arts.

Drawing means putting into context: when we throw the dice, we are making evident the game context in which the action occurs; curiously, when we draw the dice throw, we are approaching different contexts, because the drawing of the action of throwing the dice carries with it the game of chance, or the potential of such an image. While the throwing of the dice is inscribed in a juridical instance (the context is closed by a set of rules that dictate the range of possible actions), the drawing of the dice throw is one of the potentially infinite representations of that action. The limit of the number of possible drawings is dictated by the set of rules that one's visual system uses to recognise a certain arrangement of lines and shadows in the construction of the image/drawing, and by the allowances of the body.

For lay observers, drawing is a game of chance, but for the drawer it is a process, the sketching of an idea, a project, or the feeding of a loop system in which the drawer draws waiting for the drawing's feedback to continue the drawing. Drawing can be (and this is my approach to a definition of drawing) a never-ending inquiring upon reality – drawing frames, reframes, contextualizes, connects, and re-contextualizes: mixing, juxtaposing, translating, identifying, and pointing to reality. Drawing creates a trans-contextual[4] relation with the real.

We can therefore also conclude that drawing is the means by which thoughts take form in front of the eyes, and also that drawing is a powerful tool for change[5]; with at least one peril: its trans-contextual character can produce errors; but we can afford this peril if we take it as way to produce

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4 "Beuys' drawings became eloquent scripts for reuniting elements that modern life had divided: the primitive and the modern, art and science, private thought and public action." [9]

5 Richard Serra calls drawing «a verb», a thinking-to-action-to-thinking tool. [10]

awareness, or self-awareness – drawing reveals our biases[6] and forces us to cope with the misjudgements they tend to create.

There is no definite answer to the question «Why Drawing?», because if drawing is related to context, we can also presume that it is a genuinely disruptive but useless tool. Anyway, I take for granted that its unusefulness is only apparent, because if we draw to complicate things, we can draw to make things clearer – and this is the realm of design and engineering, and physics, and chemistry, and biology, and architecture, and communications, and economics, and ... the arts – and its transdisciplinarity. It is an incredible system, with a huge elasticity[7], and mandatory in contemporaneity.

Aaron Kozbelt is a psychologist and professor with an interest in creativity and cognition, and in learning to draw as a way of learning to see, as well as its implications for artists and non-artists in the realm of visual recognition: "How are visual artists cognitively different from other people?". In one experiment, he compared artists with non-artists on the performance of a series of drawing tasks:

"The results of the present study suggest that in drawing and perceiving, art students use visual cognitive procedures that are qualitatively similar to those used by non-artists. Thus, artists' perceptual advantage derives at least partly from their greater proficiency in using these procedures rather than from acquiring different kinds of procedures." [13]

Kozbelt outlines a possible approach to the question "why draw?": drawing is to perceive and learn about the world, and this can be achieved by developing our cognitive skills. In a complex and hyper-connected world like ours, drawing becomes a simple and accessible way to develop perceptual/trans-contextual and communicational[8] skills (some common examples are: diagrams, storytelling, visual summaries,..).

03. Becoming proficient

Visual cognition, as described so far, requires a kind of drawing proficiency (and disposition), which is not exclusive to skilled artists or drawers. In the current context, a skilled drawer should be understood as someone who practices drawing with the aim of being proficient[9], and therefore someone who can take advantage of a different approach to the visual cognitive process.

The acquisition of drawing skills doesn't necessarily rely on one specific kind of training or in a set of prescriptive tutorials devised as the

6 "Systematic errors are known as biases, and they recur predictably in particular circumstances." [11]

7 Paula Antonelli describes elasticity as follows: "Adaptability is an ancestral distinction of human intelligence, but today's instant variations in rhythm call for something stronger: elasticity. The by-product of adaptability + acceleration, elasticity is the ability to negotiate change and innovation without letting them interfere excessively with one's own rhythms and goals." [12]

8 Susan Leigh Star and James R. Griesemer, address this issue when coming to terms and finding a common ground in the context of the different actors participating in the building and functioning of natural museums: The coherence of sets of translations depends on the extent to which entrepreneurial efforts from multiple worlds can coexist, whatever the nature of the processes which produce them. (...) There is, therefore, an indeterminate number of coherent sets of translations. The problem for all the actors in a network, including scientific entrepreneurs, is to (temporarily) reduce their local uncertainty without risking a loss of cooperation from allies. [14])

9 "(...) when Cennino Cennini advised students: 'Do not fail, as you go on, to draw something every day, for no matter how little it is it will be well worth while, and do you a world of good'." [15]

method to achieve expertise in drawing. Drawing, as Almeida, and Fava[10] claim, is not (only) a matter of exact representation, it is about inscribing oneself in the present, it is about knowledge and training attention, and using it to explore and navigate the myriad of layers of the real. And this kind of proficiency it is not achievable without constant practice:

> "The acquisition of expertise in complex tasks such as high-level chess, professional basketball, or firefighting is intricate and slow because expertise in a domain is not a single skill but rather a large collection of miniskills." [17]

Kahneman's words can be translated to the field of drawing as his argument can be applied to the teaching and learning of drawing at all school levels. Drawing should be understood as a transversal skill to be developed by each student according to their curricula, in an incremental and trans-contextual process. It should not be understood solely in an artistic context, or as falling under the category of visual arts, as is currently the case in most European schools, regardless of educational levels.

Also, the basic conditions for the acquisition of any skill are:

> "- an environment that is sufficiently regular to be predictable; and - an opportunity to learn these regularities through prolonged practice." [18]

This looks like the description of a proper learning environment, at least until the age of sixteen.

If all school curricula contemplated the learning and practice of drawing as a trans-contextual acquisition of skills aimed at the development of attention, it would certainly be understood as a powerful cognitive tool, with collateral results such as a better understanding of biases for the construction of common ground, a renewed notion of the expression "being in a connected world", and the meaning of the verb to draw.

Attentional strategies[11] are closely related to the acquisition and development of drawing skills. Drawing practice is a way of practicing a kind of putting the outside «into brackets», like the noise-cancelation system in some headphones.

Drawing isn't necessarily a permanent attentional activity; the drawer's attention might drift out of the visual spotlight[12]. By practice and repetition, we can improve our ability to ignore external noise and disci-

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10 "I would like to propose that the distinction between evaluative and attentional strategies can be useful when considering how to facilitate learning. Drawing facilitates the development of meta-cognitive control in these domains. We can think of drawing instruction 'as a training in thinking' (Archer 2011) and can be mindful of a space in which many approaches and conventions for drawing exist. Students can be encouraged to navigate their own strategies for 'thinking through drawing' that are appropriate for their own aims, rather than merely learning conventions such as the Coldstream method. In doing so, they can gain awareness and control of cognitive strategies which are widely transferable." [16] (Fava, M. 2012)

11 Kevin Passino, points to fact that attention is affected by sensory stimuli and by the control functions overseen by attentional activities: "Hence, learning can play a key role in how our attentional dynamics operate." [19] (Passino, K. M. 2005, pp. 266-267). In the case of observation drawing, the drawer will develop attentional strategies to avoid external stimulus interruption during his observation/drawing act.

12 "In the context of vision, it is useful to think of our focus of attention as a type of "spotlight." This spotlight may coincide with where our eyes are focused ("overt" attention) or it may be that our eyes are focused at one point, and we attend to (shine our attentional spotlight) a different point ("covert" attention)." [20]

pline our stimulus-driven attention reorientation. Drawing is a life-long learning process. Can we measure the drift and make its effects visible on the drawing? Brain Computer Interface (BCI) Electroencephalogram (EEG) technologies can measure and collect signals that can be returned as drawn animated information, adding new layers of meaning to the act of drawing.

04. The role of copy drawing with tracing paper in the construction of the drawing skills

> "Founded on the judgment of the eye (giudizio dell'occhio), freehand drawing presupposes ideas of originality and authenticity, whereas the practice of tracing inhabits a minor place in the margins of drawing's history and is usually perceived as deficient in originality." [21]

Drawing mediated by other means than the eye of the drawer, the hand holding the pencil and the surface where the drawing reveals itself, is culturally perceived as a lesser form of drawing. I propose that this consideration is based on a narrow definition of drawing, in which, for example, tracing is regarded as minor.

There is a long tradition of machines used to aid in the construction of drawing as a model image of its object. I will approach this tradition as a narrative about the nature of an inquiring gaze and the role of vision in the discovery and interpretation of the world and its things.

Alberti, Leonardo da Vinci, Dürer, Van Gogh and many other artists used perspective frames as mediators between a 3D world and their drawings.

Here, we will follow the path of Van Gogh's drawing into a perspective frame, designed in his Neuen sketchbook [22] as a means of "acquiring a sense of spatial proportion".

The perspective frame is a device used to translate the three-dimensional world to a frame, by means of a projection, where it will be perceived as a bi-dimensional image, ready to be copied to the drawing surface. The framing action creates an abstraction: the image thus created is a virtual image, frozen by the device and perceived as detached from its natural continuity.

One can sense the contiguity, if not the intersections, between art, science, and technology in the description of these devices. Although they were created by, and for, artists, they were used, and are still used, by scientists (an example of the application of this kind of framework is found in archaeological drawing) - they are devices used to describe, interpret, translate, and construct the world through the correlation of its parts.

Filippo Brunelleschi's experiment (ca. 1415), conceived as a proof of the correctness of linear perspective, exemplifies the intersections between art and technology explored during the Renaissance. This demonstration serves the purpose of assigning a role to machine-mediated drawing that contextualises the visual experience in relation to the actuality of its subject.

"Hence the discovery of perspective in the fifteenth century, the upsurge in measuring instruments during the sixteenth century and the

rise of telescopes and microscopes in the seventeenth century are three interconnected developments. Perspective instruments did not simply affect painting practice: they extended the scope of optics, changed the criteria for veridical vision, transformed the very process of objectivity, and hence affected western science as much as art." [23]

With the co-evolution of the techniques of representation applied to art as description of the real (or, as enhancer of the real) and to new visible worlds open to the explorations of Natural Philosophy, new machines of vision were created and developed in order to accompany this illustrative revolution.

Robert Hooke's book, Michrographia (1665) [24] is exemplary at the intersections between science and art. In it, the natural philosopher searches for invisible minutiae in the things of the world with the help of drawing and a microscope. Robert Hooke asserts an active role for drawing, as an instrument of mediation between vision and the world of things, by describing the blade of a knife and the minute irregularities only noticed on its surface during the act of drawing[13]. His interest on the relations of drawing and vision devices is documented in the illustration of a portable Camera Obscura, conceived as a drawing machine.

Another drawing machine that is of interest to the present text is the Camera Lucida. William Hyde Wollaston wished to have the skill to draw the views observed during his walks. Assuming his unfitness for the art of drawing, he decided to create a machine that would facilitate "the means of transferring to paper the apparent relative positions of objects before me" and in 1806 he patented the Camera Lucida, whose "principal use (...) is to facilitate the delineation of objects in true perspective" [26].

The Camera Lucida becomes the instrument that allows, with ease and precision, the selection of the visual saliencies of the model/image that are relevant for the recognition of the object in the drawing.

Nowadays, besides the resurgence of the machine in a new form – the NeoLucida[14]; the Camera Lucida is used as an "add on" to microscopy.

The Camera Lucida is a tracing device that requires some drawing skills from its user in order to meet the accuracy requirements, as noted by Wollaston or any user of the device. Of interest from my point of view is that these drawing skills are acquired through repetitive use of the machine: the drawers can become skilled at drawing with the device (i.e. be able to achieve the representation goals) if they practice proficiency in its use (i.e. being able to level their representation goals with consciousness of their abilities as a mark makers).

Both, Camera Lucida and Camera Obscura, are machines for seeing and copying over that require of the drawer the ability to select the marks that become a trace on the surface of the drawing, and the knowledge that it is the interactions between all the traits that will give meaning to the drawing

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13 A contemporary version of this description can be found in *Quicksilver*, the first volume of Neal Stephenson's Baroque Cycle [25]

14 "The NeoLucida is a 19th-century optical drawing tool updated for the 21st century." [27] Started as a kickstarter project by Golan Levin and Pablo Garcia.

as representing a model of the visual experience of the thing in the world[15].

If, with the perspective frame, the translations occurred from a 3D world to a 2D virtual window and thence to the drawing, with these drawing machines the translation occurs between a 2D image projected (physically or virtually[16]) onto the drawing surface, where each perceived contour line has the potential to become meaningful as a part of a 2D drawing superimposed on the image. The drawing results in an 'extrusion' of the image below, and I believe it is this seemingly easy translation that is at the root of the label worthless drawing, connoted with tracing drawings. Through drawing, the drawer must know which marks to select to create a resemblance to the original image, and this knowledge is related to the drawing skills mentioned above - if the drawer does not select and only traces all the visible marks on the drawing paper, the result will be a camouflage, in which all the marks are equivalent and where it is not possible to create distinctions, or a context for these distinctions to occur.

It is the selection of the visible lines by the drawer to become the strokes in the drawing that will match the resulting drawing to the model.

I think the power of knowing the differences between seeing as a memory shortcut imposing itself on our visual mind and looking as an attentive experience of seeing is one of the greatest drawing skills one can acquire today.

05. Towards drawing without hands
- experimenting with attention
measurement, drawing and possible
digital translations

To conclude, we will extend the space of this article into the domain of the experimental laboratory, using Siegfried Zielinski's notion of chaos "to mean that dynamic linkage of multifarious elements of chance and necessity, which is by nature opaque and out of which arise phenomena and processes that we can understand." [29]. Susan Leigh Star and James R. Griesemer's notion of Boundary Objects[17] helps me frame the description of a future experiment within this artistic laboratory.

In this section I lean towards future explorations of the intertwined relationship of learning to draw and learning to see attentively, as a process of translation between the drawer, an audience (e.g. school children), science, technology and art.

BCI-EEG is used in studies of attention. Commercially available and widely accepted as quasi-medical devices, BCI-EEG headsets provide the

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15 Béla Julesz [28] (2006) tried to identify and describe the path of visual information through the brain, for the construction of images as we perceive them. This is a research work based on scientific data of the time, but also a speculative and creative work, where the author is seeking meanings for the works of a black box. In it we find explorations on the selection and suppression of parts, derived from partial interventions of attention. Too much specialisation results in the perceived object being meaningless - and a meaningless object cannot be a model.

16 In the case of the Camera Obscura, the image physically "touches" the drawing surface. In the Camera Lucida, the image is projected onto the eye and is virtually superimposed on the drawing surface.

17 Boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured to common use, and become strongly structured in individual-site use. These objects may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognisable, a means of translation. The creation and management of boundary objects is a key process in developing and maintaining coherence across intersecting social worlds." [30]

accuracy and ease of use for a new project dedicated to detecting attentional fluctuations during a traced drawing act.. Towards drawing without hands, proposes a collaborative drawing process looking for a playful way of exercising drawing towards proficiency, surpassing the cultural bias surrounding drawing by tracing, through the use of digital technologies collaboratively[18].

Two media artworks serve as background to this exploratory endeavour: Nina Sobell's "Brain Wave Drawing" (1973) [32], Richard Ramchurn's brain controlled movie The Moment, "utilizes the participant's attention levels to alter the narrative of the movie" [33],and the project Cosa Mentale (2016), by Cristna Hoffmann, Gille de Bast, which "addresses the question of whether it is possible to draw with two brains connected to one hand. A mentalist, equipped with an EEG headset, stimulates two electrodes placed on a drawer's arm. By focusing, the mentalist sends an electrical impulse that makes the drawer lose partial control of their hand's movements." [34] Commercially available and widely accepted as quasi-medical devices, BCI-EEG headsets provide the accuracy and ease of use for a new project dedicated to detecting attentional fluctuations during a traced drawing act.

Towards drawing without hands can be described as a collaborative drawing, in which the drawer, using a pen on a digital tablet, traces over a given image. The results of this action are projected live on a screen and followed by the second performer whose attention to this action is being measured and translated as lines in dialogue with the tracing. Imagine a viewer watching the result of a roll throwing of the dice, and imagine the drawer drawing the result of the same action. This interaction between two drawers brings a new layer of meanings to the drawing and, simultaneously, turns it into a game where errors and mistakes are accepted as part of the attentive drawing process.

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18 "Integration of arts into BCI is referred to as artistic BCI (Andujar et al., 2015).(...) multiple users can participate in a collaborative game, in which joint decision making is required to control the gaming environment (Nijholt and Poel, 2016; Sekhavat, 2020)." [31]

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O Mundo das Webcomics

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Abstract

This article discusses the evolution of webcomics and how they became a popular way to tell comic book stories in the digital era. Webcomics began to evolve alongside the internet when artists started experimenting with the possibilities that the internet and new technologies could bring to the world of comics. With the popularization of social media and smartphones, webcomics became global, and today, anyone can create and publish their own comic book stories. As a result, there emerged an audience interested in reading comics on smartphones, but due to the small size of screens, the reading experience can become frustrating. Fortunately, there is a specific webcomic format designed for small screens. Vertical webcomics came as a solution to the challenges of reading comics on smartphone screens. With a vertical design where each panel is positioned on top of the other, this format allows each panel to be large enough to be readable. This article will also address the most popular means of publishing webcomics and the alternatives presented to artists interested in making their works profitable.

01.Introdução

Assim como livros, revistas e jornais, as histórias em quadrinhos também encontraram o seu lugar no mundo digital. Cada vez mais, é possível encontrar versões digitais de clássicos consagrados e novas criações que aproveitam das vantagens oferecidas para produção e publicação online. Com a popularização dos dispositivos móveis, o acesso a essas obras ficou ainda mais fácil e conveniente, o leitor agora pode ler suas histórias favoritas em qualquer lugar. No entanto, a leitura de quadrinhos em dispositivos móveis encontra desafios que livros e jornais não enfrentam. Devido ao tamanho reduzido das telas destes dispositivos móveis, é necessário constantemente ampliar o zoom para tornar os balões de diálogo e os detalhes dos quadros legíveis. Consequentemente, o leitor perde a visão global da página e a qualidade da leitura é comprometida. Contudo, uma solução a este dilema vem ganhando popularidade na internet: as *webcomics*.

As *webcomics* não vieram para substituir os quadrinhos com formatos mais tradicionais, mas para expandir ainda mais o mundo dos quadrinhos. Dentre os vários formatos que uma *webcomic* pode ter, há um específico pensado para as telas dos *smartphones*. Com um design único, onde um quadro não aparece ao lado de outro, mas por cima, esse formato vertical de *webco-*

mic torna possível que cada quadro seja grande o suficiente para ser legível.

Apesar deste formato vertical ser uma alternativa bem sucedida para a leitura em telas pequenas, o mundo das webcomics vai além desse formato específico, com um impacto que se estende desde a maneira como os leitores consomem quadrinhos até as novas oportunidades que os artistas têm para criar e publicar suas obras.

01. Contexto

A evolução das *webcomics* acompanha diretamente a evolução da internet. Nos anos 90, com a introdução do *World Wide Web* e a popularização de computadores pessoais, artistas começaram a explorar as possibilidades que as novas tecnologias poderiam trazer para o mundo dos quadrinhos. No entanto, a internet ainda era algo prematuro e a conexão lenta, logo inserir um quadrinho na *web* era algo trabalhoso [1]. Além disso, havia um outro ramo de artistas que criavam suas histórias para CD-ROM, mas essas obras não eram quadrinhos convencionais, eram quadrinhos hipermidiáticos que interagiam com o leitor de várias maneiras. Seja através de animações, trilhas e efeitos sonoros ou até mesmo com narrativas multilineares [2].

À medida que a velocidade da internet aumentava, os computadores mais modernos, com a criação do *software Adobe Flash* e plataformas como *wordpress* [1], mais artistas passaram a enxergar o mundo digital como meio para publicar seus quadrinhos. Plataformas de autopublicação começaram a surgir e prêmios, como *Eisner Awards* [13], passaram a reconhecer o espaço das *webcomics* no mundo dos quadrinhos.

No entanto, foi com a popularização das redes sociais e dos *smartphones* que as *webcomics* se tornaram globais [3]. Agora, qualquer pessoa pode criar um quadrinho e compartilhá-lo na internet. Com essa democratização, inúmeras ideias e gêneros, que talvez teriam sido rejeitadas por editoras mais tradicionais, têm a oportunidade de serem lidas e valorizadas [4]. Além disso, essas obras podem ser rentáveis, seja através de sites de *crowdfunding* ou em plataformas de publicação de *webcomics* que recompensam os artistas com base no número de visualizações. Como por exemplo, o artista Leandro Assis que usa sua conta do instagram, com quase 1 milhão de seguidores, para compartilhar periodicamente sua obra "Os Santos" e utiliza a plataforma de financiamento coletivo, Catarse, para tornar seu projeto sustentável [5]. Outro exemplo é a *webcomic* "Heartstopper" de Alice Oseman que começou a ser publicada na plataforma de autopublicação do site Tapas em 2016, posteriormente foi adaptada para quadrinho impresso e, em 2022, para uma série na Netflix [6].

Contudo, para compreender melhor o mundo das *webcomics*, é essencial entender o que são exatamente e como se diferenciam de outros tipos de histórias em quadrinhos.

01. O que são *Webcomics*

O próprio termo *webcomic* não é utilizado de forma unânime dentro de sua comunidade de leitores e é muito comum encontrar termos como "webtoon", devido a um dos maiores sites de publicação e divulgação de *webcomics* atual, a Webtoon, ou "Manhwa", palavra coreana para quadrinhos,

Fig. 1 Cena da obra "Ecos" do estúdio Guará disponível na app Funktoon (2023). [18] Um exemplo de como os balões de fala e os espaçamento dos quadros são organizados nas *webcomics* verticais.

devido à grande popularidade e ao alto número de produção de *webcomics* produzidas na Coreia do Sul.

De forma sucinta, webcomics podem ser definidas como quadrinhos *online*. Contudo, há tantas maneiras, formatos e recursos midiáticos para criar uma que pode tornar o exercício de identificá-las um pouco nebuloso. Uma *webcomic* pode ser um simples quadrinho no formato tradicional, publicado em um *site* com poucos recursos interativos ou uma tirinha de comédia publicada periodicamente em uma rede social. Pode também ser algo mais elaborado, com som e animação, publicado em seu próprio site e fazer com que seja lida no sentido vertical ou horizontal. Ainda não é certo até onde as *webcomics* podem chegar. Por causa da ausência de claras demarcações, há o risco de confundir uma *webcomic* com outros tipos de quadrinhos *online*, ou até mesmo com uma *visual novel*.

Apesar disso, ainda é possível distinguir uma *webcomic* a partir das características que a tornam única. Todo o design de uma *webcomic* é concebido desde o início para ser exibido na web. A *web* não é apenas uma opção de divulgação para uma *webcomic*, mas sim o seu único meio[1]. Portanto, os quadrinhos em CD-ROM não são *webcomics*, simplesmente porque para acessá-los é necessário um objeto físico e não há qualquer conexão com a internet. Os quadrinhos digitais também diferenciam-se das *webcomics*, por serem, muitas vezes, digitalizações de suas edições impressas. Mesmo quando não há uma versão física, esses quadrinhos só estão presentes na *web* por meio de um arquivo que precisa ser baixado e, posteriormente, aberto em algum *software* como *Adobe Reader*, ou enviado para um *e-reader*, ou então, dependem de um plugin que permita a visualização do quadrinho dentro de um site [1].

Portanto, ao criar uma *webcomic*, é preciso levar em consideração o site que será publicada, uma vez que os recursos midiáticos e limitações disponíveis no site irão influenciar diretamente no formato e na experiência de leitura. Assim como o tamanho da tela do dispositivo que o público-alvo irá usar.

Com o surgimento de *smartphones*, um público com interesse em ler quadrinhos em seus dispositivos móveis cresceu, porém suas telas são bem menores do que a de um computador [3]. Mesmo com a tecnologia do design responsivo, ler quadrinhos em dispositivos com telas tão pequenas é um desafio. Felizmente, há um formato específico de *webcomics* pensado justamente para ser lido nas telas pequenas dos *smartphones*.

02. *Webcomics* Verticais

Se a exibição de três ou dois quadros, lado a lado, representa um desafio para a leitura em smartphones, o que ocorreria se houvesse apenas um quadro por vez? A largura de uma imagem para uma tela de um *smartphone* é extremamente limitada, mas o seu comprimento pode ser infinito. Essa é a abordagem deste formato vertical de webcomics. Nele, não há páginas, todo o quadrinho, ou o capítulo de um, é incorporada em uma única imagem alongada e tem apenas o tamanho da tela para delimitar o espaço de visualização. Assim, o leitor só precisa usar o movimento de arraste na tela, para cima ou para baixo, para ter acesso ao resto da narrativa.

"Infinite canvas" é o termo criado por Scott McCloud para este formato de quadrinho "sem páginas" [4], No entanto, ao descartar o uso de páginas, este formato entra em conflito com algumas ideias já conhecidas dentro da linguagem das histórias em quadrinhos e cria as suas próprias. Como alguns exemplos:

1. A orientação de leitura perde força. A leitura em um quadrinho pode ocorrer da esquerda para a direita ou da direita para a esquerda, mas isso em uma *webcomic* vertical se torna irrelevante. Afinal, só poderá ser possível visualizar um quadro por vez e todo o resto estará para além dos limites da tela. Assim, tudo que o leitor precisa fazer é ler o balão mais acima.

2. Em virtude do espaço limitado na tela do *smartphone*, a simplicidade e clareza são essenciais nas webcomics verticais. Quanto mais elementos forem inseridos em um espaço, menor será o tamanho desses elementos, o que pode comprometer o conforto da leitura [3].

3. Em um quadrinho impresso, o tamanho e os formatos dos quadros são importantes para ditar o ritmo da ação. Esse princípio não é tão eficiente no formato vertical. Para compensar essa limitação, essas *webcomics* utilizam o espaçamento em branco entre um quadro e o outro, já que não há restrições quanto aos custos de impressão e os limites de uma folha física. Assim, este "espaço em branco" ganha um papel importante na construção do ritmo de uma narrativa. Quanto menor for o espaço entre os quadros, mais rápida será a ação, enquanto um espaço maior proporcionará uma leitura mais lenta e maior destaque a um quadro poderá ser dado[3].

Contudo, este formato também tem limitações que poderão ser sentidas por leitores familiarizados com o formato tradicional dos quadrinhos impressos. Não é possível uma webcomic vertical, reproduzir algo equivalente à uma arte de página dupla como nos quadrinhos impressos. Quadros com planos gerais também têm um espaço bastante limitado nessas *webcomics*. Em geral, qualquer plano ou quadro que exija uma maior largura são difíceis de serem feitos. Uma alternativa comumente utilizada para contornar esse empecilho é rotacionar o quadro desejado a 90° (Fig 2), desta forma a altura da tela vira a largura do quadro, mas, consequentemente, o leitor terá que girar o seu *smartphone* para que possa ler o quadro na orientação correta.

No entanto, existe uma abordagem para criar artes de grandes proporções dentro das *webcomics* verticais. Embora seja diferente de uma arte de página dupla, há algo peculiar que as *webcomics* verticais permitem fazer. Aproveitando o movimento de arraste realizado pelo leitor ao ler uma *webcomic* e a restrição de espaço da tela, é possível criar um quadro que ultrapasse as dimensões da tela de um *smartphone*. Com um design bem pensado, o leitor poderá acompanhar uma trajetória completa, em um único quadro, de forma fluida. Seja um movimento de cair, uma transição entre dois ambientes ou a passagem de tempo. (Fig 3)

Uma outra característica que torna esses quadros longos tão interessantes, é o fato que as *webcomics* verticais não conseguirem reproduzir a

Fig. 2 Cena da obra "Lore Olympus" de Rachel Smythe disponível na app Webtoon(2023) [17]. Um exemplo de quadro com grande plano geral que teve ser rotacionado para caber na tela de um *smartphone*

simultaneidade presente em quadrinhos impressos, já que a tela limita a visualização da obra. Ao virar uma página de um quadrinho impresso, todos os quadros da página são apresentados ao mesmo tempo, mesmo que o leitor foque em apenas um quadro por vez, mas sua visão periférica já captou a presença de todos os outros [7].

Artistas como Frank King [14], que exploraram esta simultaneidade, ao lado da sequencialidade dos quadrinhos, e criaram páginas onde cada quadro ocorre uma ação diferente, mas que juntos formam uma paisagem única.Ao eliminar o elemento da simultaneidade, as *webcomics* verticais conseguem elevar o elemento da surpresa, tornando a experiência de leitura destes longos quadros mais instigante, já que os leitores, sem saber o que vem a seguir, são surpreendidos com novos elementos cada vez que arrastam a imagem para baixo.

03. O Mundo das *Webcomics*

É inegável que esse formato vertical transformou a maneira como as *webcomics* são vistas na internet e abriu novas possibilidades para sua publicação e sustentabilidade financeira. A Coreia do Sul desponta como um dos principais produtores de *webcomics* atualmente, então não é surpresa que as duas maiores plataformas de *webcomics*, a Webtoon e a Tapas [11], tenham surgido nesse país. Ambas as plataformas contam com obras que ganharam adaptações para séries da Netflix, animes e doramas, como *"Heartstopper"* de Alice Oseman [6], *"True Beauty"* de Yaongi [8] e *"Tower of God"* de SIU [9]. Suas plataformas de autopublicação são amplamente utilizadas pelos criadores de *webcomics*, pois lá esses criadores podem publicar e divulgar suas obras gratuitamente. Além disso, têm a chance de suas obras serem descobertas por um editor, resultando em um contrato de publicação remunerado nas plataformas de obras originais oferecidas por essas duas empresas.

Contudo, todas as *webcomics* publicadas nestas plataformas têm que seguir diversas regras, pois tanto a Webtoon [10]quanto a Tapas [11] êm políticas rígidas em relação a histórias com conteúdo de nudez, violência gráfica, *gore* e sexo. São também cautelosas em relação a conteúdos discriminatórios e abusivos. Dessa forma, esses aplicativos criaram um ambiente internacional seguro para que artistas de diferentes países, culturas e etnias possam divulgar suas histórias e ideias.

No entanto, nem tudo é simples. Apesar de haver exemplos de artistas que são muito bem-sucedidos com suas obras, eles são a exceção e não a regra. O caminho para um artista de *webcomic* tornar sua obra financeiramente sustentável é árduo. Muitos optam por começar postando em plataformas

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de autopublicação (webtoon, tapas ou semelhantes) na esperança de que um editor do site descubra sua obra e se interesse o suficiente para publicá--la. Para isso, estes artistas terão que enfrentar uma enorme concorrência, o algoritmo do próprio site, além de ter que cumprir com alguns requisitos como postar capítulos novos com frequência, de preferência semanalmente; ter uma qualidade artística elevada; uma história interessante e um bom número de visualizações e seguidores. Mesmo assim, não há qualquer garantia que sua obra será convidada para ser publicada oficialmente.

Mesmo que alcancem sucesso, a jornada de um artista que publica uma *webcomic* oficialmente é dura. Não há muita informação verídica sobre a relação entre artista e editor, os detalhes do contrato, as condições de trabalho ou até o valor do pagamento. O que é realmente conhecido, através de relatos dos artistas em suas redes sociais oficiais ou em vídeos oficiais dos próprios editores no canal da Webtoon no *YouTube* [12] , é que deve ser cumprido uma agenda, muitas vezes bastante cheia, de produção semanal de capítulos totalmente coloridos e em inglês. É comum também, nas redes sociais, ver artistas à procura de assistentes para ajudá-los a entregar cada capítulo dentro do prazo estipulado. Enquanto isso, a empresa se compromete a cuidar de toda questão da divulgação, marketing e *copyright* da obra.

Porém, apesar do sucesso dessas duas empresas, elas não atraem todos os artistas de *webcomics*. As razões são diversas, seja pela simples falta de interesse em criar uma história em formato vertical; ou pelo desejo de explorar outras possibilidades com a multimídia; por sentirem suas ideias restringidas e quererem criar obras com temáticas mais adultas, ou violentas e entre outras razões. Assim, resta a estes artistas procurarem outras plataformas que aceitem suas obras, publicar em redes sociais ou criarem seus próprios sites. Como por exemplo, o já mencionado, "Os Santos" de Leandro Assis que publica em sua conta do *Instagram* [5]; "*Chuckwagon at the End of the World*" de Erik Lundy que pode ser encontrado no *Tumblr* [15] ou então "*The Middle Age*" de Steve Conley que tem sua própria página na internet [16].

04. Considerações Finais

Independente de qual seja o formato, os recursos midiáticos utilizados ou o local publicado, as *webcomics* estão por toda *web*. Elas são recentes e há muito para ser estudado, analisado e até discordado. Ainda assim, é difícil prever o caminho que será tomado no futuro. Contudo, suas conquistas já podem ser notadas, como sua contribuição em aumentar o espaço e promover a autopublicação, não só apenas em sites específicos para *webcomics*, mas também em redes sociais. Ficou mais fácil criar um quadrinho, publicar e construir uma comunidade de leitores em volta. Ideias e gêneros de histórias desconhecidas, podem ser exploradas; artistas de diversas etnias, mulheres e membros da comunidade LGBT+ têm novas oportunidades de ascenderem ainda mais dentro do mercado dos quadrinhos. Mas ainda há muito que melhorar no quesito de trabalho. Viver produzindo *webcomics* é uma realidade para pouquíssimos, enquanto isso, os outros artistas têm que se contentar em criar *webcomics* como *hobbie* ou simplesmente desistir.

Fig. 3 Cena da obra "Lore Olympus" de Rachel Smythe disponível na app Webtoon(2023) [17] . Um exemplo de quadro longo.

Fig. 4 Gasoline Alley de Frank King. (1930) [15]

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Desenhar o Tempo

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[Desenho/BD · Drawing/Comics]

Abstract

The representations of time, with its pictorial and optical representation models, are expressed either in the so-called still image or in the moving image. When we establish drawing as the forming of images and drawing as a creative act, in animation, it transforms the expressive value, unifying space and time. Animation assumes itself as the expression in time through drawing in cinema. Defining and creating a time in its own specific and unique way, but of universal understanding.

01. O Tempo nas Imagens

> Alice: How long is forever?
> White Rabbit: Sometimes is just a second

Quanto dura um segundo? Pode esse segundo conter o tempo de uma vida? É esse segundo um conjunto de sucessões de acontecimentos, ou é uno e indivisível? Quantos segundos cabem nesta porção de tempo? O tempo é uma das dimensões mais especulativas da existência humana, na sua compreensão elástica, que distende e encolhe os acontecimentos. Se por um lado a noção tempo é finita, direcional e linear, como o tempo que decorre entre nascer e morrer; há, por outro, um tempo cíclico que se repete infinitamente, em que ao dia sucede à noite e depois se transforma novamente em dia.

As manifestações artísticas, e as suas representações, traduzem nas estratégias compositivas e formais, essas noções. Embora distem da crueza do cronometro, aproximam-se mais da nossa experiência e sensação temporal. [1]

Neste texto pretendemos analisar as estratégias formais e estruturais que o desenho transpõe para o cinema de animação. De que modo, as representações feitas através do desenho em superfícies fixas (atemporais) e os seus modelos representativos, derivam para os dispositivos fílmicos (temporais) do cinema. Em concreto como acontecem no cinema de animação, e de que forma influenciam a construção do tempo. desenhado pelo cinema.

Ao temporalizar a representação, há tendencialmente uma dupla separação que ocorre entre: as imagens em que há uma mediação mais evidente, e que se enquadram num modelo representativo ligado ao representado – como no desenho ou na pintura, outras há, em que essa mediação está oculta, numa aparente automação, ligada ao ótico, nas quais se

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sublinha uma aproximação ao referente – como na fotografia e no cinema. Existe uma segunda separação entre o que designamos por "imagens fixas" - imagens que não decorrem de um dispositivo temporal – e, as "imagens em movimento", em que, existe um desenvolvimento das mesmas num determinado tempo.[2][3] As primeiras, estabelecem uma relação de condensação temporal total numa única imagem, nas segundas a imagem em movimento, a temporalidade, existe através da sua realidade dispositiva. [4]

Porém esta a dicotomia pode ser apenas aparente, na medida em que, os 'modelos' de representação aí inscritos podem, expressiva e criativamente, utilizar outras estratégias de representação. Podemos ter imagens "pictóricas" que se aproximam da representação referenciada ao que chamamos 'ótico', como algumas das imagens hiper-realistas de Gerhard Richter, ou imagens fotográficas que apelam a uma plasticidade, ligada a modelos pictóricos e de menor referenciação, como o trabalho fotográfico de José Luís Neto.

Assim, a origem e a natureza das imagens – pictóricas ou óticas - pode não ser mais mediada ou referenciada, mas é no modelo de representação expresso, que se estabelece o modo como as vemos e entendemos. Como diz Molina: "a perceção do tempo num desenho, uma fotografia, uma infografia é outro dos fatores que faz variar o nosso olhar. Numas o tempo interpreta-se, em outras detém-se e em outras constrói-se."[5] Podemos encontrar num mesmo patamar de entendimento imagens desenhadas, pintadas fotografadas ou filmadas e, observar o modo como tempo é representado. É através das representações que conseguimos e agimos, podendo de alguma forma ter a capacidade imaginativa de viajar no tempo, de desenhar o tempo acertando-o ao nosso relógio percetivo.

A existência de imagens fixas e imagens em movimento pode ser colocada independentemente da natureza das imagens ou dos médiuns em si. A característica temporal do Cinema, ligada à natureza das imagens, tem no Cinema Animado terreno paradigmático. O desenho, os seus elementos formais significam-se, e organizam-se, sob os propósitos espaço-tempo-movimento. O Cinema, e o cinema animado em particular é o lugar da total da representação temporal, uma vez que convoca quer na sua construção, meios e modelos, quer a manipulação total do tempo percecionado pelo espectador.

> Cinema both models and modulates the sensible. It does not strictly speaking creates fiction, but causes the reality of time's plasticity, reversibility, continuity or discontinuity, speed or slowness, to appear. It teaches us to think about time not in spatial terms, but the other way around. [6]

02. Desenhar a Acção do Tempo

Quem desenha sabe que o desenho transporta uma forma de pensar, que se vai moldando à medida que o desenho se executa. Essa presença do gesto não é mais que o pensamento, expresso em ação. [7] A observação é ativa. Diz Leonardo que pensa através do desenho, podemos acrescentar que vê melhor através do desenho.[8] O gesto impõe um tempo, o tempo

de fazer, a dedicação à imagem. A presença do desenho surge como expressão do pensamento desenhado. Ele é correspondência direta do pensar ao desenho. [8] [9]

A "marca" feita do tempo, a ação do gesto, fica inscrita na 'folha' no desenho, e esse gesto, essa ação no tempo, é o que é impresso na superfície sensível. Tanto a noção de "folha", quer a de "impressão" são aqui utilizadas de uma forma ampla. Por "folha" consideram-se as superfícies de existência da ação. Podem ser, desde as tradicionais folhas de algodão, papel fotográfico que reage à ação da luz, ou "folhas" mais virtualizadas existentes em écrans diversos, que conjugam numa superfície projetiva única, a soma de várias ações. Por "impressão" consideramos, não só na ação da mão ou instrumento na superfície, mas a igualmente a ação fundamental da luz nas superfícies. O desenho, seja fruto da ação de um riscador numa superfície, [10] ou assumindo a dimensão de 'imagem fotografada', apresenta-se como marca temporal da luz numa superfície sensível. O desenho, antes mesmo perceção da dimensão temporal do que representa, está já imbuído dessa mesma dimensão temporal através da ação de desenhar.

No cinema, e sobretudo no cinema de animação, há uma segunda impressão que permite o registo da imagem, dependendo da luz e da dimensão sensível da superfície que acolhe esse registo. Essa sobre-impressão da imagem registada, no sentido do registo do registo, assume igualmente uma nova ação no tempo. Permite estabelecer, e com isso decidir, sobre a intensidade do instante registado e determinar a gestão do mesmo. Há a(s) temporalidade(s) expressa na imagem em si, que se amplifica com a gestão realizada pelos dispositivos de fabricação da imagem em movimento.

02.01. Dispositivos de temporalização

Na animação, cada imagem possui a sua própria temporalidade, que se manipula de forma múltipla expressiva e compositiva. Existe, de alguma forma, o tempo da ação do desenho, que está contido no próprio desenho. Cada desenho-imagem deriva dessa ação, e uma ação é sempre temporal. Há, igualmente na natureza das imagens e nos modelos temporais de representação nelas inscritos, arrastamentos, sombras, marcas de movimento. A imagem cinematográfica é ótica/dispositiva (captada ou existente) sendo que o desenho assume um papel fundamental na compreensão da "totalidade" da imagem. A sua existência não ocorre previamente, ou individualmente, ela só se efectiva no momento da sua fruição. Há uma composição múltipla dos elementos individuais –fotogramas-, próprios das imagens fixas, que não existem nessa condição, mas apenas na sua temporalidade final de 'imagem em movimento'. A existência temporal inscrita em cada uma das imagens ditas simples, que podem ter uma multiplicidade de camadas, não pode ser entendida por si só a sua existência temporal e expressiva acontece por sucessão e por efeito de um determinado débito. O trabalho do desenho animado é multidimensional, podendo numa mesma imagem surgirem elementos que funcionam temporalmente de forma distinta. Criando vários níveis preceptivos da informação veiculada. A gestão do fluxo contínuo de informação é trabalhada parcialmente, através de

escolhas relacionais expressas no débito de imagens. [11]

Um segundo pode conter um certo número de eventos, eventos esses que podem ser registados em momentos temporais distintos. Um *time-lapse* pode condensar vários milhões de anos desde o *Big-Bang* à atualidade. Essa temporalidade só se concretiza na sua sucessão e condensação temporal, de dissociação entre a temporalidade do registo e da sua fruição. Há uma distância temporal entre a o seu extenso registo e a sua representação sintetizada. O inverso acontece, com os processos de imagem acelerada em que num determinado fluxo continuo se regista um número elevado de imagens, decompondo o tempo que depois, na sua projeção, são dados em menor número, estendendo o momento – a câmara lenta. A gestão de informação, na qual temos o débito de imagem registada e projetada, estabelece o número de instantes constantes num período – a duração. A fluidez dessa gestão nunca se sobrepõe à continuidade temporal existente na representação. Nesse sentido e como diz Flusser [12], há sempre uma escolha inscrita nos dispositivos, mas que pode ser manipulada de modo a poder aproximar-se, não a uma realidade temporal impossível de fracionar, mas sim de um continuo feito da expressividade emocional e sensitiva, próprio das representações artísticas. No entanto a imagem pode conter, em si, essa temporalidade, essa marca, o instante temporal da obturação. O próprio 'tempo de registo' estabelece 'tempos' registados diferenciados.[2] Essa disposição, que o aparato oferece, é igualmente um fator plástico e pictórico, pois determina relações formais e a inscrição de elementos visuais na superfície sensível. É construtor do desenho fotografado. Pelo domínio do meio e dos seus dispositivos. Logo a compreensão do mesmo deve ocorrer através das dimensões temporais e espaciais aí contidas. O representado, a imagem, é mais lato que a identificação dos elementos pictóricos que contém, incluindo em si, a própria estrutura dos elementos que a compõe – a luz, a ótica e a temporalidade associada aos dispositivos foto-cinemáticos que o constroem.

A primeira tendencialmente está do lado da técnica e dos modos operativos e constitutivos da imagem em movimento. O standard das 24 ips de débito de projeção e a sua manipulação fazendo corresponder 24 imagens do registo, escolhidas de um continuo possível. A dimensão do 'real' é decomposta em "momentos chave" (desenhos chave) que transportam em si parcelas de tempo, os "fotogramas". Os fotogramas isoladamente não têm existência em si, mas condensam essa temporalidade, apenas observável aquando da sucessão das imagens, da projeção. Esse aspeto fragmentário da continuidade fílmica, é a essência da realidade ilusória do cinema. Apenas no momento da projeção/receção ela adquire o seu propósito, que não está contido no fragmento, mas na ilusão percecionada no ecrã pelo espectador. Note-se, que a realidade audiovisual da imagem fílmica, conjuga o som, esse sim, contínuo. É do jogo dessa relação, que resulta o tempo cinemático. O som tem uma capacidade de significação temporal, também ele com estratégias e combinações próprias e que estão

2 Tempo de resisto é aqui considerado como tempo de obturação. Fotograficamente o tempo de obturação pode registar momentos diferentes. Fazendo alterar o tempo de registo obtemos 'expressões' como arrastamento ou congelamento da imagem, ou mais ou menos luminosidade na imagem.

intimamente ligadas à construção deste universo espácio-temporal.

A representação do tempo feita pelo cinema, e pelo desenho no cinema, serve-se das especificidades do seu médium e das suas vertentes tecnológicas de construção ilusória da imagem em movimento. Ou seja, as premissas constitutivas passam pela noção de imagem, e de débito de imagem, mas igualmente das estratégias e modelos de construção narrativa. A narrativa é aqui considerada de uma forma ampla, uma construção consequente dos elementos áudio e visuais do discurso fílmico.

A realidade temporal das imagens funciona como um multiplano de acontecimentos e de ações do desenho. Pode ser feita através de elementos riscadores, de elementos gráficos, fotográficos e, da imagem dita real. É sempre uma construção e uma interpretação da temporalidade, que tem a sua existência quer na imagem fixa (neste caso os elementos constitutivos – os fotogramas) quer na imagem em movimento de forma múltipla.

Desenhar o tempo no cinema (de animação) é perceber que nas imagens o tempo está expresso e representado através de uma série de soluções existentes em modelos de representação específicos, mas esses modelos, são igualmente infinitos na criatividade e propostas artísticas demonstradas.Tendencialmente há uma separação entre representações que tendem a 'imitar' uma suposta realidade preceptiva e se encontram próximos de uma mimeses, e ao que Gombrich chama de "imagens cópia" ou "imagens espelho" e outras que traduzem relações de transposição simbólica e que são apelidadas de "imagens ilusão", ou "imagens mapa".[13] Toda a história de Arte está repleta desta dualidade de impulsos representativos e que naturalmente estabelecem intensões e representações diferenciadas de situações temporais.

Nem sempre essa aproximação mimética ao referente se traduz numa mesma noção de temporalidade. A multiplicidade de ações num mesmo quadro, que ocorre nas representações medievais, em que temos nas cenas religiosas de um determinado santo vários momentos num mesmo espaço, são exemplo de como uma representação onde existe uma aproximação a um referente reconhecido e a temporalidade inscrita estão desfasados de uma suposta 'realidade' representada. Um mesmo espaço/imagem contém várias temporalidades. A banda desenhada e a novela gráfica trabalham a sucessão temporal na gestão de página, pressupondo uma sucessão na leitura como por exemplo nas novelas gráficas de Chris Ware, e Richard McGuire. A sobreposição, sucessão e decomposição temporal, a sua gestão na extensão de um momento (como a queda de uma gota), ou a superposição de tempos distintos, numa "montagem" quase cinematográfica. Kandinsky que representa o movimento, sua ação no tempo, numa superfície, organizando formas, linhas e cores, indo a um nível de entendimento formal intuitivo e pessoal, evocando emoções e sensações relacionadas com o tempo, como a tensão, a calma, a agitação ou a harmonia. São estes alguns exemplos de como a gestão da temporalidade pode ser transposta para os universos da imagem fixa.

No desenho, na pintura, na ilustração, estamos claramente na esfera da representação, mesmo que os modelos adotados se liguem ao real há, uma declaração visível das suas marcas de enunciação. Nas representa-

ções que são mediadas através de dispositivos óticos[3], essa aproximação à realidade também é invocada. No entanto ela é, de certo modo incorreta, como observou em relação ao cinema Rudolph Arhneim [14] e que podemos estender à fotografia. Os meios que utilizam uma mediação, uma ação do homem e os que têm uma suposta automação, podem assumir nas suas representações os modelos representados mais ou menos extremados (em que a representação é mais ou menos equívoca). A proposta que a imagem coloca ao espectador acontece, não na ideia de ilusão, mas na aceitação da proposta expressa. O espaço e o tempo transformados em realidades representativas e expressivas, em propostas artísticas. No Cinema de Animação, o 'jogo' ilusório da representação está inscrito na natureza dos seus elementos. O filme, o cinema, é sempre uma proposta, nunca a realidade. No entanto o Cinema propõe a interceção da representação num mecanismo cinemático e temporal continuo, que nos aproxima da experiência temporal.

No cinema a temporalidade é transformadora, e no caso da animação esse 'desenho' animado é particularmente esse aspeto é evidente. Uma linha pode passar, de um momento para o outro, de um vértice sólido para a linha de horizonte, ou para uma linha de água. Há um poder revolucionário dos elementos, das formas inerentes à animação. A própria realidade dispositiva permite a criação de temporalidade pela sucessão e alternância, criando cadências através da interpolação, criando padrões rítmicos de leitura temporal, potenciado a sua existência e a sua capacidade de transmutação. Desde o seu início a potencialidade da 'linha,' por exemplo em Len Ley, ou nas construções formais e óticas de Oskar Fichinger, ou mesmo na sua génese, na qual a luz assume um papel 'efémero' e dançante nos trabalhos de Moholy-Nagy, apontam para um carácter sensorial e expressivo dos elementos na construção temporal animada. Os elementos pictóricos são utilizados por si numa investigação sensorial e formal do tempo, onde os elementos do desenho são depurados e primordiais. Nestes filmes a utilização linear e rítmica da música, apresenta-se como unificadora da imagem conferindo-lhe uma "direção" de leitura.

Diz-se do cinema que é uma arte do tempo, pois desenrola-se numa duração temporal própria e, lida com a gestão da informação áudio e visual numa dimensão espácio-temporal de representação. A dupla vertente pela qual o podemos observar: na sua dimensão constitutiva, característica da tecnologia cinematográfica e das estratégias que adota através das suas representações. Ambas são indissociáveis, mais ou menos visíveis, significantes de uma temporalidade à sua vez especifica. A noção de desenho atravessa esta duas dimensões do tempo no cinema, assumindo características distintas.

O tempo está intrinsecamente ligado à nossa experiência do mundo, pelo que a suas representações artísticas expressam essa maleabilidade e diversidade. Os modelos de representação estabelecem códigos de linguagem e apresentação, nos quais navegamos como espectadores. São de ordem narrativa, mas assumem valores e expressões próprias nos seus

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3 Entende-se por dispositivos óticos, dispositivos que usam a luz e a ótica na construção de uma imagem (lentes, Câmaras).

modos. É esta a elasticidade plástica-temporal que já tínhamos referido anteriormente, mas que ao invés de se pensar como aleatória apresenta-se como objectiva e diversa.

03. Formas de Continuidade

As representações artísticas de índole narrativa, onde se inclui o cinema, assentam numa ideia de tempo absoluto, de direção e linearidade, presentes na teoria de progressão temporal newtoniana[4]. Permanecemos agarrados a uma sequência ordeira dos eventos temporais, e, mesmo alterando-lhe a ordem, esse determinismo mantém-se. Somos maioritariamente tradicionalistas na aceitação da relatividade temporal, na quebra do *continuun* espácio-temporal. A formulação audiovisual tradicional, os seus maquinismos de fabricação, onde os softwares de edição estão construídos, propõe uma construção narrativa vetorial de linhas temporais cronológicas (*timelines*). Há um princípio, um meio e um fim, o arco narrativo é estabelecido nesse determinismo. Para Godard "todas as histórias têm um princípio um meio e um fim, mas não necessariamente por essa ordem", contudo a alteração da ordem temporal não altera a sua direção, determinada sempre por um início e por um fim do tempo fílmico. [15]

A linearidade da duração temporal fílmica pode, no entanto, ser conjugada através da distribuição dos eventos temporais (planos), de múltiplas formas, a que habitualmente chamamos montagem. A montagem organiza temporalmente "pedaços de tempo" (os planos), criando sentidos, mas igualmente estabelecendo ritmos e noções temporais diversas, condensado e ampliando o tempo apresentado, o tempo da história e o tempo fílmico. Na linearidade da montagem podem-se distinguir propostas de continuidade e contiguidade na obtenção de soluções temporais – os filmes.

Estando o *continuum* espácio-temporal enraizado na nossa experiência temporal, o cinema recorre a elementos que são colocados de modo a permitir a ilusão desse *continuum*. A "continuidade"[5] no cinema "de transparência", dito clássico, pede uma imersão na representação e uma diluição de contornos estabelecendo com isso a ilusão. A "transparência" pretende ocultar o corte, e criar uma unificação entre as partes, uma ocultação da fragmentação – como os eixos óticos, *raccords* de movimento, de olhar e de luz, apagando as marcas dos elementos de produção - o traço, afastando-se com isso da representação e aproximando-se do representado.

Na animação, a liberdade formal dos elementos do desenho e o seu estabelecimento enquanto representação, poderia afastarmos tendencialmente dessa imersão, uma vez que nos encontramos mais do lado da representação e não do referente. A liberdade formal dos elementos permite a criação de um universo criativo próprio e particular. Na animação essa existência pelo desenho estabelece a sua própria realidade enunciativa, formal, narrativa e consequentemente, temporal. Há uma aceitação da

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4 Para Newton (1664-1726) o tempo era um conceito absoluto, existindo por si só e a sua progressão linear.

5 A 'continuidade' normalmente é assegurada através da montagem para que haja uma coerência entre os elementos da cena na sua transposição de planos. São exemplo disso a regra dos 180º de modo que os personagens não saltem o eixo provocando uma quebra na continuidade, a continuidade lumínica, de ação ou sonora.

ilusão, da representação, sem que a sua natureza seja questionada, criando uma relação de aproximação e de envolvimento. A 'não colagem' ao real, liberta-nos para aceitação de universos espácio-temporais ampliados, pois há a compreensão e aceitação do 'faz de conta' e não um decalque do suposto real. O 'animismo'[6] permite esse relacionamento imersivo em que nos esquecemos da natureza da representação e o estabelecimento das 'personagens animadas', sejam elas, um desenho de uma figura humanizada, um animal, uma chávena, ou um retângulo. A animação, pela diversidade das suas propostas e matérias, pela ação direta na criação do movimento e com ele do tempo, é o lugar do imaginário. Como diz Sebastien Dennis "a animação constitui a subjetividade mais absoluta no cinema". [16]

Em animação podemos desenhar a continuidade através determinadas técnicas de animação direta, como a areia, a animação a óleo, que convocam a imagem anterior dos seus elementos expressivos mostrando o caminho do movimento. O artista William Kendrige, no seu trabalho de carvão sobre papel, demonstra bem esse continuar do desenho, que se vai apagando e desenhando, mostrando essa trajetória do movimento desenhado.

03.01. Estratégias, de construção do tempo, do desenho na animação.

O plano sequência funciona como unidade temporal que tende a igualar o tempo da ação. Pela sua duração e desenvolvimento narrativo encerra, um momento ou acontecimento no interior do filme que é em si, uma unidade de significação alargada.

Pode ser um plano fixo (plano sequência fixo), mantendo sempre a relação de escala em relação ao espaço representado, deferindo, ou não, na posição relativa dos seus elementos. O filme "Cof, Cof" de Zepe (1999) desenvolve-se num plano único de uma plataforma de metro. Tudo é feito num plano único, em que a interpelação do personagem é estabelecida. A unidade do espaço plástico permite uma atenção ao detalhe e aos tempos das personagens, ao espaço interpessoal.

Quando os elementos constitutivos se transformam, criando e re-criando os as formas, cenários, escalas e relações, no decurso da duração do plano, há o recurso à animação total (*full animation*). Tudo é executado em continuidade desenhada. É a animação em estado pleno. A animação surge como elemento inovador, cria uma continuidade transformadora, na qual o desenho assume todas a suas capacidades plásticas. Recorrendo a todo o tipo de estratégias, como às simplificações, à separação da linha e da cor, ou à metamorfose. Os filmes do realizador suíço George Schwizgebel são um exemplo paradigmático da utilização da animação total, conjuntamente com a noção de ciclo e 'fuga', tornando-se por si só uma estratégia narrativa e lúdica.

A metamorfose é um tipo específico de animação total. O processo em que uma forma (ou fundo) se transforma gradualmente em outro: um

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6 'Animismo' em algumas filosofias trata de dar alma e espírito, humanizando, plantas, animais e objetos inanimados. Em animação relaciona-se com a palavra 'anima' – dar vida – raiz da própria palavra Animação. O animismo está igualmente ligado ao universo Disney, pródigo em atribuir atributos humanos a 'árvores', 'ratos' e 'chávenas'.

quadrado num círculo, uma personagem em outra, um cenário no seguinte.

A nossa dimensão temporal está amplamente assente na noção de ciclo. Regemo-nos, através de uma série de eventos que se repetem ao longo do tempo de forma cíclica: o dia e a noite, as estações do ano, as fases da lua, são fenómenos naturais, observáveis, circulares que orientam a nossa existência. Também a ideia de nascimento, morte e renascimento é uma noção cíclica para em algumas culturas. O relógio faz a divisão circular do tempo dividindo-o em 24 horas de 60 minutos e cada minuto em 60 segundos — a divisão do tempo do ciclo terrestre.

O ciclo fomenta igualmente a noção de continuidade, não estabelecendo um início e um fim, mas sim promovendo uma repetição que diluí esses momentos. Os seus elementos sucedem-se circularmente, num ciclo de movimento, ou de transformação, onde ao último desenho se sucede o primeiro, podendo prolongar-se de forma infinita. Difere da ideia vetorial e das estratégias de linearidade, pois revela uma capacidade de reinvenção temporal que a empurra para o eterno recomeçar e com ela uma ideia de intemporalidade. A utilização do ciclo na animação (ciclo do passo, ciclo de voo) permite estabelecer estratégias na caracterização dos personagens, dando-lhes carácter, mas também determina ritmos e movimentos, parte constante da relação temporal fílmica.

Na criação imagética o estabelecimento de estratégias formais para enfatizar a 'diferença de tempo' pode passar por exemplo pelo uso da cor ou pela sua ausência. A diferenciação entre de tempos históricos (ou da estória) distintos faz da utilização da cor uma estratégia para a distinção temporal. Assim na 'imagem real' quase sempre o preto e branco remete para o passado, associado a um tratamento granular da imagem e a um formato quadrangular. A própria natureza tecnológica do médio e a utilização de tecnologias analógicas, por exemplo o super-8, ou o formato da janela, para fazer transitar entre passado e presente, estratégia também explorada na animação para a separação temporal, cronológica e psicológica. Por exemplo em "The boy who saw iceberg" (2000) de Paul Driessen , não só estabelece espaços distintos (*split-screen*) onde os eventos ocorrem, distinguindo-os entre o imaginário e a realidade da viagem do miúdo no Titanic, como nos dá os acontecimentos de forma alternada e emocional, estabelecendo uma ordem cronológica para os mesmos, não linear. É uma estratégia formal de resultado narrativo explicito.

04. Conclusão

A compreensão psicológica e expressiva do tempo é avessa a uma correspondência direta ao tempo 'contado' do relógio. Há claramente um entendimento flexível do mesmo, independentemente do seu inevitável determinismo. A grandeza da compreensão do tempo é variável conforme individuo, a sua idade e estado anímico, em relação ao contexto, à natureza e intensidade dos acontecimentos. Não medimos/sentimos a passagem do tempo de uma mesma maneira em todos os momentos da nossa vida, há uma adaptação cognitiva de entendimento e fruição que é maleável. As representações temporais são reflexo desse entendimento, permitindo-nos enquanto espectadores relacionar de diferentes modos, experien-

ciando-as de forma distinta. Podemos deter-nos numa imagem uma hora, encontrando modos e direções de leitura existentes, ou por nós escolhidos e determinados, ou podemos passar por uma sala de um museu num minuto apenas retendo a "espuma" das imagens. Podemos observar um filme que na sua duração detém uma determinada disposição temporal. No decorrer dessa observação podemos: parar, avançar ou voltar a ver, estabelecendo o ritmo para a nossa leitura. Esta prática recetiva subverte o "todo" temporal da representação (o filme), aproximando-a da leitura, do acto de ler. Raramente lemos um livro 'sem interrupções'.

As estratégias de atenção e fruição são cada vez mais fragmentadas, o "agora", imposto pela simultaneidade da telepresença das imagens, parece remeter para uma captação de tempo absoluto. Em contraponto o tempo, surge relativizado, dada a impossibilidade de estabelecer um tempo único.

Appia indaga a existência de um termo conciliador entre o espaço e o tempo: "O tempo e o espaço possuiriam eles um termo conciliante, - Um termo que lhes seja comum? A forma no espaço, pode ela tornar-se a sua parte nas durações sucessivas do tempo? E estas durações encontrariam elas ocasiões de se expandir no espaço? Por que apenas a isto se reduz o problema, se queremos reunir as artes do tempo e as artes do espaço no mesmo objeto." [6]. Essa palavra que une tempo e espaço no mesmo objeto que surge com mais pertinência no cinema de uma a forma expansiva é — Animação.

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"entre tu e eu" / "between you and I": showcasing the potential of fanzines as an artifact of expression and authorship within the theme of feminine sexuality and self-discovery

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[Desenho/BD · Drawing/Comics]

Abstract

This paper explores and showcases the level of experimentation that fanzines provide to authors through the fanzine collection "entre tu e eu" ("between you and I") and how fanzines can be transformed into the author's voice to convey messages in a way no other method can. With a D.I.Y (do it yourself) approach, fanzines are objects that enable authors to explore them as they wish, without rules or constraints these artifacts provide a medium where limits, themes, graphics, and storytelling, can be tested at their full potential without the approval of a second party. As such, "entre tu e eu" is a collection of three fanzines, each working as a way for the author to confide in and to prove the flexibility that fanzines provide within the theme of feminine sexuality and self-discovery given that each fanzine offers a different sub-theme, format, graphism, and color palette. While being very different from each other, the collection conveys that each fanzine is part of the same collection, seizing the opportunity to experiment with the printing method of risograph as one of the key elements between them.

01. Introduction

Rules are not to be applied to fanzines. They do not come with a booklet of written or unspoken instructions. Fanzines are objects dependable to their author, working almost like a boundless blank canvas by offering a place without limitations where authors can explore as much as they desire. As such, although fanzines by the same author may share similarities, they will usually have different aspects as well, being a mirror of the authors changing tastes or skills.

This paper views to explore the potential of this experimentation with the fanzine collection "entre tu e eu" ("between you and I"), created as

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the final project from the master's degree of the Illustration and Animation course on IPCA (Polytechnic Institute of Cávado and Ave. This collection within the theme of feminine sexuality and self-discovery, a theme of interest to the author, has three fanzines in total, each one with their own sub-theme: "OLHOS" ("EYES"), indirect homophobia; "o jardim púdico" ("the prude garden"), body hair; and "à distância" ("long-distance"), mental health and masturbation. Although they share key elements that help them to perceive as part of the same collection (sharing one color, the printing method of the risograph and the three being comics) they are inevitably different while being part of the same collection. To understand the best option in function of their own theme, each fanzine was deeply explored resulting in a variety of different types of illustration, formats, sizes, secondary color, and types of narratives.

This paper will start with a brief introduction of fanzines and some examples of authors fanzines to demonstrate the diversity of fanzines under their belt. However, the focus will be the showcase of the collection, its choices explanation and the author's process to contemplate the usage of this artifact as a way of exploration.

02. Fanzines and their flexibility

Fanzines come in all formats and sizes; they are independent [1] hand-crafted [2] objects made by one or a group of authors [2], which means they do not have to follow exterior rules since it's the job of its author to take care of all the steps of the process (production, publishment, and distribution) of its creation [3]. The artifact itself was born inside the science fiction community during the 30s [4] but its popularization took place in the 70s in the United States of America and the United Kingdom thanks to the punk scene [5]. All those fanzines were created by fans of those phenomena to other fans, encouraging them to produce fanzines too, and, since this is an object with easy accessibility, they enable anyone to make one.

During that process, the author decides everything, format, colors, theme, the approach they wish to take, and how the final product will be. Considering formats, fanzines can be either physical, like booklets, leaflets, and magazines (the most popular) [6] or digital (for instances, a blog) [7] objects; And as for forms of expression one may use illustration, photography, comic, papercuts, poetry, or prose, or mixing everything and create something new. The possibilities are nevertheless endless, and it depends entirely on the author to choose how to create the fanzine.

If we consider the fanzines work of Grabriella Masson (also known as lovelove6) and Joana Estrela we can see that, besides having preferences with their fanzines, their objects still have different approaches in some aspect or another.

With Gabriella Masson's fanzines, for instance, in both volumes of "A Ética do Tesão na Pós-Modernidade" Masson utilizes a monochromatic color palette of black and white, while "Garota Siririca" and "Sheiloca" prefers the usage of color, although limited. All three fanzines are comics, a preference of the author [8], but the structure varies from each other: "A Ética do Tesão na Pós-Modernidade" does it approach with vertical comics

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along with loose illustrations and short sentences; "Garota Siririca" uses comics occasionally in a more structural way and others attempts to explore other ways to create the page; "Sheiloca", at last, takes away the structural aspect, there are no lines dividing the scenes as if each page was just one illustration. As for their format, each has a physical version in the format of magazine (although "Garota Siririca" and "Sheiloca" started digital) and share feminist themes along with self-discovery, sexuality, and LGBT+.

Joana Estrela's themes focus on LGBT+ themes as well and take into account the narrative itself to the fanzine's choices: "Os vestidos do Tiago" ("Jame's dresses") pretends to look like a children's book and because of that, the color palette is limited and utilizes primary colors, its format is also the magazine; "Propaganda" on the other hand is a diary, the graphite drawings along with the manual writting help to emphasize the feeling of something personal along with the magazine format too; At last, "Como Dizer..." is a tutorial on how to confess to another girl, the leaflet format helps understanding the needed steps with each unfold.

Each author chooses how to make their fanzines, and with that, they can create new objects and discover more options while exploring new methods.

Fig. 1 Pages of "A Ética do Tesão na Pós-Modernidade vol.2", lovelove6, 2013.

Fig. 2 Page of "Garota Siririca", lovelove6, 2013.

Fig. 3 Page of "Sheiloca", lovelove6, 2018.

Fig. 4 Pages of "Os Vestidos do Tiago", Joana Estrela, 2013.

Fig. 5 Page of "Propaganda", Joana Estrela, 2014.

Fig. 6 Half-folded fanzine "Como Dizer...", Joana Estrela, 2018.

03. The fanzine collection "entre tu e tu"

A fanzine is a flexible object that enables the search of the author's expression, to attest this, the collection presented here has three different fanzines, each one with its specific theme within the global theme of the project (feminine sexuality and self-discovery), and like so they dabble different narratives, formats, and technics, each working as a topic the

author wants to vent about (henceforth the title "entre tu e eu" ("between you and I" as if the sharing of secrets between author and reader).

However, it was necessary that these objects would be created taking in mind that they are part of the same collection, and for that, it was imperial to search and study how this could be done (Fig.7). Collections as such: "The Puffin in Bloom Collections" and "A Place Called Perfect", with shared key elements between each cover; the books of Chinua Acheche with illustrated covers by Edel Rodriguez, share the same color palette and art style; the collections of Juniper Books, such as "Fables", where each book together organized create an illustration on the spine; helped understand how each object could be connected. But it was with "Building Stories" by Chris Ware (Fig.8) that the author found a hint on how to approach the "entre tu e eu" collection.

"Building Stories" is a box with various artifacts inside it and each tells a story from a resident of the same building. These artifacts are all different, each catering to one story and one resident and this is specially seen with the diversity of formats, varying between leaflets, magazine, posters, or back covers, but also by changing color pallets and page organization from one another. Although they are different, since all these stories happen on the same building, they end up end up connecting with each other in one way or another. This difference yet union can also be seen on the cover of the box, since they are from the same building complex they are on the same box, which also shows, for instances, different typography while writing its title.

This aspect of "Building Stories" was truly inspiring, since "entre tu e eu" wanted to also have different narratives and doing so with various formats and graphic styles but while the narratives of "Building Stories" ended up interwinding, which does not happen with "entre tu e eu". This connection could be made utilizing graphic elements that each of the fanzines would have in common, like sharing a color, as seen with the books by Chinua Acheche with illustrated covers by Edel Rodriguez.

Fig. 7 Visual studies of "The Puffin in Bloom Collections", "A Place Called Perfect", Edel Rodriguez cover illustrations and "Fables".

Fig. 8 "Building Stories", Chris Ware, 2012.

As such, after studies on how to create a collection, it was chosen for them to have a place where they could be reunited: an envelope that reminiscences menstrual pads. For that, after some mock-ups (Fig.9) on how to emulate this idea, some characteristics had to be considerate: the laterals of the packaging had to be visibly closed, a longer brim to cover the front that closes with a long and thin white sticker and a pattern (all characteristics of a menstrual pad (Fig.10), created with elements from each fanzine.

This envelope (Fig.11) has just one color, pink, the color chosen to be the shared key point between all fanzines, and the laterals are sewn

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to allude to the visibly closed laterals of the menstrual pads but specially to oblige the reader to tear the envelope to read the secrets within it (Fig.12)
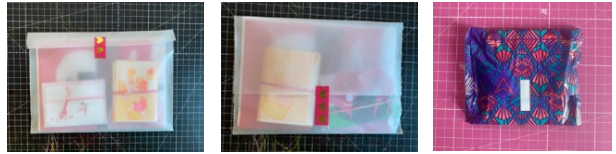

Fig. 9 "entre tu e eu" collection package mock-up.

Fig. 10 Menstrual pad.

Fig. 11 "entre tu e eu" collection.

Fig. 12 "entre tu e eu" collection opened.

04. "OLHOS"

The first fanzine created was "OLHOS" ("EYES"), a poem in a comic that describes the feelings of a girl going to her girlfriend's house. The objective of this poem is to show the uneasiness that the couple feels when they sense other people are staring and probably judging them, contrasted with the carefree attitude they have when they are alone.

For that, the narrative is divided into three parts: outside, where the couple has no fear of expressing how they feel, however, when they sense the look from other people on them, the couple gets apart from each other; inside the house, when there's an emotional and physical distance from the couple from the fear of the girlfriend's father discovering them; and inside the blankets, when they are clinging into one another, happy and free, away from the looks and judgment from other people where they can express themselves away from the world.

It was important to establish how the antagonist of the narrative, the looks of other people, would be presented. Studies of literal and metaphorical representations were made, like figures of eyes or symbols of stars or peacocks (Fig. 13). However, it was decided that would be interesting to show this antagonist with the way the couple reacts to it, like this, the antagonist would be present but invisible simultaneously (Fig. 14).

Fig. 13 Early studies for "OLHOS"

Fig. 14 Early studies exploring the couple's reaction.

The format of this fanzine also viewed to impose this narrative and, after studies of a magazine format in the size A4 to make visible what wanted to be hidden, it showed to be a more interesting approach one that combined the idea of being hidden and to be visible. Considering this thought, the format chosen is a leaflet that when folded can be read like a magazine,
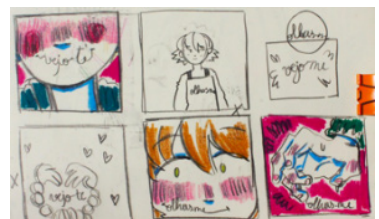
having the dimension of A7, a size capable of being hidden. This part shows the couple repressing their feelings, but, when reaching the last page, it is necessary for the reader to entirely unfold the fanzine, showing a poster with the dimension of A3, where the couple is happy, hugging each other as if the object of the fanzine is the blanked where the couple hides themselves.

This concept of hiding one's feelings, both emotional and physical, served as inspiration: an untitled photograph by Ren Hang (Fig.15) where a group of people is kissing but since their faces are emotionless, it helps with the idea of them not showing their true self, that there is something keeping them away from that moment; and the photograph "Luxaflex, Of Mud and Lotus" by Vivianne Sassen (Fig.16) showing what seems to be bodies intertwined but with paint covering parts of the photograph making it impossible to understand what is actually happening.

The idea of hiding but present explored in these photographs was desired to be explored with the illustrations of "OLHOS". As such, taking in mind the overlay technique of the risograph, elements of the pink layer are on top of the yellow layer, creating orange because the pigment of these colors are not opaque (Fig. 17 and 18). Other technique used to achieve the hiding concept was the erasing of certain parts of the characters bodies (example: face or mouth (Fig.18)).

Fig. 15 untitled, Ren Hang, 2011.

Fig. 16 untitled, Ren Hand, 2011.

Fig. 17 & **18** Digital mock-ups of the risograph printing method.

Visually it was certain that the material to use was paper, firstly, paper dolls (Fig.19) were created and tested, but because of the A7 size being too small, their reading wasn't viable, so instead of this tridimensional approach, a bidimensional paper cuts technique was created (Fig.20) inspired by paper cut dressing dolls.

Fig. 19 Some paper dolls studies.

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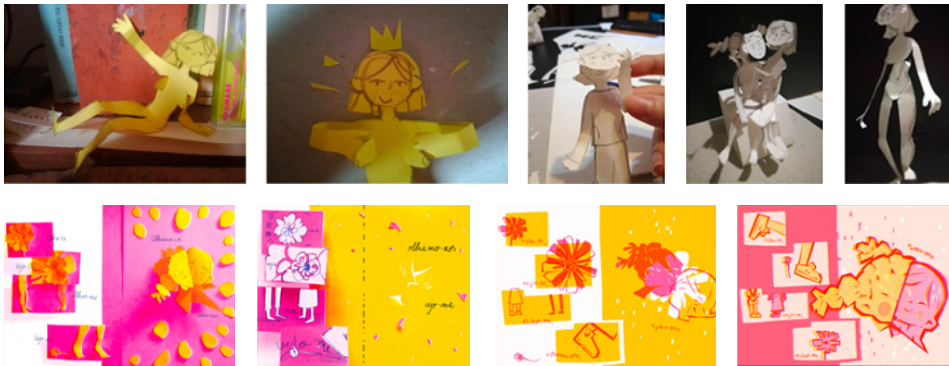
Here all elements of each page were cut in a lighter color paper on top of a darker one while letting a slight margin of the darker paper to be shown. This technique made it possible to change between lines and filling zone on a digital montage (Fig.21).

Fig. 20 Page studies from the A4 dimension with paper doll to the exploration of the bidimensional papercuts.

Fig. 21 Technique study for "OLHOS".

The typography was also created with papercuts, this time using the lettering from magazines, with this technique some words are made with bigger or bolder typography to change the rhythm of the poem's reading. The space left on the magazine was then transferred to a blank paper sheet, creating a pattern utilized on the fanzine (Fig.22).

At last, the color chosen to go together with the pink was yellow (Fig. 23) to make use of the overlay technique, but using these colors in its purest and play it together with the white of the pages they would be printed on, to allow the composition to breath not feel too chaotic.

Fig. 22 Typography technique for "OLHOS" and pattern created by the typography's missing space.

Fig. 23 Fanzine "OLHOS"

05. "o jardim púdico"

Next was "o jardim púdico" ("the prude garden", a play of words with "prude" and "prune"), a silent comic around the concept of body hair as a garden. The narrative is about the notion that when a person is born it's given them a garden to take care of, however, how the regard it depends on the biological sex they were born with. This narrative is also divided into three parts: the first shows a girl that has to take care of the garden as people her to, clean and beautiful, but when she sees the garden of her neighbor, a boy, she's amazed at how wild and free it is; the second is the girls trying to have a garden as free and wild as her neighbors but people are always talking down on her, telling her that it should be that way, and even though at first the girl pays no mind to them, eventually the comments take the best of her and she gives up, letting her garden die; the last

and third shows the neighbor helping the girl to have courage again and let her garden grow once again. At first, it was thought that this fanzine would have heavy text, however, with studies this text would be gradually shortened until it was non-existent (Fig.24).

Fig. 24
Visual and narrative studies for "o jardim púdico"

The format of this fanzine was also a leaflet and after studies (Fig. 25) to understand the best direction to take the full potential of the narrative it was the vertical way of the paper that seemed to be the best, as such the three parts of the narrative are physically explicit.

Fig. 25
Format mock-ups of "o jardim púdico" evolution.

Like this, the first page is divided into two columns, the right one is directed to the first part of the history where the girl discovers her neighbor's garden, and the left one is dedicated to the fight she has with society, one she eventually loses, this step back in the reading (if taking in mind the western direction of reading, from left to right), from going to the right and then to the left works as a step back on her decision of having a wild and free garden as well.

The second page, and last one, works as a full page, at the top shows the neighbor trying to convince the girl to go back on her decision and to try to have a garden again, the rest of the page is dedicated to them happily watering a big and wild garden.

For the garden's metaphor served as inspiration: a work from "Fucking Freedom" by CACHETE JACK (Fig.26), where a woman is cutting her pubic hair that looks like a bush, with the sentence "WILD FOREST" in the background, appearing that the women's body hair is a forest, this work also inspired the first color palette from this fanzine during some studies, yellow and green along with a darker color; and the book "O Prazer" ("Pleasure") by María Hesse (Fig.27) where the pleasure is represented as a garden with an abundance of flowers and other plants, almost correlating with the amount of pleasure that it's trying to be conveyed on that moment. The works helped to understand how to play with this metaphor, how to present the garden on the exterior but also on the character. When the character wants to fight on this garden is big, when she gives up, it's dead, although when changing her mind and finally being sure of her answer and choice

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she is happier than ever before, establishing a connection with her mind state and the garden she's growing. The character also hides her body hair, for being ashamed, only at the end the reader is finally able to see it.

To help with this idea of the garden the color chosen together with pink was decided to be green to go along with the theme of garden and nature.

Visually, the illustrations for the comic wanted to take advantage of textures, various studies (Fig.28)

Fig. 26
Illustration for "Fucking Freedom", CACHETEJACK, 2017.

Fig. 27
"Pleasure", María Hesse, 2019.

were done in this direction, but seemed too chaotic, at last, the following was decided: each group of elements has a different texture created with drawing materials, washi tape and tape (for the hose and water) were also used as well as stamps (lettering, hair, and nature). For the watering can be used paper cuts from magazines of the real object, but since there weren't enough, teapots were chosen instead, this choice led to a more delicate representation yet comical, because of its dimension in comparison with the other elements created.

For the antagonist of this narrative, contrary to "OLHOS", in "o jardim púdico" it was decided that its power should be visually represented, for that reason, paper cuts of open hands were used, where they would be

modeled as if point the finger. Their supposition together with the shadows they created made them have a strong presence (Fig. 29), shows the antagonist in contrast with the other elements).

Fig. 28
Evolution of studies for "o jardim púdico".

Fig. 29
Reading sequence of "o jardim púdico".

06. "à distância"

"à distância" ("long-distance", play words with "long-distance relation-ship") was the third and last fanzine of this collection, also in comic focuses on isolation and personal intimacy. The narrative for this fanzine was the hardest to come by it was always known that it should portray the sequence of events that leads the main character to masturbate, but how this should be made was unknown (Fig.30).
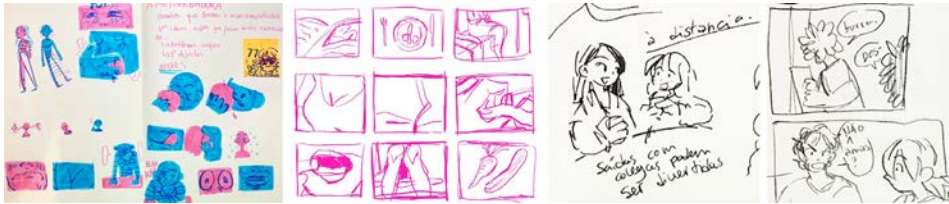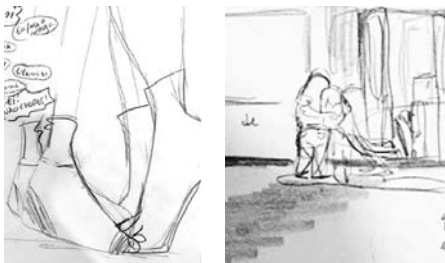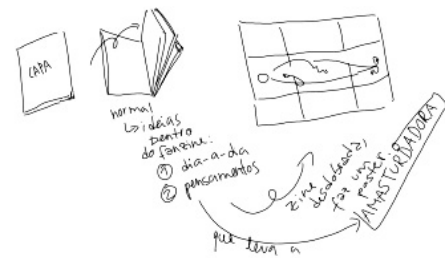

Fig. 30 Studies evolu-tion for "à distância".

Fig. 31 Initial study for the leaflet format for "à distância".

Fig. 32 Graphic game with the pose from the cover and back-cover of "à distância".

Like so, it was decided to take advantage of the feelings of isolation the author felt during the master's attendance weighted with the COV-ID-19 pandemic, creating a narrative about it. "à distância" tells the story (Fig.31) of a character that is in a long-distance relationship and feels isolated from everything, to distract herself from this focus she tries to have sex with her girlfriend, however, thanks to the awful internet connection this is not possible. With this the character has a new goal: to get a better internet connection; but when she finally gets what she wants the solitude and isolation she tried to hide but always felt finally catching her. Only after the character vents with her housemate and talks with her girlfriend, she reconnects with herself and see at last her girlfriend's breasts.

For this fanzine, at first, when the narrative wasn't chosen yet, it was thought to use the leaflet format (Fig.32), however, since the narrative turned longer than expected the chosen format was the magazine for a fluid reading.

With dimensions, at first "à distância" was going to be A4, the illustrations were even done in this size, however it was later decided for the fanzine to be in A5 for being of easy transporta-tion and going together with the concept of being in a long-distance relationship and always on the move. There is even a cover and back-cover game (Fig.33), where they are on the first and last page respectively, here the position of the couple hugging on the first page reminds the couple's feet position on the last page, creating an almost cyclic reading and staying true to the long-distance relationship concept with farewells and meeting once again.

The illustration of the comic was done with stylized drawing using a pen with a fine tip, using it to create meshes in a large amount to sug-

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gest the emotional conflict the character is experimenting with. On the contrary, the absence of this mesh may represent the character's apathy or relief and acceptance.

Other stylist choices used to evoke this emotional conflict are scribbles on top of the character's faces (Fig.33), transforming them into background characters, when frequently, that is not the case, like how it happens with the character's roommate, or even the character herself.

For these visual choices to represent this emotional conflict served as inspiration the mangas: "Boy Meets Matia" by Peyo (Fig. 34), where after a traumatic event one of the main characters sometimes sees everything distorted and in an almost childish representation with the drawings along with stressed mesh lines on the background; and "My Lesbian Experience with Loneliness" by Kabi Nagata (Fig. 35), where not only does she use only two colors, pink and black (originally the colors chosen for "à distância"), but also the abundance of mesh that helps to represent the Nagata's uneasiness.

Fig. 33 Scribbles on top of the characters heads of "à distância".

Fig. 34 "Boy Meets Peyo", PEYO, 2018.

Fig. 35 "My Lesbian Experience with Loneliness", Kabi Nagata, 2016.

To go together with the pink was first thought of using black, however, the illustrations ended up being too cold and harsh; the solution was the color "midnight blue", evoking a dreamy and nostalgic feel together with pink (Fig. 36).

Fig. 36 Fanzine "à distância".

07. Final thoughts

Fanzines can be spaces for authors to discover themselves. Joana Estrela and Gabriella Masson create fanzines with some elements always different, making the fanzines almost evolve with themselves.

For instance, while creating "entre tu e eu" the author didn't plan on all of them being comics, the fact that every fanzine was a comic showed her it was her preferred way of expression. While working on this project, various ways of creating illustrations were tested, and this enabled the author to see which one she liked the best, and what aspects to keep a next time. The short "No Fim." (Fig.37), gifted with an honorable mention, for the national contest on Amadora BD 2022, used a similar texture technique with papercuts to "o jardim púdico", and more works following the creation of the collection followed this same example as well as a digital technique imitating the riso technique (a multiply layer on top of another with a different color) and this could only be possible after the experimentations done during the development of these fanzines.

Fig. 37 Page from the short "No Fim.", 2022, and "Cuidando", 2023.

However, "entre tu e eu" did not come to life without its own problems during production, to be able to adapt was essential. For starters, the collection was started during the COVID-19 pandemic which degraded the author's mental health; the pandemic also made it more difficult to contact risograph printing shops and when one was chosen, orders were forgotten, and the machine that printed green stopped working during production, which delayed everything. Besides these problems, the risograph printing method also turned up to be very peculiar. It was always known that the results wouldn't be perfect, and this was embraced specially on "à distância" where the layers do not meet one another perfectly, however, files that did not have any problems at naked eye would sometimes show errors during its printing, for that the file would have to be edited again. Although sometimes challenging this printing method did in fact provide beautiful and intense colors, and a noticeable texture that no other printing method would allow.

This fanzine collection wasn't merely to be made and not shared, that is not a fanzine, fanzines must be spread, like so a presentation of "entre tu e eu" was done on "Tinta nos Nervos" in Lisbon, here was possible to see what worked and what not, which fears people shared or what they started to consider but also to share ideas between author and public. "OLHOS" was the most popular, although there were people afraid of opening it to its fullest, "à distância" was the easiest to read, thanks to the magazine format, and "o jardim púdico" the most difficult, because of the reading method and for being silent. It was also possible to see that the people who got the collection feared tearing apart the package since they knew that once they opened it there was no way back to how it was in the beginning. There are no more collections available, but the individual fanzines can be bought on "Tinta nos Nervos" in Lisbon, "Ó!galeria" in Oporto, and on the author's Instagram "peugamorta".

The creation of fanzines initiates an underground way of communication, everyone can make one, that's the charm of it, and it allows the growth of authors or artists.

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Fig. 1 Issuu, https://issuu.com/katzenminze/docs/eticadotesa02

Fig. 2 Revista Samba, http://revistasamba.blogspot.com/search/label/'gabi%20lvlv6

Fig. 3 lovelove6, https://lovelove6.com/portfolio/quadrinhos/sheiloca/

Fig. 4 Joana Estrela, https://joanaestrela.com/product/vestidos-do-tiago

Fig. 5 Joana Estrela, https://joanaestrela.com/product/propaganda

Fig. 6-7 Author's image.

Fig. 8.The New Yorker, https://www.newyorker.com/culture/cover-story/cover-story--chriswares-big-box-of-melancholy

Fig. 9-12 Author's image.

Fig. 13 The New York Times. https://www.nytimes.com/2019/03/05/arts/design/ren-han-gparis.html

Fig. 14 Vivian Sassen, https://www.vivianesassen.com/works/of-mud-andlotus/carou-sel/#not-on-stevenson-2

Fig. 15-23 Author's image.

Fig. 24 CACHETEJACK, https://cachetejack.com/Fucking-freedom

Fig. 25.WOOK, https://www.wook.pt/livro/o-prazer-maria-hesse/23820785

Fig. 26-33 Author's image.

Fig. 34 Tumblr, https://heavensickness.tumblr.com/post/190774974098/mylesbian-ex-perience-with-loneliness-kabi-nagata

Fig. 25-36. Author's image.

A Importância do Domínio e Prática do Desenho no Desenvolvimento de *Concept art* para Videojogos na Atualidade

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[Desenho/BD · Drawing/Comics]

Abstract

This article focuses on the state-of-the-art of an ongoing research project, whose focus is to understand the current importance of drawing skills for developing concept art for videogames. With this focus in mind, we carried a bibliographic review and gathered opinions from professionals to better understand the needs of the concept art practice field, the role of concept artists in videogame development, and the methods and tools used in this process. Based on this initial research, we concluded that traditionally, concept art practices were mainly carried out using traditional drawing methods, but with technological evolution and the growth of the videogame industry, professionals have been progressively adopting new methods and tools to make their processes faster and more efficient. Therefore, there is a tendency to resort to new tools in concept art practice nowadays due to the benefits such tools provide. However, professionals still frequently use techniques and methods supported by drawing, as in some cases, these are still the most efficient way to produce concept art. In the continuity of this research, we intend to conduct case studies to strengthen our theoretical and practice components as a foundation for the visual development of a videogame.

01. Introduction

Nos últimos anos temos vindo a presenciar um crescimento na produção e consumo de produtos de entretenimento, entre eles os videojogos. Porém, o aumento na produção e consumo destes produtos, provocou também a necessidade de tornar o seu processo de produção mais rápido e eficaz, o que inclui a etapa de desenvolvimento de *concept art*. Estas necessidades, fazem com que muitos dos *concept artists* tenham de recorrer a novos métodos e ferramentas de modo a tornar o seu processo de trabalho mais eficiente, e simultaneamente, manter a adequação do estilo visual para cada projeto de jogo. Assim, na atualidade, é recorrente o uso de várias ferramentas no desenvolvimento de *concept art*, tais como, modelação 3D, manipulação fotográfica e até mesmo o uso de algoritmos de Inteligência artificial.

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Com estas considerações em mente, este artigo apresenta o estado da arte recolhido no âmbito de um projeto em curso, que visa investigar a relevância do domínio e prática do desenho no desenvolvimento *concept art* para videojogos na atualidade.

A fase da investigação em que nos encontramos foca-se na componente teórica, em obter conhecimentos sobre a atividade de *concept art* para videojogos, como a sua função histórica, ferramentas e métodos utilizados em práticas profissionais.

De modo a consolidar esta investigação, em breve, iremos em simultâneo com a consolidação desta componente teórica iniciar a componente prática. Para tal iremos proceder à realização de casos de estudo sobre processos de criação de *concept art* para videojogos e dar início à vertente prática do projeto. Esta vertente prática irá consistir no desenvolvimento visual de um videojogo, com o objetivo explorar os vários métodos e ferramentas disponíveis para produzir *concept art* à luz dos casos de estudo anteriores, bem como, analisar a relevância do desenho nesse mesmo processo.

02. Concept art:
Um Conceito Amplo

Nesta primeira secção iremos debruçar-nos sobre a atividade de *concept art*, desde os seus primórdios, às competências e funções necessárias no processo de desenvolvimento de um videojogo. Esta análise inicial possibilitará compreender melhor as necessidades e constrangimentos da área profissional em foco, e por sua vez proceder a uma execução mais adequada da vertente prática do projeto.

02.1. Uma Definição
de Concept art

Concept art[3], também conhecida como desenvolvimento visual, é uma etapa de pré-produção utilizada maioritariamente na indústria de entretenimento, como por exemplo, na produção de filmes e videojogos. Esta etapa destina-se ao rápido desenvolvimento e exploração visual de ideias referentes aos vários elementos visuais e identidade visual de um filme ou videojogo, tais como, as personagens, cenários, adereços, entre outros. O *concept art* tem base numa metodologia que parte do geral para o particular: através da criação de imagens e de um processo de iterações e seleção destas, obtêm-se imagens que comunicam e apresentam, as ideias e conceitos de elementos visuais, que servirão como guia e ponto de referência para o desenvolvimento de um produto. Deste modo, *concept art* torna-se uma ferramenta relevante no processo de criação de videojogos, pois através desta, é possível criar, testar e explorar ideias de forma rápida e a custo reduzido.

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3 Poderíamos traduzir o termo *Concept art* para Arte Conceitual, no entanto, para não confundir o termo associado ao movimento artístico optamos por usar a terminologia em inglês.

02.2. Apontamento histórico
sobre *Concept art*

Antes de surgir o termo *concept art*, já existiam desde os anos 10 atividades profissionais em áreas artísticas congéneres[4], p.ex., na indústria do cinema, recorria-se à realização de esboços preparatórios com o objetivo de testar ideias e soluções visuais antes de serem aplicadas no produto final. Deste modo, é incerto definir um ponto de origem do *concept art*. No entanto, salienta-se que nos anos 20, começou a existir por parte dos estúdios de animação, como Walter Lantz Productions (1928-1973) e Fleischer Studios (1921-1942), uma especialização dos seus artistas e ilustradores, focada no desenvolvimento de esboços preparatórios. Já nos anos 30, o estúdio Walt Disney, começou a investir numa formação regular dos seus desenhadores, relativamente aos estudos e desenvolvimento de etapas de pré-produção para suas animações, uma delas dedicada ao desenvolvimento dos esboços preparatórios, ou seja, o que hoje conhecemos como *concept art* [17]. Deste modo, o estúdio Walt Disney foi um marco importante no desenvolvimento da área de *concept art*, pois foi um dos primeiros estúdios a ter um departamento focado no desenvolvimento visual das suas animações [20]. Desta forma, podemos dizer que o estúdio Walt Disney teve grande relevância no aparecimento da etapa da pré-produção, ao transformar os processos e metodologias de criação de animações, filmes e videojogos, num processo industrial, semelhante ao de uma linha de montagem [17].

Outro ponto importante que contribuiu para o desenvolvimento da atividade *concept art*, ocorreu nos anos 70 e 90 onde o desenvolvimento de filmes, tais como, Star Wars (1977) e Blade Runner (1982), cuja complexidade exige profissionais especializados no desenvolvimento visual do respetivo universo, e por sua vez, levou a uma demanda por profissionais especializados nesta atividade [3]. Essa necessidade impulsionou o surgimento de estabelecimentos de ensino e recursos dedicados ao ensino de *concept art*, como é o caso do Art Center College of Design que criou um curso de Entertainment Design, com foco em *concept art,* animação e design de videojogos. Atualmente, *concept art* é parte integrante da produção de vários produtos da indústria de entretenimento e já existem várias fontes e recursos onde vários profissionais partilham o conhecimento, como é o caso da revista *Imagine* FX e plataformas digitais como *Youtube, Skillshare* e *Artstation.* [17, p.12]. Assim, no âmbito desta investigação a nossa definição de *concept art* é: uma fase de produção, em que se explora, desenvolve e define a identidade e os elementos visuais de um videojogo como, personagens, cenários, adereços, entre outros. Esta exploração tem como finalidade auxiliar o processo de produção do videojogo de modo que este se torne num processo mais eficiente, e que resulte num produto visualmente rico e harmonioso. Com esta definição em mente podemos de seguida focar-nos em quem desenvolve *concept art*, ou seja, o *concept artist*.

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4 Atividades como Produção de Arte, dedicada à criação de elementos visuais, e Direção de Arte, a supervisão e coordenação destes elementos num projeto.

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02.3. Concept artist

Geralmente os profissionais da área, os *concept artists*, são artistas e designers que se dedicam ao desenvolvimento do *concept art*. Ou seja, através da comunicação gráfica, os *concept artist* são responsáveis pela exploração e conceção de ideias dos vários elementos visuais, com o objetivo de definir uma identidade visual e auxiliar a produção de um filme, videojogo ou animação [21]. Mais precisamente, no desenvolvimento de um produto, o trabalho dos *concept artists* tem como base descrições e *briefings*⁵ iniciais facultados pelos diretores e produtores, onde são estabelecidas decisões prévias com o objetivo de restringir e definir o foco do projeto, p.ex. em termos de estilo visual, tema e narrativa. O trabalho de um *concept artist* é, portanto, produzir soluções visuais que serão filtradas pelo diretor de arte para determinar as melhores para o produto em vista [4].

02.4. O papel do *Concept artist* no Processo de Desenvolvimento de um Videojogo

Tendo em conta a função do *concept artist* referida anteriormente, considerou-se pertinente investigar mais detalhadamente, o papel do *concept artist* na produção de um videojogo. O que irá possibilitar, analisar e perceber qual é o papel do profissional e a sua relevância ao longo do desenvolvimento do videojogo. Segundo Lilly o tempo médio de produção de um videojogo é de três anos [12], ao longo deste período o videojogo passa por várias fases, desde a *blue-sky*, pré-produção, produção e pós-produção, que por sua vez correspondem a papéis e trabalhos diferentes desempenhados pelo *concept artist*. *Blue-sky* é o nome da primeira fase do desenvolvimento do videojogo. O seu nome deve-se à expressão "o céu é o limite" o que de certa forma acaba por descrever o que acontece na própria fase de produção. Nesta fase os *concept artists* possuem uma grande liberdade criativa devido ao fato de ainda existirem muitas indefinições, p.ex. relativamente ao conceito, narrativa e linguagem visual do videojogo. Esta liberdade possibilita a exploração livre de vários elementos do videojogo, como mecânicas, dinâmicas, ou até mesmo a possibilidade de se propor novas direções para o projeto. Deste modo os *concept artist* acabam por contribuir para conceptualização e fundamentação inicial do próprio videojogo [4]. Com os elementos e objetivos de jogo mais bem definidos, os *concept artists* podem dedicar-se à exploração estética sobre componentes visuais. É nesta fase de pré-produção, que os *concept artists* têm uma maior relevância no processo de desenvolvimento. É durante esta fase que o concept artist se dedica a gerar, explorar ou até mesmo descartar ideias, até que se consiga estabelecer uma direção visual a seguir e assim desenvolver o *concept art* [16]. Neste processo de produção e exploração de ideias os *concept artist* têm de ter em atenção ao *big picture* [12]. *Big picture* em *concept art*, refere-se ao processo de manter em mente os objetivos e a visão geral de um projeto enquanto se criam elementos

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5 Um *briefing* é uma reunião, discussão ou documento no qual o artista recebe informações e orientações sobre um projeto ou tarefa específica.

individuais. Essa abordagem foca-se em considerar como cada design ou elemento individual contribui para a aparência e a sensação geral do projeto, em vez de se concentrar apenas nos detalhes de cada elemento individual. Assim sendo, a criação do *concept art* para um videojogo, tem de ter em conta algumas das vertentes que fazem um videojogo como um todo, tais como, a jogabilidade e a narrativa.

Os *concept artists* para além de ajudarem a estabelecer o aspeto visual do videojogo e dos seus elementos, também precisam de ter conta como estes elementos vão funcionar e interagir no universo do videojogo, até mesmo com o próprio jogador. Deste modo os *concept artist*s têm também como função mostrar a partir do *concept art* a funcionalidade e construção dos elementos visuais, algo que se vai mostrar bastante útil para outras áreas de produção como é o caso dos modeladores 3D. Outro ponto a ter em conta é o elemento de *storytelling* do videojogo, pois durante o desenvolvimento dos seus elementos visuais os *concept artists* têm de ter em atenção a respetiva história, função ou outras características destes elementos durante a sua iteração para definir um aspeto visual coerente, p.e.x, ao criar uma personagem deve ser considerada a sua, personalidade e história para que possam ser comunicadas visualmente ao jogador [16].

Quando se dá aprovação do *concept art* desenvolvido, outra função do *concept artist* é produzir ilustrações denominadas por *key art*, estas têm como base o concept art previamente aprovado e tem como objetivo, apresentar o possível aspeto visual do videojogo, sendo um ponto de referência e fonte de inspiração para as restantes áreas de produção [16]. De seguida inicia-se a fase de produção. Nesta fase, o *concept artist* tem como principal função auxiliar os restantes elementos da equipa, de modo que o *concept art* previamente desenvolvido seja corretamente aplicado e integrado no videojogo. Deste modo, é usual que durante a fase de produção o *concept artist* tenha de desenvolver novas alternativas de *concept art*, e manter uma boa comunicação com os outros departamentos de produção, tal como modeladores 3D, animadores e designers de videojogos. Por fim, na pós-produção, os *concept artist* podem deixar de ser necessários e passam para a produção de outros projetos. Aqueles que se irão manter, focar-se-ão em desenvolver a interface do videojogo e em produzir ilustrações para marketing e outros fins [12].

02.5. Ambiguidade relativamente ao que é *Concept art*

Apesar de existirem fontes e recursos que explicam e apresentam a função de um *concept artist*, ainda existe uma perceção distorcida relativamente ao trabalho desempenhado por este. Esta situação deve-se a que o *concept art* que chega às mãos do público, é frequentemente um "*concept art* falso" ou até mesmo o *key art*. Este *concept art* falso, é desenvolvido na fase de pós-produção, ou seja, a partir do *concept art* aprovado são desenvolvidas e selecionadas soluções visuais para melhor promover o videojogo. Geralmente realiza-se um polimento extra do trabalho já desenvolvido, porém, também existe a possibilidade de realizar uma nova imagem com base nas soluções visuais previamente estabelecidas. Deste

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modo, este *concept art* falso não é desenvolvido para gerar e apresentar ideias e soluções visuais, mas sim, para fins promocionais. Assim sendo, grande parte do trabalho do *concept artist* não chega ao público devido à própria natureza deste trabalho, pois uma grande quantidade deste é descartado durante o processo de produção [11], isto porque o *concept art* não é feito com o propósito de ser exposto ao público, é um subproduto do processo de desenvolvimento de um videojogo [12]. Esta ambiguidade sobre o que é *concept art* verdadeiro ou falso faz com que o público associe o *concept art* a ilustrações ou imagens promocionais. Contudo, apesar da produção de ilustrações estar presente no processo de desenvolvimento de um videojogo, é importante perceber só representa uma pequena parte do trabalho de um *concept artist* [16], pois o foco deste é desenvolver e comunicar ideias para aplicar num produto final, ao passo que um ilustrador produz imagens enquanto produto final [18]. Com uma melhor noção sobre as funções do *concept artist* no processo de produção de um videojogo, analisamos a seguir as ferramentas e métodos utilizados nesse processo.

03. Métodos e Ferramentas para *Concept art*: Uma perspetiva histórica

De modo a melhorar vários aspetos na produção, tal como, a eficácia, organização, versatilidade, etc. Os métodos e ferramentas utilizadas pelos *concept artists* têm-se vindo a alterar ao longo do tempo [22]. Desde a sua origem, onde o processo do profissional consistia maioritariamente no uso do desenho tradicional, posteriormente a migração para o desenho digital e atualmente com a inclusão de novas alternativas, tais como, modelação 3D e até mesmo inteligência artificial. Ao longo desta secção pretende-se analisar numa perspetiva histórica os métodos e ferramentas utilizadas na produção de *concept art*, e a sua relevância atual na área.

03.1. Desenho Tradicional

O desenho tradicional é uma forma de comunicação gráfica bidimensional que usa materiais e dispositivos físicos para expressar ideias. É um processo manual que envolve a manipulação direta de ferramentas de desenho ou pintura em uma superfície para criar esboços, desenhos, imagens e outras representações visuais [21]. A partir da história desta atividade profissional, é possível observar que, o desenho tradicional é a ferramenta pioneira no *concept art*. Dado que esta área criativa tem como objetivo produzir ideias e conceitos visuais para o desenvolvimento de jogos, filmes, animações, etc. O desenho e a pintura, mostraram-se ferramentas ideais para dar vida a essas ideias, pois a ideia na mente é sempre abstrata até ao momento em que esta é transmitida para esboço [13].

Deste modo, durante algumas décadas o processo dos *concept artist* consistiam na sua maioria no uso de vários meios e técnicas presentes no desenho tradicional. Como é o caso do processo do artista Syd Mead. Syd Mead foi um *concept artist* e designer industrial, conhecido pela sua visão futurista. Com uma carreira de mais de 50 anos, Mead trabalhou em vários filmes, tais como, *Blade Runner* (1982), *Tron* (1982), entre outros. Mead teve uma grande influência no mundo do *concept art*, inspirando e

moldando novos artistas e a própria indústria do entretenimento [10].

O processo criativo de Syd Mead (2004)⁶, começa com a formaliza-
ção de uma ideia de conceito, seguida por uma fase de busca por soluções
visuais através de esboços rápidos e desprendidos, utilizando *thumbnails*
para explorar ideias de forma eficiente. Depois de seleccionar a melhor
ideia, de modo a explorar mais detalhadamente os elementos da cena,
Mead realiza vários esboços em maiores dimensões, seguido por estudos
de valores tonais e cores. Por fim, Syd Mead recorre a ferramentas digitais
para aumentar o tamanho do desenho previamente realizado para o tama-
nho da imagem final. Voltando aos métodos tradicionais, Mead, com base
nos estudos preliminares desenvolvidos, agora com atenção aos detalhes
de cada elemento é desenvolvida a imagem final.

03.2. Desenho Digital

Desenho digital, tal como o desenho tradicional, é uma ferramenta de
representação gráfica bidimensional, no entanto devido a esta recorrer a
novas tecnologias tanto a nível de software como hardware, esta permite
não só simular aspetos do desenho tradicional como também uma infinida-
de de novas ferramentas, que possibilitam aos artistas um maior controlo e
liberdade criativa. [4] O uso do desenho digital no *concept art* surge após os
anos 2000, pois com a evolução tecnológica surgiu hardware e software que
possibilitou uma maior acessibilidade a ferramentas e métodos de desenho
digital [22]. Inicialmente esta não era uma alternativa valorizada por parte
dos profissionais, pois o desenho digital não parecia promissor e havia mui-
tos *concept artists* que defendiam que esta ferramenta nunca iria superar a
eficácia e intuição presente no desenho tradicional, que até ao momento era
a norma na indústria. No entanto, devido ao desenvolvimento tecnológico
e consequentemente ao aumento da eficácia e acessibilidade ao hardware e
software necessários para o uso efetivo do desenho digital e aos benefícios
que este apresentava, o desenho digital rapidamente se tornou uma nova
norma dentro da área profissional [21]. Um exemplo dessa transição é o
caso do *concept artist* Eliott Lilly, que no início da sua carreira realizava todo
o seu *concept art* recorrendo ao desenho tradicional, no entanto devido a
necessidade de tornar o seu processo de criação mais rápido e eficiente,
este sentiu-se obrigado a recorrer ao uso de ferramentas de representação
digitais devido aos recursos e ajuda que estas lhe proporcionam [12].

Com o aparecimento do desenho digital, surgiram novas técnicas
aplicadas na criação de uma imagem, como é o caso do *photobash*, uma
técnica usada pelos *concept artist* na criação de elementos visuais, na qual
o concept artist recorrer a fotografias ou segmentos destas, ajustando-as e
manipulando-as com um software de edição de imagem e desenho digital
como o Photoshop. Esta técnica permite ao *concept artist* tirar proveito
das formas, texturas, cores já existentes nas fotografias, num processo de
desenvolvimento de imagens mais eficiente, principalmente quando se
pretende resultados fotorrealistas [11].

6 O processo criativo de Syd Mead, segundo a biografia presente na sua página oficial, pode ser visualiza-
do numa série de 4 DVDs, The techniques of syd mead (Gnomon School of Visual Effects, 2004). O site
oficial de Syd Mead pode ser acedido em https://sydmead.com/biography/

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03.3. Ferramentas de Desenho 3D

As ferramentas de desenho 3D, eram inicialmente unicamente usadas pelos modeladores 3D, com o objetivo de criar os elementos do videojogo. Com o desenvolvimento tecnológico estas vieram a tornar-se mais acessíveis ao público e mais tarde, tornando-se excelentes recursos para os *concept artists*, não com objetivo de produzir e aplicar os elementos finais do videojogo, mas sim como uma ferramenta para exploração e criação de ideias para esses mesmos elementos de forma mais rápida e eficaz [22]. Desta forma, as ferramentas de modelação 3D vieram proporcionar uma maior velocidade e flexibilidade de produção de *concept art* [11], p.ex., com desenho 3D o artista não necessita de desenvolver manualmente a luz, perspetiva a até mesmo materiais dos elementos da cena, e pode alterar essas componentes sem grande trabalho adicional.

Um método utilizado por *concept artists* para tirar proveito de software de modelação 3D, é construção inicial dos elementos visuais ou da cena de forma semelhante ao método *grayboxing*[7], que se resume à realização de uma modelação preliminar simplificada que define a perspetiva e a estrutura básica dos elementos visuais em 3D. De seguida, com base nesta versão 3D, o *concept artist* procede aos desenvolvimentos dos elementos visuais agora em mais detalhe através do desenho digital [8]. Noutros casos, os profissionais recorrem a modelos mais detalhados, motores de rendering e texturas, resultando em imagens muitas vezes finais, e recorrendo apenas ao desenho digital para realizar pequenos ajustes. No entanto, uma problemática desse processo mais "dependente" de software 3D é que o desenvolvimento de modelos 3D mais detalhados geralmente usados neste processo, requererem mais tempo para serem desenvolvidos, o que nem sempre é viável. Deste modo os artistas recorrem à técnica *Kitbashing*, que semelhante ao *photobashing*, este também consiste numa colagem e manipulação, só que neste de modelos 3D pré feitos. Que são manipulados e ajustados pelo *concept artist* de modo a melhor comunicarem a sua ideia [11].

No entanto, ao contrário da transição para os meios digitais é incerto dizer que o uso de ferramentas de modelação 3D se tornaram uma nova norma dentro da área profissional. Porém o domínio de um software de modelação 3D é uma competência importante para o *concept artist* atual. [5].

03.4. Algoritmos de Inteligência Artificial

Outras ferramentas que têm se mostrado com potencial para as áreas criativas, são os geradores de imagens que usam algoritmos de inteligência artificial [7]. A busca por programas de computadores capazes de criar imagens já dura há mais de 50 anos [14, p.1.], ao longo deste tempo esta tecnologia tem vindo a ser desenvolvida e melhorada. No entanto, só no verão de 2022 é que começou a surgir uma grande adesão do público aos vários algoritmos geradores de imagens com base em inteligência artificial, e desde então, estas têm vindo a evoluir de dia para dia, tendo

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7 Grayboxing, é um método utilizado pelos concept artists no desenvolvimento de videojogos, que usa imagens com uma cena do jogo construída em 3D, enquanto estrutura, para desenvolver visuais do videojogo recorrendo a desenho digital

cada vez resultados mais satisfatórios [7]. Contudo, com o desenvolvimento destas novas ferramentas surgem também questões, relativamente a direitos de autor, e a utilidade e usabilidade destas ferramentas para as várias áreas criativas, incluído *concept art*.

03.5. Ferramentas em
Prol da Eficiência

Atualmente a elevada quantidade de produção de videojogos, faz com que exista uma maior demanda por velocidade e qualidade nas várias áreas de produção, incluído *concept art*. Assim sendo, tal como tem acontecido ao longo da história da atividade profissional, o *concept artist* de modo a responder a demanda da indústria, tem de recorrer e optar pelos métodos e ferramentas disponíveis que irão tornar o seu processo mais eficiente. Deste modo, mesmo que continue a ser usado o desenho tradicional e digital no processo desenvolvimento do *concept art*, um dos requisitos cada vez mais comuns e impostos por muitos estúdios de videojogos aos seus *concept artists* é o domínio de novas ferramentas, como o desenho 3D, pois estas proporcionam bastantes benefícios e flexibilidade ao processo de produção [2].

Apesar da tendência do uso de novas ferramentas, é preciso ter em conta que existem vários fatores que influenciam a produção de *concept art* para um videojogo, como por exemplo, a estética do mesmo. Ou seja, um videojogo que tem como finalidade uma estética foto realista, como por exemplo, *The Last of Us* (2013), para a produção do seu *concept art* irá ser mais eficiente usar técnicas e ferramentas tal como modelação 3D, *photobash*, entre outros, visto que estas conseguem apresentar resultados foto realistas mais eficazmente [10]. Já no caso de um jogo que apresenta uma estética mais estilizada, como por exemplo *The Legend of Zelda: Breath of the Wild* (2017), não exige muitas das novas técnicas e ferramentas, o que faz com que o desenho e pintura ainda sejam ferramentas viáveis para o profissional [19].

Em suma, na atualidade é possível observar que os métodos e ferramentas usadas no desenvolvimento do *concept art* vão variando de acordo a vários fatores, tendo como objetivo contribuir para uma maior eficácia no processo de produção. Deste modo, o domínio de vários métodos e ferramentas é sempre uma mais-valia para o *concept artist* atual independentemente da especialização e estética do seu trabalho. Pois cabe ao profissional optar pelos métodos e ferramentas que melhor e mais rapidamente irão alcançar os objetivos pretendidos [12].

04. Conclusões
e Estudos Futuros

Em suma, *Concept art* é uma atividade e etapa de pré-produção utilizada maioritariamente na indústria de entretenimento. Ao longo do tempo esta atividade tem-se mantido constante no que toca a sua função, no entanto, com o desenvolvimento tecnológico e o aumento do consumo de produtos de entretenimento, principalmente videojogos, surgiu a necessidade de tornar todos os seus processos mais rápidos e eficazes. Assim, um processo que tradicionalmente recorria quase na totalidade a ferramentas

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e métodos de representação bidimensionais, como o desenho tradicional e o desenho digital, assume na atualidade apenas uma parte ínfima do processo dos *concept artists*, pois existem métodos e ferramentas que conseguem ser mais eficientes e versáteis. Salvaguarda-se, no entanto, que o desenho, ainda continua a ser uma ferramenta relevante no processo destes profissionais, p.ex., na produção, elaboração de *thumbnails* ou polimento final de uma imagem. Mais, dependendo da estética e estilo visual pretendido o uso do desenho pode ser transversal a todo o processo de produção do *concept art*[8].

Assim, a par da nossa investigação teórica, pretendemos conduzir casos de estudo sobre o uso de *concept art* em processos de desenvolvimento de videojogos. Para tal, iremos fazer uma pesquisa exploratória sobre estética, narrativa e metodologia de desenvolvimento em videojogos. A partir desta pesquisa iremos selecionar uma amostra de videojogos e estúdios bem-sucedidos, e artistas de renome, para análise dos respetivos processos e técnicas de desenvolvimento em e *concept art*.

O objetivo desta análise é consolidar a nossa pesquisa teórica, e descobrir novos métodos e técnicas para desenvolver a componente prática deste projeto. Esta componente visa o desenvolvimento visual de um videojogo, com um estilo e temática ainda por definir, mas que será informado pela análise anterior. Por fim, a continuidade deste trabalho teórico-prático permitir-nos-á perceber melhor quais as relações possíveis entre o desenho nas suas múltiplas vertentes e a prática do *concept art*.

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[8] Um exemplo onde o desenho se mostrou uma ferramenta fundamental para o desenvolvimento visual de um videojogo ocorreu na IPCA Game Jam, nos dias 26 a 28 de maio. Onde o objetivo era desenvolver um videojogo num prazo de 48 horas. Neste evento, juntamente com outros 4 elementos foi desenvolvido um videojogo, onde todos os elementos visuais, desde personagens, cenários e interface foram desenvolvidos e explorados exclusivamente através meios de representação bidimensionais.

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No Bosque da Escrita e do Desenho: um Passeio anotado

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Resumo

A escrita e o desenho constituem meios basilares, económicos e disponíveis. São, por isso, ferramentas poderosas de ação, de reflexão, de experimentação, de expressão e comunicação. Partindo de um metafórico passeio no bosque, o presente texto comenta e anota, de modo interdisciplinar e fragmentado, o uso combinado e integrado de ambas as ferramentas, sugeridas como apetrecho do utilizador – escritor, desenhador, artista – em benefício do conhecimento, da comunicação intra e interpessoal, e da prática curricular ou autónoma. Para tal, revisitamos alguns dos conceitos inerentes ao desenho e à linguagem como sistemas organizados, expomos alguns casos particulares de recurso cruzado aos signos linguístico e gráfico no trabalho autoral, observamos alguns problemas tendo em vista o seu solucionamento e anotamos algumas das ideias e alertas emergentes no contexto da produção contemporânea. Esperamos, assim, estimular o início, a intensificação, a retoma ou o resgate dos recursos em causa — desenho e escrita — como contributo para uma prática criativa e interventiva, nos domínios do processo e do projeto.

Palavras-chave

Desenho, Escrita, Criatividade, Processo, Projeto.

Abstract

Writing and drawing are fundamental, economical, and accessible means. They are, therefore, powerful tools for action, reflection, experimentation, expression and communication. Taking a metaphorical stroll in the woods, this text comments on and annotates, in an interdisciplinary and fragmented manner, the combined and integrated use of both tools, suggested as equipment for the user – writer, drawer, artist – for the benefit of knowledge, intra and interpersonal communication, and curricular or autonomous practice. To this end, we revisit some of the concepts inherent in drawing and language as organized systems, present some particular cases of cross-referencing linguistic and graphic signs in artistic work, observe some problems with a view to their solution, and note some of the emerging ideas and alerts in the context of contemporary production. Thus, we hope to stimulate the initiation, intensification, resumption, or retrieval of the resources in question — drawing and writing — as a contribution to creative and interventionist practice in the realms of process and project.

Keywords

Drawing, Writing, Creativity, Process, Project.

1 esad-idea, Investigação em Design e Arte

01. Ponto de partida

Entramos no bosque. Miríades de tópicos são visíveis, dissimulados, decalcados, separáveis e assim por diante. Um passeio é sensível à mudança de direção, à aceleração do olhar, à desaceleração do passo, ao *contínuum* fragmentado. A *bifurcação (*Borges), *a rapidez* (Calvino) e a *lentidão* (Eco) [1] animam a nossa incursão. O que nos move não é tanto a categorização quanto a observação das condições que motivam e admitem o uso do desenho e da escrita como equipamento humano básico, basilar. Sob o ponto de vista da linguagem, "o que encontramos no mundo é um homem falando a outro homem, e é a própria linguagem que ensina a definição de homem."[2]. Ora, "o nome «homem» significa que os outros animais são incapazes de investigar aquilo para onde olham"[3]. Este privilégio adquire contornos significativos na escrita alfabética: "graças ao programa instalado nas nossas cabeças pelo alfabeto, inventámos o direito, a história, a geografia, a gramática, a física, a geometria, a astronomia, a arte, a arquitetura e praticamente todos os ramos de conhecimento"[4]. Neste contexto, também o desenho beneficia do suporte linguístico – da palavra, do nome – para se organizar, estruturar, ordenar, enfim, para estatuir os seus *modelos*.

Juan Molina organiza "Los nombres del Dibujo" envolvendo a história do desenho na sua dinâmica relação com a linguagem; revisitando modelos teóricos e problematizando o fazer, o pensar e o comunicar (d)o desenho oferece-nos uma categorização articulada entre a linguagem *comum* e *específica*. Em "Las palabras del Dibujo", Lino Cabezas oferece-nos uma taxonomia envolvendo questões de *identidade, sentido, conhecimento, estruturação, representação, expressão, ação, técnica, traço, medida, fenomenologia, atitude, estilo, época, género, materiais, técnicas, procedimentos, instrumentos, suportes"*[5]. Expandir o desenho através da linguagem é também condicioná-lo, delimitar a experiência daquilo que é dizível, distingui-lo do inefável. No entanto, se o uso da linguagem constitui um privilégio capaz *de abrir clareiras no bosque*, ele acarreta também a sua condição, permeável à obscuridade, à ambiguidade, à interferência:

> "Um quadro é muitas vezes reproduzido com palavras à volta. Vemos uma paisagem de uma seara com pássaros que levantam voo. Observe-a por um momento. Depois vire a página. Este é o último quadro que Van Gogh pintou, antes de se suicidar. É difícil definir exactamente como as palavras modificaram a imagem, mas é certo que o fizeram. Agora, a imagem ilustra a frase."[6]

Enquanto *sistemas semióticos*, o desenho e a escrita dão acesso ao conhecimento e à construção de sentido do mundo *modelizado*. Segundo Yuri Lotman (cit por Aguiar e Silva), "um sistema modelizante é o conjunto estruturado dos elementos e das regras [e] pode ser considerado como uma língua"[7]. Ultrapassamos aqui a questão do desenho como linguagem. Vamos distingui-los. Enquanto o signo linguístico envolve uma relação convencional, triangular, entre *significante*, *significado* e *referente,* na qual a ligação entre o primeiro e o terceiro é arbitrária[8], diferentemente, no de-

senho, o sinal liga-se ao referente por uma relação isomórfica, assumindo a "caraterística do objeto" que representa, por exemplo, na "função de contorno [ou] em função da textura"[9].

Embora a questão seja muito mais complexa, vejamos, no essencial, que o verbal e o escrito se servem de um conjunto limitado de unidades linguísticas para gerar uma infinidade de combinações; distintamente, no desenho, como sistema aberto, "a qualidade do conteúdo a transmitir (ilustrativo, operativo, taxonómico, sinalético, etc) determina a escolha dos elementos estruturais que constituem a mensagem[10]. Veja-se que "os pictogramas formam séries abertas e não-organizadas, enquanto a linguagem se deixa conceber como uma combinatória: um número reduzido de sons produz um grande número de palavras [que] produzem um número infinito de frases"[11]; e acrescente-se:

> "O ícone de um objecto pode ser reconhecido mais directamente e com menos ambiguidade do que a palavra que se refere a esse objecto. Os ícones não exigem que os utilizadores compreendam uma linguagem de programação ou de scripting: não é necessária qualquer tradução. Os ícones são percebidos como um todo, e isto promove um processamento rápido. A linguagem, em contraste, está pronta sequencialmente e, portanto, mais lentamente."[12].

Temos aqui matéria para (re)incidir na estéril discussão sobre o poder relativo da palavra e da imagem, discussão à qual nos escusamos. Ademais, preferimos a colaboração proativa entre uma e outra, à competição que resulta da leitura apressada ou equívoca, da máxima horaciana — *ut pictura poesis*: preferimos aderir a "uma indissociabilidade, uma relação de continuidade e extensão" [13]. A partir de três histórias, duas delas autobiográficas, John Berger anota três vias através das quais crê que os desenhos podem funcionar: "há aqueles que estudam e questionam o visível, aqueles que colocam e comunicam ideias, e aqueles feitos a partir da memória" [14]; parece-nos pacífico afirmar: assim na escrita como no desenho.

02. Ponto-morto

Um bosque é, e os factos confirmam-no, lugar de armadilhas, estigmas, equívocos — coisas naturais, *naturalmente humanas*, queremos dizer. Depois de adquirida a linguagem, depois de aprendida a escrita e a leitura, depois de aplicadas as competências de análise e de estruturação de um texto, depois de ampliado o vocabulário, enfim, depois de um convívio intenso com a língua e com a literatura assistimos (provavelmente em nós e nos outros), e digamos de forma coloquial, a *um adormecimento* — com *sonhos* e, talvez mais ainda, com pesadelos reduzindo autores e textos a fantasmas escolares de um passado difícil. É uma longa discussão que aqui não cabe, e o que nos interessa é anotar um estado de situação ambíguo e pejado de inércias, para perguntar com Daniel Pennac:

> "Em nome de quê não [n]os apropriarmos da literatura? Porque não se faz há muito tempo? Não *prolongar* estes encontros é admissível? [...]

> Porque havemos de nos condenar a conservar apenas uma marca que se esbaterá até ser apenas a recordação de uma marca [...] ? [...] Em nome de que princípio, este desperdício?"[15].

Não está aqui em causa a crítica do sistema mas a intenção de identificar problemas e (hipóteses de) solucionamento. Há, acima de tudo, em todo e qualquer indivíduo que tenha passado pela escola, competências adquiridas, independentemente do sucesso atingido ou sinalizado pela experiência pessoal. Até porque as competências dos falantes são anteriores à aquisição da escrita e da leitura. Escrever para se *inscrever* é coisa diferente de redigir, a redação é coisa que se corrige com distanciamento, por fora, por outros (que os olhos de quem escreve não devem ser os que corrigem). Não é tarefa fácil escrever ultrapassando o cinismo social, inimigo reativo do erro gramatical, sintático ou outro; é árduo conviver com o excesso generalizado de juízo de valor. Francine Prose, professora de Literatura e de Escrita Criativa na Universidade de Harvard, diz que

> "é necessário manter o conceito de clareza como um ideal ainda mais elevado do que a correção gramatical e importante ler grandes frases – quer dizer, frases de grandes escritores de frases – a par do nosso manual de estilo. Uma diferença essencial e reveladora entre aprender a partir de um manual de estilo e da literatura é que qualquer livro de aprendizagem, quase por definição, nos dirá como não escrever [...] em oposição à literatura, que ensina através de modelos positivos."[16].

A escritora Virgínia Wolf sugeria: "dê largas a todos os impulsos; cometa todos os erros de estilo, gramática, gosto e sintaxe; transborde; tropece; solte raiva, amor, sátira em todas as palavras que puder agarrar, force ou crie, em qualquer métrica, prosa, poesia ou em qualquer linguagem inventada que estiver à mão"[17]. Sejam como meio sejam como fim, a escrita e o desenho colocam em marcha o que está em aberto. Ainda que a mente seja rápida na antecipação daquilo que a mão faz, a *tentativa* e o *erro* tomam conta do processo. «Estou a pensar» – é uma expressão frequente no contexto de um exercício que tarda em arrancar. Talvez no desenho este arranque seja, apesar de tudo, menos resistente. Na escrita, e na medida em que esta é perceiconada pela sua forte ligação à teoria e ao plano abstrato, há porventura que particularizar o exercício noutros termos – "não escreva o que sabe, escreva em direção ao que *quer saber*", sugere Colum McCann[18] – complementando, por hipótese, o pensamento lógico (*vertical*) com o pensamento criativo (*lateral*), fornecendo condições favoráveis ao desempenho criativo através de exercício da suspensão do juízo de valor e do *estímulo mútuo*. Diz Edward de Bono que "a necessidade de ter sempre razão é o maior obstáculo às novas ideias [e que] é melhor ter tantas ideias que algumas delas estejam erradas, do que ter sempre razão e não ter ideias"[19]. *Assim no desenho como na escrita*, dizemos nós.

Nada disto é novo, trazemos apenas uma lembrança daquilo que está aí, disponível para qualquer recomeço. Pensamos o ponto-morto como coisa de mão na caixa de velocidades e pé na embraiagem, no recomeço da marcha

para encetar novas viagens. Por curiosidade, e sem que isto constitua surpresa, na nossa experiência em oficinas de escrita criativa, os estudantes com menos rendimento na disciplina de Português foram, amiúde, bem sucedidos no empenho/desempenho das tarefas propostas. Pensamos aqui, na recuperação – depois das competências e experiências do Ensino Básico e Secundário – de uma relação desejadamente gratificante em torno do exercício do desenho e da escrita criativa no Ensino Superior.

03. Ponto de vista

O encontro de si *consigo* e com os outros implica o cultivo de pontos de vista. Pensamos, aqui, em termos de *vontade*, de necessidade, retendo a máxima que Jacques Rancière sintetiza nestes termos: "o homem é uma vontade servida por uma inteligência"[20]. Mas, porquê, para quê, a escrita? Para quê, o desenho? Posto ao contrário: o que perdemos se não desenhamos?; o que perdemos se não escrevemos? Se, como afirma Rancière, "o acto da inteligência é ver e comparar o que se vê [sendo] preciso procurar e repetir, criar as condições para ver de novo o que já viu, para ver factos semelhantes, para ver factos que poderão ser a causa do que viu"[21], podemos encontrar no desenho e na escrita instrumentos relevantes para fixar e estender esta experiência.

Diz Ana Leonor Rodrigues que "o desenho tem a qualidade de mobilizar de um modo bem particular e indissociável, a inteligência, a afetividade, bem como outras capacidades do cérebro"[22]. Interessa-nos em particular o reforço que a autora faz do desenho como "lugar do conhecimento, da precisão, mas também da afetividade e do sentimento. Mais, os sentimentos são eles próprios uma ferramenta específica que se pode exercitar no desenho"[23]. *Assim no desenho como na escrita*, diríamos.

A urgência do desenho e a emergência da escrita (e vice versa) podem catapultar a experiência e intensificar a relação, em múltiplas vias, entre o desenhador e o desenhar. "O desenho é o desejo de inteligência"[24], diz Álvaro Siza Vieira *por escrito*. *Assim (n)o desenho como (n)a escrita*, parece-nos. Siza Veira escreve em torno da sua experiência do desenho, do desenhar, do projetar; escreve como quem pensa alto com o leitor, sugerindo, explicando, partilhando. O que o desenho é, mostra, só a linguagem diz. Neste contexto, sugerimos que a *inspiração inefável* ceda o lugar ao *dizível* e ao *visível* com a ajuda efetiva da escrita e do desenho. Umberto Eco desconfia de quem se diz inspirado, chegando a afirmar que, quem assim fala, não faz senão mentir:

> "Quem escreve (quem pinta, esculpe ou compõe música) sabe sempre o que faz e quanto lhe custa. Sabe que tem de resolver um problema. Pode acontecer que os dados iniciais sejam obscuros, impulsivos, obcecantes, nada mais que um desejo ou uma recordação. Mas depois o problema resolve-se à secretária, interrogando a matéria com que se trabalha"[25].

Escrever e desenhar ativam uma vigília constante, mediante um processo complexo e sensível, por isso irrepetível, (auto)biograficamente relevante, evitando que o pensamento e a criatividade, digamos, se descolem daquele

a quem eles naturalmente pertencem. Fica o aviso: verificando que "a sociedade moderna guarda a informação em repositórios externos cada vez em maior volume, não se dando, cada um, ao trabalho de criar o seu próprio arquivo no seu cérebro", Alexandre Castro Caldas alerta para o facto de que "se o processo decisório passar a ser baseado em soluções predefinidas, ficamos dependentes de quem saiba pensar por nós."[26].

Desenhar ou escrever são tarefas eminentemente processuais e, por isso, implicadoras de quem as leva a cabo. "É o acto físico de desenhar [diz Berger] que obriga o artista a olhar para o objeto à sua frente, a dissecá-lo e a voltar a reconstituí-lo na sua mente"[27]. Mas, este exercício, na verdade, espelha um outro: "um desenho é o registo autobiográfico da nossa desco-berta de um acontecimento – visto, recordado ou imaginado."[28].

04. Ponto de encontro

Anotamos aqui alguns encontros (e desencontros), explícitos e implícitos, do desenho com a escrita, do texto com a imagem – longe da categori-zação tipológica, do recenceamento autoral ou da análise processual e projetual aprofundada – onde ambos aparecem, ora como meio ora como matéria de trabalho. Cabe aqui a questão do projeto e do processo (inter) ligados, no pensar e no fazer, pelo subsídio e pelo complemento, embora a temática mereça uma extensão que ultrapassa os limites deste texto. A terminologia coloca-nos perante dois raciocínios: projeto tem na sua origem a palavra latina *projetus*, associado às ideias de «lançar para a frente», de «intento, plano»; processo advém do termo latino *processus* e designa «modo», «método», «curso, decurso, marcha» [29]. Vejamos os seguintes encontros tendo em mente estas duas vertentes.

Primeiro encontro. Que as imagens convocam palavras e as pala-vras sugerem imagens, parece-nos ser uma afirmação pacífica. O processo de leitura de um texto é simples na sua mecânica; porém, a sua receção é desafiadora. Lemos por imagens ou, por outras palavras, «vemos o que lemos». Mas a natureza destas imagens «vistas» durante a leitura é bem distinta daquela que nos dá a ver imagens *de facto*. Peter Mendelsund coloca-nos face a este problema de forma bem humorada (fig. 1). A partir da sua confessada paixão pela personagem de Tolstoi, Anna Karénina, Mendelsund expõe a dificuldade em traduzir graficamente o que lemos, o que «vemos» através do texto. Vejamos a figura 1a:

"Se lhe pedisse: «descreva Anna Karénina», talvez o leitor referisse a beleza dela. Se leu com atenção, referirá as suas »densas pestanas» [...] mas qual é a aparência de Anna Karénina? é possível sentir que conhece intimamente uma personagem sem que isso signifique que está de facto a visualizar uma pessoa"[30].

Mendelsund desenvolve: "a maioria dos autores (consiente ou inconsci-entemente) atribui às suas personagens mais descrição comportamen-tal do que física. Mesmo quando um autor é exímio na descrição física, deixa-nos com uma mistura desajeitada de partes corporais desgarradas e pormenores aleatórios (os autores não nos podem dizer tudo) [...] *Qual é*

a aparência de Anna? Não sabemos. Os nossos esboços mentais das perso-
nagens são piores do que os retratos-robô da polícia"[31]. Rematando (fig.
1c) esta questão, vejamos o repto de Mendelsund aos leitores:

"– Conseguem visualizar, na vossa mente, como é a aparência de Anna
Karénina? – pergunto.
– Sim – respondem – como se estivesse aqui à minha frente.
– Como é o nariz dela?
– Não tinha pensado nisso, mas, agora que o faço, ela seria o tipo de
pessoa que tem um nariz como...
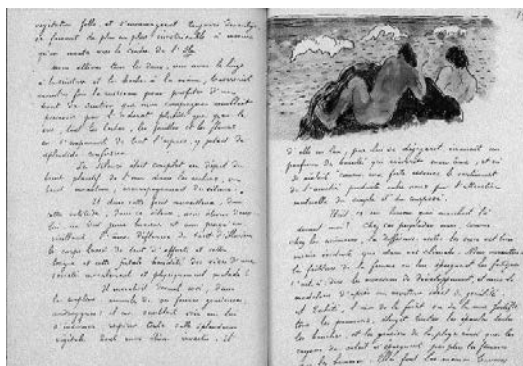– Mas como é que a imaginava antes de eu ter perguntado? Sem nariz?
– Bem..."[32].

Fig. 1a, **1b** & **1c**. Três
representações/retra-
tos de Anna Karénina.
1b: «reconhecimento
facial da polícia, a
partir das descrições
no texto de Tolstoi».
Fonte: Mendelsund, P.:
O que vemos quando
lemos, pp. 17, 18 e 25.
Pormenores.

Segundo encontro. A passagem de Paul Gauguin pelo Tahiti ficou
marcada pelo caderno NOA NOA, no qual o pintor alarga o seu processo
e projeto pictórico. Quer o caderno quer a sua edição envolve peripécias
que vale a pena conhecer, mas, o que aqui importa é assinalar, de forma
resumida, o recurso à escrita e à imagem – pintura, desenho, gravura, fo-
tografia, colagem – que dão corpo a uma coleção de fragmentos narrativos
e descritivos enquanto diário/crónica/reportagem que traduzem a expe-
riência multissensorial do pintor naquelas paragens. Marc le Bot discorre
sobre a relação entre a escrita e as imagens:

Fig. 2 Dupla página do
livro «Paul Gauguin-
Noa Noa- viagem de
Tahiti», pp. 46-47.
lemos, pp. 17, 18 e 25.
Pormenores.

"Embora a escrita do texto precedesse
as imagens, não podemos dizer
que elas o ilustrem. Certamente, o
primeiro desejo do pintor foi elabo-
rar o relato da sua estadia nas ilhas
[...] e um pintor pinta com os olhos.
Enquanto pensa-pinta, podem sur-
gir palavras na boca e, às vezes, na
pena. Porque o nosso corpo é um
só: uma sensação visual encontra
eco nas palavras que a boca forma
[;] por outro lado, Gauguin escreve
para falar sobre pintura. As suas
palavras estão lá para interpretar o
seu pensamento visual"[33].

Terceiro encontro. Bruce Nauman é um dos artistas mais prolíficos no recurso à linguagem, no contexto da Arte Concetual. Quer o suporte verbal quer o escrito *atravessaram* com fertilidade o seu trabalho artístico. Nauman esculpiu e desenhou (com) palavras. Escreveu, *dentro e fora* dos seus desenhos. Escreveu sobre o desenho como ferramenta do pensamento – "desenhar equivale a pensar"[34] –, assumindo o seu uso constante, *antes, durante e depois* das peças projetadas. Em Nauman, o uso do desenho e da palavra é transversal e multifuncional: escreve textos de instrução e enunciados performativos; transcreve diálogos do seu trabalho audiovisual; escreve prosa, aforismos como parte integrante da obra ou como obra em si mesma, atravessando diversas funções, "didáctica, informativa, e até poética."[35]. Como meio e/ou como fim, o recurso ao desenho e à escrita sustentam, quer a antevisão e o planeamento, quer o arranque e o desenvolvimento do trabalho do artista nas suas múltiplas facetas.
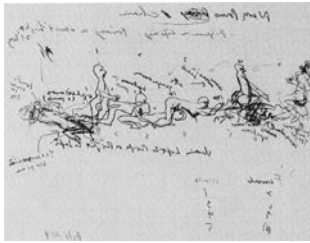

Fig. 3a & **3b** Bruce Nauman, Neon Porno chain, anotações com caneta, tinta e esferográfica, 28x20,6 cm. 1983; Bruce Nauman, Eat Death, pencil, 59x74 cm. 1972. Fonte: Bruce Nauman Drawings 1965-1986. Basel: Museum für Gegenwartskunst Basel, 1986 [respetivamente p. 144 e p. 109]

Quarto encontro. Jeremy Wood e Hugh Prior são pioneiros no uso de tecnologia de georreferenciação no âmbito do desenho. Para escrever/desenhar o maior «SE(IF)» do Mundo, Jeremy Woods e Hugh Pryor percorreram de carro oitocentos e sessenta e três quilómetros, passando por Iffley, Iford, Ifield e Iford, no sul da Inglaterra. Dizem os autores que "este desenho foi uma tentativa de responder à pergunta: qual é o maior «SE(IF)» do mundo? Eventualmente resolvemos criar o nosso próprio SE consideravelmente grande com os meios à nossa disposição."[36]. Na pergunta e na resposta parece-nos ser evidente a agenda programática da dupla Woods/Pryor no que toca à (inter)dependência do desenho e da escrita, quer nos moldes processuais, quer nos intentos projetuais.

Fig. 4a & **4b** Jeremy Wood e Hugh Pryor, "o maior «SE» do Mundo", 21.08.2002. As letras «IF» têm 70 milhas de altura. A dimensão da «fonte» é de aproximadamente 319. 334. 400 pontos. Informações e imagens disponíveis em http://www.gpsdrawing.com/gallery/land/if.html.

Quinto Encontro. Em «A cidade de Vidro», Paul Auster enriquece o enredo e a relação do leitor com o texto, recorrendo ao desenho (fig. 5) como complemento da escrita. Daniel Quinn é um detetive que (per)segue Peter Stillman, tentando perceber os seus passos:

"Quinn sentia-se profundamente desiludido [...] por qualquer razão que lhe escapava, passou para uma página em branco do caderno e

esboçou um pequeno mapa da área por onde Stillman deambulara [...] as letras O-W-E formavam obviamente uma palavra, mas Quinn não era capaz de tirar quaisquer conclusões"[37].

O jogo ficcional de Auster (que tem formação em pintura e design gráfico) vai-se estendendo através de um contraponto assente nos signos linguístico e gráfico, que confere ao processo criativo e ao projeto literário marcas peculiares.
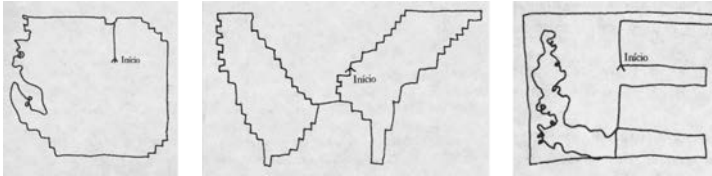

Fig. 5a, 5b & **5c**. Fonte: A Trilogia de Nova Iorque, Paul Auster, pp. 67, 68, 69.

Sexto encontro. Poderíamos arrumar apressadamente as seguintes imagens (fig. 6) numa filiação, na génese da Poesia Experimental/Visual/ Concreta, sem atender à sua peculiar condição de partida: a dislexia de que sofre o seu autor. John Court não só assume a perturbação, como faz dela a *razão de ser* do seu projeto e respetivo processo, que incluem o desenho e a performance. Entre a alienação e o conflito, entre o estigma social e o potencial criativo e autorreflexivo sobre/a partir da estigmatização, Court movimenta-se através da linguagem, tomando-a como material de trabalho, à margem da compreensão dos conteúdos. Mais do que ultrapassar o constrangimento pessoal e social, trata-se de fazer disso mesmo assunto e matéria criativa do projeto artístico, potenciando nessa direção a condição de partida, a limitação, o desconforto.

Fig. 6a, 6b, 6c & **6d** Fonte: catálogo da exposição «John Court Drawings 2006-2007», pp. 15, 22, 30, 33. Desenhos de formato A0 (Pormenores).

Steve Pratt refere o *processo e sistema* de John Court comparando o seu *envolvimento intensivo* com uma jornada épica, na "busca por uma relação estável com a linguagem onde o significado é (ironicamente) alcançado"; Porquê? Porque "para muitos observadores, A PALAVRA é a única unidade básica de compreensão. Para John Court a palavra é secundária – e, na maior parte das vezes – não é confiável" [38].

05. Ponto de situação

O desenho tem ganho, nos últimos anos, uma dinâmica, uma importância que não passa despercebida. Constatando, por um lado, que o desenho ganhou um novo fôlego e uma intensidade sem igual, Deanna Petherbridge considera que tal *entusiasmo é também redutor* pela inconsciência que

mostra sobre as *potencialidades* herdadas do passado. Ao traçar uma mensagem final no seu livro *Primacy Of Drawing*, a autora diz acreditar que:

> "Muitas das grandes potencialidades do desenho, traçadas nas ilustrações deste livro, foram reprimidas no nosso tempo e precisam de ser redescobertas e reavaliadas. Em particular, o desenho precisa de ser reafirmado como prática inteligente, que é tanto sobre pensar, ver e interrogar como sobre inventar, e que comunica tão intensamente com os outros como se refere ao eu afetivo." [39].

Embora valha a pena ler integralmente as considerações com as quais Petherbridge termina a obra, aglomeradas sob o título «Let´s Draw a Pretty Picture», destacamos a convicção da autora de que o desenho «questiona e perturba a realidade», que «é o sinal dinâmico do movimento e da mudança» e que, acima de tudo, «a imagem desenhada que nasce diretamente da imaginação visual do indivíduo é infinitamente mais potente e subversiva» [40]. Petherbridge tem sido uma voz ativa no resgate do desenho e do seu poder. Nas sua reflexões, mostra-se preocupada, por exemplo com a "negligência do desenho nas escolas superiores de arte" e com os seus efeitos negativos sobre prática artística nas últimas três décadas, vividas em convívio com as tecnologias digitais [41].

Entre nós, Philip Cabau tem refletido sobre o ensino do desenho no contexto pedagógico contemporâneo. Pensamos nas três *premissas* através das quais Cabau entende, neste contexto, o papel do desenho; em primeiro lugar, "um papel crucial no conhecimento da complexidade do mundo visível"; em segundo lugar, a "função propedêutica [acrescida] da elevada capacidade de problematização, inventando problemas tanto quanto os soluciona"; finalmente, e aqui o nosso interesse é acrescido, a ideia de que "o processo de aprendizagem do desenho é uma prática e é, como tal, sempre uma instância individual, até certo ponto, solitária e secreta. Esta prática envolve sempre uma dimensão privada e, frequentemente, idiossincrática, um olhar sobre o desenho e a sua utilidade no trabalho autoral."[42]. A tónica colocada por Cabau no indivíduo e na sua esfera *privada* sinaliza, no nosso entender, a hipótese de estabelecer (camadas de) um diálogo entre desenho e escrita que muito podem trazer à consciência de quem desenha e de quem escreve: seja no imediato e na ajuda à aprendizagem em si mesma, seja projetando o sentimento no plano (auto) biográfico – o que inclui a anterior.

Também Ana Leonor Rodrigues se questiona sobre o ensinar e o aprender: "o problema de «o que é ensinar» levanta ainda a questão: o que se ensina tem a ver com conhecimento (um compreender em profundidade) ou com informação (compreender em extensão)?"[43]. Fortemente incentivada pela *parafernália tecnológica*, a informação atingiu um estatuto sobrevalorizado, com fortes sinais de irreversibilidade. Refletindo sobre as "*transformações do mundo em que vivemos*", Byung-Chul Han constata que já "não são as coisas, mas as informações que determinam o mundo em que vivemos. Já não habitamos na terra e no céu, mas no google Hearth e na Cloud"[44]. Já não é apenas o escrever e o desenhar,

mas também o texto e o desenho que devem, enquanto coisas materiais, reivindicar *o colecionador de si e dos outros*, pois "sem contacto corporal não se criam vínculos"[45].

Ao defender a «vita contemplativa» por oposição à «vita activa» arendtiana, Byung-Chul Han deixa-nos a «vita composita»[46] como possibilidade de incorporar ação e contemplação num equilíbrio desejável. Também por estas razões é oportuno e pertinente – porque ainda temos corpo – fomentar a escrita e o desenho no *corpo-a-corpo* com os materiais, com os suportes, com os lugares, com os objetos, na experiência física mundo – não diferida, mas – *em direto*: Tal inclui a paragem, para contemplar, antes de retomar a ação abrindo possivelmente o diário, para mais algumas anotações: porventura, sobre a contemplação em si mesma, numa escrita a sós ou colaborativa com o desenho, encarando múltiplas direções criativas. Luís Carmelo (recentemente desaparecido, fica aqui a palavra *homenagem*) confessa que encontrou na oficina de escrita criativa uma agilidade e evolução no uso da língua por parte dos estudantes que não encontrara nas disciplinas teóricas que lecionava. Nas suas palavras, "o estudo integrado e cumulativo da descrição, da narração e da poética [...] tem contribuído, ao longo dos anos, para o desenvolvimento da expressão e da performance individualizadas e para a aquisição de competências que tornam o uso da língua escrita numa ferramenta claramente mais flexível"[47].

06. Ponto de chegada

Saimos do bosque. Ficou à vista o potencial ramificado do desenho e da escrita como ferramentas ativas e criativas, quer separadas quer combinadas. Soam ainda – esperamos – as vozes daqueles que trouxemos à partilha. Ecoa ainda a ideia de que o desenho, acima de tudo,

> "é um meio universalmente ubíquo para gerar e criticar ideias e formas e para investigar o mundo. É completamente democrático: pertencendo a todos, apagando as distinções entre arte e uso quotidiano, entre formas de arte, entre o conceitual e o percetual, trazendo a arte elevada e a imagética popular para novas conjunções e ligando a arte e a ciência" [48].

Escrever e desenhar são atividades de livre acesso. Mas a democracia só existe quando exercida, isto é, neste contexto, quando desenhamos, quando escrevemos, criando condições de emancipação (tendo sempre presente que a democratização do exercício não é, por defeito, sinónimo da qualidade do resultado). Incorporar a escrita *dita* criativa na prática do desenho, de modo paralelo ou compósito – anotação, contabilização, ficção e não ficção, descrição, reflexão, narração, diário, relato, reportagem, guião gráfico, ilustração, etc – abre possibilidades criativas e metodológicas capazes de atravessar com exequibilidade diversos níveis de realização, sejam em ambiente educativo e formativo, seja em ambiente de oficina.

O desenho e a escrita podem ajudar-se mutuamente nas suas tarefas, podem relacionar-se de modo espontâneo ou estruturado, através de propostas concretas e exercícios organizados, sistematizados, adaptados

(ao sujeito, ao objeto, ao contexto); e, acima de tudo, persistentes, tendo em vista o seu uso autónomo e vital para além do entusiasmo lúdico. É um facto que a experiência histórica, social, educativa, coletiva ou individual da escrita e do desenho contrastam em muitos aspetos: esses contrastes podem estar na base de algum (ou muito) afastamento, mas são precisamente esses contrastes que, no nosso ponto de vista, justificam a aproximação entre ambos; porque esta aproximação pode requalificar as práticas e a reflexão, favorecendo, pragmática e programaticamente, o processo e o projeto.

Concluimos como quem dispõe sobre a mesa fragmentos da incursão no bosque: o desenho e a escrita oferecem (-se como) ferramentas acessíveis e personalizáveis; que assentam em diferentes sistemas e que funcionam segundo regras específicas, mas que interagem na sua capacidade de modelizar, de mediar a perceção e o entendimento do mundo; neste contexto privilegiado e condicionado, os limites de um convoca o outro, estendendo as hipóteses de diálogo, de reflexão, de compreensão, de expressão e de comunicação intra e interpessoal; vimos que a formação básica e secundária no domínio da leitura e da escrita oferece o necessário e suficiente para – uma vez mitigados os estigmas – retomar o uso assíduo e integrado da escrita numa condição personalizada e criativamente requalificada; neste sentido, importa reforçar a mobilização individual mas também a ação co-laborativa que, trabalhando na multiplicidade de funções e tarefas que o desenho e a linguagem assumem – desde as eminentemente operativas, contabilísticas e taxonómicas às de caráter literário e poético – podem alavancar em si e nos outros experiência e reflexão relevante; vimos o potencial combinado da linguagem e do desenho ilustrado por alguns exemplos da prática artística na sua diversidade de contextos e meios; a capacidade que a escrita e o desenho têm de *pôr em marcha e desenvolver* (processo), bem como de *antecipar* e *planear* (projeto), é sugestiva do seu alcance enquanto meios ou fins em si mesmos.

Cremos que estes fragmentos são elucidativos daquilo que o desenho e a escrita disponibilizam a quem, no papel de autor, mediador, educador, meter mãos à obra para (co)laborar institucional ou individualmente: (co)respondendo à urgência, ao apelo de vozes informadas em nosso redor; aproveitando a emergência e tendências favoráveis, seja à mudança, seja à retoma daquilo que ainda é pertinente e necessário, básico e eficaz, ainda que escondido por distraída declaração de caducidade.

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Process of creation of the infographic:
The Amazing European Bison Journey

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Abstract

As the need for visuals in scientific communication grows, tools such as infographics can be highly valuable as communication outlets. Infographics have the potential to reach a wider audience than traditional academic outputs, making them a helpful tool for researchers seeking to communicate their findings. This paper explores the development of an infographic focused on the European bison as an ecological basis, demonstrating the use of a collaborative approach between specialists and non-specialists to create a visual communication tool. The creative development and iterations of the infographic are described in two stages, with the first stage involving the creation of initial layout sketches, illustrations, text, and colour. The second stage focuses on prototype iterations to refine the design towards its final phase. The objectives of the paper are twofold: firstly, to show the steps involved in developing an infographic, and secondly to show how a collaborative approach between target audiences of specialists and non-specialists in European bison (i.e. focus groups), can develop into a final improved visual outcome.

Keywords

Introduction

Infographics are large graphic designs that bring together data visualizations, illustrations, text and images in a layout that tells a complete story [1]. The infographic structure displays patterns (i.e. repetitions of information in a specific layout) that accelerate the understanding of data as they tap into the human ability to naturally attempt to recognize information in an efficient way [1]. This means its faster to grasp data from an infographic because of its layout when comparing it to reading plain numbers or text. Good infographics can tell complete stories with the objectives of informing, entertaining or persuading an audience [1]. They can cover any subject as long as there is storytelling involved and the need for clarification of information [2]. Infographics have long been covering a wide range of subjects, from product manuals such as the Swedish home accessory brand IKEA booklets to complex scientific information displayed in popular science magazines such as National Geographic [2].

Scientists' need for visuals that translate their work into easily understandable pieces is increasing rapidly [3]. Infographics are considered to

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improve science communication by being able to reach a larger audience than what a classic journal article would [4]. Furthermore, the process of creation of visual communication tools like an infographic might even push science forward by challenging scientists to distil 'complex concepts into clear, focused and accessible messages' [3].

The infographic described here belongs to a broader project that comprises the design and comparison of static 2D formats using infographics, to in-movement formats using animations [5], utilizing the same content information in both to evaluate in focus groups with specialists and non-specialists in European bison [6], [7]. The budget for the creation of this infographic stems from the author's PhD project, from the University of Costa Rica and support from the University of Groningen, the Netherlands.

The current infographic was created to portray one of the processes of translocation of the European bison (*Bison bonasus*) around Europe, exclusively from the Białowieża forest, in Poland, to Zuid-Kennemerland National Park (Kraansvlak area) in the Netherlands [8], a process that is part of several rewilding projects with European bison around Europe [9]. An excerpt in the history of the European bison was chosen to represent its journey across time and as a base topic to make the infographic.

Creative Development

Infographics generally follow three stages, which were also applied to our current visual: introduction, main event and conclusion or call to action [1]. In this case we built a *static infographic*, which is the simplest and most common type of design of this communication tool [1]. This infographic was developed and iterated using feedback from a set of focus groups [7] that contained specialists and non-specialists in the field of European bison. The development of the focus groups will not be discussed in depth, but will be mentioned were the conclusions changed the infographic's result.

In a graphic design the layout is the foundation with which viewers navigate information [10]. The first consideration for the current infographic's design was the fact that it is a timeline, therefore it needed to follow a linear time logic. In this sense, the initial layout options were made knowing that the viewer needed to follow a progression of years though the piece.

Stage 1: *Initial layout sketches, illustrations, text , colour*

Initial layout sketches:

Figure 1: Layout option sketches for timeline infographic. A: horizontal, B: vertical, C: square. Enclosing red rectangle: chosen layout.

Several layout options were thought of with the progression of time in mind (Fig. 1). The need to compress several events in a given space gave way to using a layout that did not follow a straight line, but rather one that had curves and could accommodate more information (Fig. 1 (enclosing rectangle)). Furthermore, this timeline would eventually be extended and potentially become a large format print material which gave way to the decision to use a horizontal format. This is the most conventional and convenient format for a normal wall visual because it gives the audience the possibility to walk along it when the print is large. In the case that the

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infographic would have been made to be displayed only online, then a vertical layout for scrolling up and down would have also worked.

Once the format and layout were decided a rough sketch of prototype #1 of the infographic was made (Fig. 2). This first sketch contained an extract of the timeline years and served as a prototype that would be extended threefold to include more years towards the final outcome (Fig. 9). This first draft contained planned spaces for text and the main events of the timeline drawn with simple sketches that provided a guide for the final illustrations.

The way in which a graphic design is laid out should lead the viewer to see the focal point or place of highest hierarchy first [11]. In the case of prototype #1 the focal point was thought to be in the bottom centre of the format, were there would be a heavy complex element with several images (Fig. 2). The viewers would then move their gaze towards the left to start a general left to right directional reading of the timeline.

The next step in the construction of the infographic was to pass from the hand drawn sketch layout to the digital medium (Fig. 3). The process

of design layout takes several stages in the digital form before a first prototype is defined, the first steps were all made in greyscale (Fig. 3) for practical reasons of time and so that colour would not distract from having a balanced first design [1]. The illustrations were made using digitalized hand drawings painted in Adobe Photoshop and Procreate software (Fig. 4). Once the infographic was in an advanced stage in grey scale (Fig. 3B) the next step was the addition of colour towards prototype #1 in Adobe Illustrator software (Fig. 5).

Illustrations:

The choice of type of illustrations used inside a visual communication tool has to respond to the functionality of it for the audience [12]–[15]. Previous research pertaining to this project gave a starting guide to which illustration types to use within the ecological context of European bison, contained by a spectrum ranging from realistic to graphical schematic types of visuals [16]. Sections that were meant to be more attractive were illustrated in more realistic types of illustrations, for example making the lower centre the focal point of the piece with a heavy use of more realistic images (Fig. 5). The use of more vectorized types of illustrations (low-fidelity visuals) were used for parts of the story that needed to provide a specific explanation [2], such was the case of the six European bison being translocated from Poland to the Netherlands for example (Fig. 5).

Figure 2: Layout sketch for prototype of timeline infographic.

Figure 3: Grayscale progression steps of the infographic in Adobe Illustrator software.

Figure 4: Illustration of Dutch dune landscape with grazing European bison. A: original sketch. B: addition of colour. C: addition of vegetation.

Figure 5: Prototype #1 of the infographic.

Text:

The use of text within an infographic should be kept to the minimum, the more the information is visualized, the better [1]. Following this, the infographic's area was used up mostly by illustrations. Text was added for titles and details of information that were complementary to the story. Initially for prototype #1 (Fig. 5) some information that was in the illustrations was also repeated in the text with the objective of increasing memory recall [17]. This eventually changed towards the final outcome because feedback from focus groups that stated this repetition was not facilitating the understanding of the infographic [7].

Colour:

The use of colour in a graphic design can establish part of the message of the story [10]. In this infographic there was an important general division that was needed: the separation between the Polish side and the Dutch side of the story which belonged to different environments. The background colour was decided thinking of the contrast between the two landscapes, the left side was made green to represent the colour of spring and summer in the Białowieża forest, in Poland. The right side was made with khaki background colour, to represent the dunes in Zuid-Kennemer-land National Park (Kraansvlak area), in the Netherlands. The example translocation of European bison from Poland to the Netherlands in 2007 and 2008 [8] is the event that connects the two landscapes in the centre, the transition was made by not making a strong contrasting separation between both sides, but rather having a smooth gradient in the centre from green to khaki.

Stage 2: Iterations of prototypes

The infographic underwent three iterations before arriving at the fourth version and final outcome. These changes partly respond to the feedback from three focus groups done with audiences of specialists and non-specialists in European bison [7]. The iterations made corresponded mainly to *layout, visuals and information content.*

Layout:

The importance of getting the layout of a graphic design right is mainly due to the objective of potentially controlling how the audience reads the visual communication tool [11]. In the case of our infographic the understanding of the left side, belonging to the Białowieża forest in Poland, and the right side, belonging to the Zuid-Kennemerland National Park (Kraansvlak project) in the Netherlands, was essential. An element of separation of both sides was the contrasting colouration, however according to viewers [7] this was not enough and a more contrasting separation was needed. In terms of design simplicity, the idea of having all the information in one single format seemed more efficient at the start, but the division of the infographic into two separate parts (Fig. 6) for the understanding of separate landscapes (Poland/ Netherlands) was received positively but the audiences [7] and therefore kept towards the

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final outcome (Fig. 9).

Prototype #1 of the infographic (Fig. 5) contained information of important dates in the timeline at the bottom and a reiteration of the dates that were displayed in visuals at the top. This reiteration of information was made following advice from previous research in which it was found beneficial to have the information as text and as visuals together [17]. Feedback from focus groups with specialists and non-specialists in European bison pointed out that this repetition of information in visuals and text was not helping them read the infographic [7]. In our infographic's case this repetition might have been disadvantageous due to a lack of direct connection between the text and the visuals in the layout. Furthermore, in prototype #1 the year numbers at the top had a ten year separation for the left side and a yearly separation for the right side, this meant that some years were present even if they did not have an important event to represent. Feedback from the focus groups was that the years with no important events were not necessary to mention since the continuity through time was obvious. This resulted in the fusion of the two sections of text information into a single one contained at the top showing only the years that had important events, as well as excluding text that was already explained in the visuals (Fig. 9). This change simplified the design and created a section at the bottom were another element could eventually be placed.

When considering cognitive load, it is beneficial for a visual communication tool to provide the viewer with the least amount of work when making information connections. The level of desired learning will not be achieved if working memory is cognitively overloaded [18], therefore if an infographic has too many disperse elements that the viewers have to connect, this might hinder its effectiveness. This was the case with prototype #1 of our infographic (Fig. 5), where some elements were found to be disconnected and difficult to read by the audiences [7]. In an infographic the viewer needs to be provided with language of context [1], this means that elements need to be connected to each other in a way in which understanding is facilitated. A designer needs to be aware of the use of negative or white spaces, i.e. the spaces in a design that are not occupied by visual elements or text. These are important visual respites for the viewer to avoid visual overload [19] which is why designers try to keep enough open spaces to maintain the design uncluttered. In the case of prototype #1 of our infographic (Fig. 5) the negative space was favoured over the language of context which probably led to the viewers missing the connection between the visuals in the centre and the years of the timeline at the top [7]. Eventually the design was changed with the addition of connecting lines between the visuals and the years (Fig. 9), this was done taking into account the general infographic's style in which the lines added matched the overall look of the visual.

The final outcome of the infographic (Fig. 9) is a rectangular strip that can be placed on a flat or a circular surface. A separate title section was designed to avoid placing the title inside the sections of the infographic that have the information. In the case of the infographic being placed on a flat surface only one title section is needed in the centre, but in the case that the infographic was placed on a circular surface (Fig. 8) two title sections would be needed to put on each side of the circle.

Visuals:

One of the main objectives of an infographic is to show information visually rather than textually [1]. A highlight of the European bison story is its comeback from the brink of extinction and the resulting increase in numbers from a successful conservation programme in the past century [20]. In our infographic the visual representation of the fluctuation in European bison numbers was added at the bottom from prototype #2 (Fig. 6) onwards to represent the mammal's comeback. This information came to complement the events described in the visual as well as to give context on the population dynamics for the timeline.

Some small visual details can make a big difference on how a communication tool is perceived. An example of this is the change that had to be made to the amount of vegetation present in visuals connected to the Dutch dunes in the infographic. Part of the feedback from the focus groups was that the dunes were lacking vegetation and this made it seem like the European bison was living only on sand [7]. The illustrations were changed by adding more vegetation, consequently the same notion was taken into account for the following visuals (Fig. 4).

Another visual adjustment that was made because of audience feedback [7] had to do with the amount of context given for a specific country's (Russia) involvement in Poland for the beginning of the timeline. Prototype #3 of the infographic shows from year 1700 to 1888 a large description of events highly related to Russian activities (Fig. 7). This was strongly criticized by Polish viewers because, even if the events were historically correct, the impression a person would get is that Russian activities were more important than any other event in those years. In this case, it was necessary to think about the target audience, considering it is the guiding compass by which an effective communication tool should be built [21]. In our case, Polish driven events would have a better reception by the Polish section of the audience because the infographic is directly related to Poland. The decision to change a large part of the start of the infographic to a more Polish oriented storytelling was made in response to feedback from the focus groups [7] and the aim for empathy from the Polish section of the target audience (Fig. 7).

Information content:

Truthfulness of information in science communication is crucial to get the right message across [4]. When visualizing science, the communicator should place accuracy over flashiness of the story because otherwise it can be misleading for viewers [4]. In our infographic there was a misconcep-

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Figure 7: Section of prototype #3 of the infographic. A: Left side of infographic with Russian events. B: Right side of infographic with Polish events.

Figure 8: Prototype #3 of the infographic on circular surface.

tion in prototype #1 (Fig. 5): the mention of the European bison as 'king of the forest'. As much as this is an attractive way of portraying this mammal there is now sufficient scientific evidence that the European bison is a 'refugee species' in the forest because it is not its natural habitat [22]. The removal of this concept from the infographic was driven by feedback from the focus groups [7] and the aim to avoid reiterations of erroneous conceptions that have been imprinted in the past. Other changes that were made in terms of information content had to do with additions of dates that were deemed essential to the story by the specialists (e.g. 1929: start of the European bison's reintroduction to the Białowieża Forest) and the removal of other content with less value than other events.

Final comments

The final infographic (Fig. 9) is a piece that has the potential to be used as a whole or in separate units as needed. Participants of the focus groups [7] argued that if this piece were to be exhibited in a museum or visitor centre it could be presented in its complete form, as well as have the option of showing it in combination with its homologous animation [23]. In the case that it would be shown online, one of the recommendations stemming from the focus groups was to share it in 'digestible chunks' and not in its entirety because it might be too big to process in its complete form, as working memory can get cognitively overloaded limiting the desired learning outcomes [18].

The process of development and evaluation of this infographic has guided the construction of other infographics that belong to the same European bison subject. These visuals will be available as part of the elements made for the broader project this piece belongs to. The compilation will be of open access in its complete form, in units and as separate illustrations online when the whole project is finished. It will be accessible for anyone that needs it for presentations, posters, publications, or any other visual communication requirement.

The current infographic has already been exhibited in the Netherlands Annual Ecology Meeting 2022 [24], as well as the

Figure 9: Final infographic without title section. A: Polish side of the story in the Białowieża forest. B: Dutch side of the story in Zuid-Kennemerland National Park (Kraansvlak area).

rewilding symposium: Ecosystem restoration through rewilding: people, policy & practice [25]. In the months of May and June 2023 it will also form part of more exhibitions in the Faculty of Science and Engineering of the University of Groningen, the Netherlands.

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A journey through pages: the impact of the book-object's visual and paper design on its narrative potential

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Abstract

As a consequence of the digitalization of the material world we can expect that the role of paper as a key vehicle of communication will radically change over the next few years, As the conventional informative functionalities once taken by paper, in the form of books, newspapers, documents and so on, will shift to digital artifacts, paper will likely change skin, presenting itself as a precious and rare kind of support. On the grounds of this possible changing framework, the project I wish to present here revolves around the communicative potential of the simple sheet of paper. On the track of Bruno Munari's rhetorical question "Can a book communicate even without text and images?" from his "In the Dark of The Night", almost 70 years ago, "A journey through pages" is the result of my final thesis work in Architecture-Design, having as a final outcome a prototype, an unique communication product being not intended for the commercial sale. Originated as a very personal project, my wish to narrate my Erasmus Study experience in Portugal – one year full of the anecdotes typical of student life abroad, travels, encounters, discoveries, amidst the pandemic – in a new and unique way. The experiment aims at exploring how the paper physicality of a book can be thought as an everlasting mean of communication.

1. Introduction

Over the last few decades, the role of the paper in society has experienced a deep change as a medium of communication.

It is evident that the digital evolution brought a change in the form of written communication, because of the use of digital media such as computers, tablets and smartphones becoming increasingly widespread. However, despite this, paper continues to be used for printing books, newspapers, documents and other publications because, at least I would believe so, paper offers a number of advantages: great durability over time compared to digital media and, of course, its tactile experience and "materiality" [1], not guaranteed with technological innovation at the moment.

Some books are already intended as "elite artifacts": for example, they are already known in the fashion and big brand industry as a relevant marketing tool to empower the companies positioning. As the case study

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of "Lacoste L!fe Fragrance", *a playful and 100% handmade pop-up story created to celebrate the launch of the new Lacoste L!VE fragrance, and to explore, page after page, the universe, assets and ingredients of this unique new pillar* [2].

But foremost Bruno Munari understood, even if the Italian designer could not yet imagine the consequences of the advent of technology, the potential of paper as an object that occupies space, whose structure has its own dignity and expressive potential [3]. "*Can a book communicate even without text and images?*". Munari's rhetorical question has found an answer in timeless masterpieces as "In the Dark of The Night", "The Circus in the Mist", "The Prelibri" and so on [4]. These pieces of children's literature history demonstrate that the communicative power of a book goes beyond printed images, but rather can occur through the interaction between paper, its folds and cuts, and its engagement with other design elements, generating equally expressive visuals.

After Bruno Munari, many others designers addressed themselves to this huge challenge. For example, the Japanese designer Katsumi Komagata developed an unique style and approach to children's book design influenced by Japanese culture, nature and materials. His books are mainly characterized by cuts and folds that, despite being almost silent, inspire profound and poetic meanings, so that they can only be superficially defined as children's books [5, 6].

Another case study is that of the American designer Kelli Anderson, a skilled artisan whose work focused on creation of functional and interactive marvels, as her masterpiece "This Book is a Planetarium" [7].

2. White on Black: before the ink impression

A wide-ranging selection of "paper mechanisms" has been identified through rigorous research and examination of multiple case studies. Bruno Munari's books, as well as those by Katsumi Komagata and Kelli Anderson, and other classic works of children's literature, some with a more commercial than poetic value, such as "The Geronimo Stilton Adventures". An additional field of inquiry has been that of "Portuguese artist's books". The examination of those books on-site provided the opportunity to experience "book-object" firsthand and to gain a deeper understanding of the subtle connotations of paper , with the ultimate goal of creating a novel and a distinctive narrative [8, 9].

"White on Black typologies" represent the paper interactions have been identified during the first phase of this scientific examination. They have been catalogued and explained in white paper models. This preliminary phase has been necessary to distinguish the "pure" models, the hybrid models, the "no paper interaction" models in order to understand mechanisms and possible meanings of the paper.

Pure models express the basic types of interactions, only given by cuts and folds in simple sheets of paper. Hybrid models feature a greater degree of complexity.

"No paper interaction" models are linked to the tactile quality of the paper by transcending the mechanisms dictated by cuts and folds.

Fig. 1. The cardboard model of the "void".

For example, the "void" [2] has been classified as a pure model, a subtraction of a cutout from the sheet of paper. A mechanisms which allows to catch a glimpse of the following pages and to create a narrative sequence based on the void itself.

3. Analyzing the case studies, applying them to the project

3.1   Collecting the reference works

The meticulous collection of case studies has epitomized the true essence of the entire work, elucidating how the possibilities offered by paper interactions can be translated into visual design choices by highlighting infinite nuances of meaning. This is the rationale behind the selection of books with a broad scope of reference, encompassing children's literature, artist books, branding and merchandising objects, as well as prototypes created during workshops held worldwide, in order to obtain a diverse range of examples.

Fig. 2. "The Swing" by the Italian designer Enzo Mari. It has been published for the first time in 1961.

Fig. 3. "Un courant d'air" by the French illustrator Juliette Binet, published in 2012.

The narrative of several of these case studies is developed through a shared "White on Black typology". This was a deliberate choice, as it facilitated a comprehensive understanding of the diverse meanings that paper can assume when combined with other design elements, such as illustration, typography, and graphics. This analysis has laid the groundwork for a robust conceptual and visual archive. For instance, "The Swing" by the Italian designer Enzo Mari is a book of high caliber, distinguished primarily by its use of an "accordion structure". The accordion pages assume a specific significance when read in pairs. When the accordion is fully opened, the narrative adopts a comparative tone between the paired pages. This effect is achieved as Mari's book instructs young readers on the concept of proportions, portraying animals on a swing and drawing upon their visual imagination [10].

Analogously, "Un courant d'air" by the French illustrator Juliette Binet is also structured as an accordion book. However, the meaning of the book changes depending on which pages are opened, although it is linked to a shared element: the impact of the wind's force, which shapes the dynamism of the story.

This phase has developed a valuable methodology for subsequently analyzing the works produced by the masters of the field.

The opportunities offered by paper mechanisms have converged with other design to create an unforeseen and interactive narrative.

2 Emptiness of elements typically found in editorial production such as illustration and printed text, but not empty of expressive content - such as the texture of the paper or your folds.

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3.2. The first experiment: Little Red Riding Hood

Little Red Riding Hood is one of the most renowned children's fables worldwide. Hence, it could be an optimal narrative for a first experiment: applying White on Black typologies to the visual design elements thoroughly emphasizes the possibilities of paper, where written words are merely a portion of the storyline.

The story has been simplified to draw attention to the sensitive aspects of the narrative. This was merely the initial step in demonstrating that written words represent only a portion of the narrative.

4. How children literature's masters do

The insight gained from the experience of Little Red Riding Hood has aided in exploring the methods of certain eminent designers and illustrators of children's literature, such as Bruno Munari, Katsumi Komagata, Kelli Anderson and Vincent Godeau.

Their works share a common thread that unites them. *Can a book exist without text and images?* Each author responds to this question in their own unique way. It would be inappropriate, therefore, not to mention Munari's Prelibri in this context. Indeed, although the "Prelibri" does not represent the first experiment in terms of book-object by the great Italian designer, it demonstrates the significance of the tactile experience of paper for the formation of any individual [8, 11].

"*In the early years of life, as Piaget teaches, intelligence is formed*". Munari's aim can be found in cultivating "elastic and less repetitive minds" from a young age. To achieve this, he explained in his book "Da cosa nasce cosa" that it is necessary to introduce children to the culture of books, regardless of the school environment, where readings often turn out to be more tedious. Munari believed these books "*should give the feeling that books are actually made in this way and that they contain surprises. Culture actually comes from surprises, that is, things that were previously unknown*" [12].

Surprise is a keyword in every book by each author, intended for a young audience of readers. This, however, does not imply that their works should be regarded as simplistic or juvenile.

While the case studies are diverse in terms of narratives and temporal distance, this phase of the work elucidates how the most distinguished and experienced authors effectively merge a synthesis of the expressive power of paper and visual language.

In the Dark of the Night" by Bruno Munari, published for the first time in 1956, is considered the precursor of contemporary children's books. The book features several White on Black typologies that intersect across three different narrative settings. In the opening pages, the importance of fixed "void" is emphasized, representing the light where different episodes unfold during the dark night.

The "void" persists throughout the narrative until a turning point is reached with the change of paper type. The "low-opacity pages" allow the light to filter through, and the illustrations overlap in subsequent pages, recreating the image of a forest where various animals appear. The final
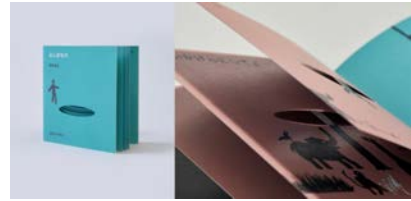
Fig. 4. Little Riding Hoods and the Big Bad Worf through the hybrid cartotechnical type of the "accordion with double reed"

Fig. 5. The low-opacity pages of "In the Dark of the Night" by Bruno Munari.

Fig. 6. Some pages for "The Mysterious Hole" by Katsumi Komagata.

part of the book is characterized by a cave, a group of moving voids that offer glimpses of the end of the journey and the story.

The "void" is also the primary paper interaction in Katsumi Komagata's "Mysterious Hole." The book tells the story of a mysterious hole that appears to completely separate humans from the natural environment, as if the two were entirely disconnected. What makes this small, square book so unique is the recurring sequence of voids that runs throughout the entire narrative [13].

This analysis has indicated the last phase during the preparatory phase for the final project.

5. The final project: designing the pop-up prototype

5.1. Building up the "fabula"

The ultimate phase of the project entails the production of a fully hand-made experimental prototype.

Many paper interactions previously described in the white paper models were integrated with graphic design, typography, and illustrative elements.

Fig. 7. A visual of the final prototype of "A journey through pages".

Fig. 8. The final prototype of "A journey through pages" with all its paper mechanism.

The narrative is centered on my Erasmus Study experience in Lisbon from 2020 to 2021. Ten selected episodes comprise the so-called fabula, a collection of story elements presented in a logical and chronological sequence. The ten narratives are conveyed through a visual "carousel" whose petals symbolize four emotions: wait, melancholy, joy, and nostalgia. Each emotion is portrayed using a different White on Black typology, typography, illustrative and graphic choice to convey different messages.

The story narrates all the positive and negative aspect of the experience in Lisbon through the paper and its visual language. It unfolds through a simple expedient, based on the pursuit of the meaning of the Portuguese word *saudade.*

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5.2   Paper potential meets the story

All four emotions have been given specific variations to narrate the story.

The sentiment of wait has been linked to the initial three episodes of the Erasmus narrative: departing from my hometown, arriving in Portugal and discovering Lisbon. Portrayed as a state of tranquility and inquisitiveness towards an upcoming experience, the visual representation employed a simplistic vector illustration style. This style featured pastel hues, minimal imagery, and frequently pop-ups and cut-outs. Its intention was to create an almost "naive beginning", conveying a lack of cognition about the upcoming stages of the fabula.

Melancholy has been associated with the pandemic-related events such as domestic and national lockdowns, as well as university life during the pandemic. This sentiment is expressed through brutal illustrations, influenced by the anxiety and frustration caused by the pandemic. The drawings appear to be almost instinctive and uncontrolled, with the aim of conveying a sense of uncertainty to the reader. The paper itself loses its opacity as figures, typography, and signs overlap in a confusing manner, devoid of any apparent logical sense. As a result, the journey becomes turbulent [9]. (Fig. 9).

When the epidemiological situation appears to be improving, a feeling of pure joy becomes evident. New encounters, the discovery of new places and the end of lockdown are essential ingredients of the spring on the horizon. The graphics and paper regain a conscious and confident

language, in spite of a "kintsugi" effect, as they can never fully regain their initial balance. The succession of fixed and moving voids represents the positive evolution of the story, a series of events that euphorically brings new light to the narrative.

The culmination of the journey is depicted in a double-page spread: a visual of Gulbenkian Park, with all its elements guided by the supernatural force of the wind. The final message conveys a sense of nostalgia, as the story is wholly acknowledged and accepted, including its positive and negative aspects, as a blend of all the previous graphic languages. The paper bids farewell through a three-dimensional shape that seeks to evoke empathy from the reader: an eye whose falling tear transforms into a leaf that flies away.

This is precisely the conclusion of the story: the personal and lived meaning of the word *saudade*, the nostalgia for a place and an experience, despite its virtues and faults.

Fig. 9. The one-way trip to Lisbon is described with a flap of paper.

Fig. 10. A pop-up letter forms the word a "sunset"

Fig. 11. Thoughts that accumulate during the lockdown describes through low opacity pages.

Fig. 12. Flowers bloom like new friendships bloom, voids cover void.

Fig. 13. My meaning of the word *saudade* through paper potential

6. Conclusion

The final work aimed to demonstrate how the tactile and sensory experience of the book-object can tell a story in a completely different way by adding more unexpected elements to bring the communication between the reader and author closer [14]. The preliminary phases constituted an indispensable basis for achieving this kind of result, both from a technical and a narrative point of view.

This work was intended to create a prototype that could not be intended for sale. The reason lies in the fact that its production costs would be too high, and some of the paper iterations would be challenging to achieve even by specialized pop-up book printing industry. While strongly inspired by case studies from children's literature, the prototype is therefore more comparable to an artist's book, strongly introspective and personal in its nature.

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The Moving Page

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Abstract

This paper investigates transitional states of spaces between images, moving images, and the use of sketchbook/page works through a questioning and auto-ethnographic approach to research and practice. Viewing illustration as a reflexive space, the investigations demonstrate exchanges between authorship, interaction, narrative, time, and space. Valuing the 'in-between' states that exist between the unfinished and finished, the research questions notions of in-flux, moving, nebulous states. Through alternative publishing forms, the research concerns dissemination through emerging digital platforms.

1. Introduction

The research adopts a proliferation of material digitally, through a by-process of subverting technology and a repurposing of found (and created) assemblages, to present new works. The research challenges the representation of historical inquiry, intergenerational memory, and archival documentation. Use of experimental approaches, the research is underpinned by theory, through the application of deconstructivism, situationists psychogeography, and postdigital. Through direct use of sketchbooks, participatory actions, and hierarchical modes, presentation of decoding, and image as the message are explored. Drawing, craft, heritage and landscape are intertwined with values of new presentation techniques, creating new narratives and innovative forms of storytelling. *Magnetic North* [1] and *Paranoia* [2] are two films, that were selected to be exhibited, as part of the Design in Motion Festival (DEMO) [3] in Amsterdam in 2019, curated by Liza Enebeis (Creative Director – Studio Dunbar), Koos, Breen and Xavier Monney. The DEMO Festival embodies a new approach to creative curation – selection and exhibiting of non-stop digital soundless works, installed through the takeover of advertising screens on-site at Amsterdam Central Station.

2. Research context

The research demonstrates expertise in narrative hybridity and critical enquiry through sequential picture-making/film, by fusing illustration/image-making, and animation techniques. The practice is situated within the expanded field of illustration, and an embodiment of the term 'radical

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illustration'. [4] This is indicated by illustrator/writer Rob Mason, [5] in particular to Sue Coe and Russell Mills, both schooled at the Royal College of Art, where their self-authored works, invite auteur theory, and furthered approaches to illustration. The research is questioning and challenging final forms and normative illustration practices by proposing new notions through a nebulous approach. There is a demonstration of the full process of 'making', made visible within the final form. Finality and unfinished states are questioned, through process, as the final works exist somewhere betwixt a non-narrative structure. There is consideration of numerous applications of alternative narrative, and storytelling, in the practice of thinking, problem-solving, making and publishing of images as motion.

New questions and knowledge through the experimental application of process, as the research references the radically challenging – DADA approach. The use of risk-taking and encouraging mistakes in image-making creates a new direct anti-narrative vernacular. Merging analogue and digital sketchbooks directly employed on-site, through traditional (drawing, collage, assemblage) and digital applications (digital technologies, software, and photography). Further, the presentation of the process is formalised as part of the final works. The research aligns with the transformation of media, and technologies, through the use of applied theory – 'using unorthodox materials and chance-based procedures, [6] building on Lev Manovich's 'new media', [7] and key seminal works – Man Ray's *Le Retour à la Raison* (1923) [8], and Len Lye's *Kaleidoscope* (1935) [9]. The latter combined undeviating film, and kinetic sculpture – 'Tangibles' [10], and 'direct films' [11]. The use of a hybrid approach to making is seen through the ever-shifting paradigm of the design process; using an incessant reflective iterative approach. The research deliberately inverts Hubka's (1976) 'process as design' [12], who stated 'the design process is generally structured into three stages that move from abstractness to concreteness' [13].

Cultural significance is seen through the questioning of new spaces for digital publishing and curatorial exhibition works. Amsterdam Central Station has 80 screens for DOOH (digital-out-of-home) advertising, which is the highest density of screens in the world. On Thursday 7 November 2019, it displayed no advertisements. Instead for a continuous 24-hour period, 400 final moving image/motion pieces, created by 253 designers, were exhibited. [14] *Magnetic North* and *Paranoia* were selected to exhibit, from over 2700 motion pieces from 70 countries worldwide. Curatorially this was the first festival of its kind, to digitally and virtually present collaborative works. Visitors numbered 250,000. DEMO gathered 10,000 new followers on Instagram, and was awarded 'Site of the Day' at Awwwwards, [15] and 'Best Use of Animation or Motion Graphics' at the Webby Awards, [16] following the exhibition. DEMO was also unique in its ability to travel – exhibiting further featuring as part of *Viral: Biennale Internationale at* Le Signe Centre National du Graphisme, Chaumont, France, during 27 May – 26 September 2021 [17], published by Le Signe Design [18], and featured as guests as part of *Eyes on the Netherlands* at *Graphic Days*, Torino, Italy during 14 – 30 May 2021, [19]. The researcher was invited to speak at Grafisch Lyceum Utrecht, The Netherlands.

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3. Aims

This research is an interrogation of the cultural presentation of images and moving images, through the construction of digital assemblage film essays. Challenging notions of delivery and interpretation of historical information. Visualisation of memory, and the interpretation of intergenerational territory – key areas of interest, use a merging of three types of drawing – recalled, imagined and observed.

Exploration of how existing individual archives (still and moving images) can be transformed into new bodies of work, the research fuses topography and histories of Teesside, (specifically between Coatham and South Gare on the northeast coastline of the UK), and references Guy Debord's defined term – Psychogeography (1955) [20], through use of documentary journeys into place and space. Periods are considered and the research utilises local online archives, and historical data to respond to. The area is a unique characterised post-industrial hinterland, and the research is significant as documentation of legacy, due to the cultural impact as seen through the loss and destruction of heritage. [21]

The research considers the position of the illustrator, as researcher and auteur, concerning methods of documentary of the self and response to the landscape. The focus centres on the interpretation of local archival material and the use of analogue and digital. Consideration then of illustration through a postdigital lens, as put forward by Mel Alexenberg, addresses 'the humanization of digital technologies through the interplay between digital, biological, cultural, and spiritual systems, between cyberspace and real space, between embodied media and mixed reality in social and physical communication'. [22]

How can the function or normative state of a sketchbook/page works, be interrogated and presented in alternative forms and states? What phenomenological links can be made between deeply personal, response-led content, to spaces? How can connections be formed between the viewer and the artefact be made through the use of motion, sequence, time and space? How can specific environments support and enhance dissemination?

Sequence and narrative considerations, and the public display of motion work map onto the curator's – DEMO Festival, aims. There is consideration of alternative publishing spaces, permanence and temporary positions, and narrative forms, through alternative use of and display of digital works, within a shared space. Curated motion-based works. works placed temporarily as a constant variable experience, for over 24 hours DEMO made innovative use of commercial spaces through the use of DOOH (digital-out-of-home) advertising screens. Liza Enebis discusses: 'The DOOH screens have become an integral part of our public space in a lot of cities. By changing the messages/images you have a direct effect on your surroundings whether it's consciously or subconsciously'. [23].

4. Method

Investigations into new storytelling forms as an illustrator are seen through a process-driven methodology, adopting variable positions – as a cultural archivist, as an image-maker, as a documentarist and as a film-

maker. This research is distinct, due to the use of anti-narrative methods, and the embedding of a hybrid, participatory approach to illustration and motion. Key themes explore disruption and fragmentation of memories, interpretation of landscape, presentation of historical recordings, and archival presentation. Embodied and relational use of physical sketchbooks, these act as direct archival hubs, observational posts, and compositional/experimentation spaces. Mapping, notation, and drawings are made through locational visits. The sketchbook, a conduit, links on-site drawings, found imagery, and archival interpretation. Research has been collated over a long period and the sketchbook pages become a continuous dialogue, between the researcher and place/space. Direct responsive images and interpretation are made through the pen, pencil, ink, and numerous collage material added, held through tape/glue. This assemblage allows for context and content to be reassembled and recontextualised. The sketchbooks are mechanically scanned, during which intuitive skills/knowledge will play/distort the images through movement, during the transfer process. Digital photography of the sketchbook images, edited and manipulated on a smartphone, are airdropped directly to the computer.

The researcher, a former resident of Coatham, holds an archive of more than three generations worth of personal artefacts, writings, and depictions of the area, from the late nineteenth century onwards, that informs the research. This array of analogue, mechanical and digital materials – cine film, 35mm film, slide film, negatives, drawings, and objects have been digitized, scanned and digitally photographed.

The multiplicity of on-site documentary works and archival material is then fused in a hybrid composition, forming a 'digital sketchbook'.

Fig 1. Stills of on-site documentary recording with analogue sketchbook process.

Fig 2. Still of digital sketchbook process, layered juxtaposed analogue and digital runs.

Through the use of the software Adobe After Effects, the works are built up by placing them onto a timeline. Further layers, through the use of the multiply tool – enable a transparent quality. Numerous page runs are built as the compositions of images become dense and mutated.

The 'moving pages' of animated sequences are built up and added to. Further interruption, mistakes and chance, are encouraged on screen, using juxtaposition and cut & paste to 'find' the image.

A synthesis of imagined, observed, and remembered imagery, as an anti-narrative approach, is used to construct links between the past and the present. Direct application of journalistic image next to archival-placed material in non-sequiturs. The use of a nonlinear narrative method references Chris Marker's *La Jetee* (1962) [24] a seminal experimental film dealing with time travel, and constructed almost entirely from still photos. Splicing low-tech layered works with a free-form experimental

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approach, through the use of the scanner as a camera, and as a draw-ing tool/instrument; builds on the use of the cameraless films [25] as pioneered by Len Lyle (1935) and later Norman McLaren, (1940). Direct animation is informing the picture but is without a linear narrative. This disrupted, deconstructed process, presents how memory images remain 'unfixed' in our recall. Peter Blegvad indicates this phenomenon as what 'one sees with their mind's eye?' (2020). Further asking 'How might such ambiguous, phantasmal and fugitive phenomena be translated into phys-ically visible images?' and suggesting time-based media – 'better suited to depicting this flux'. [26] Unfinished cuts are exported, and re-filmed on screen, using a digital camera phone, to interrupt the process further. A constant iterative 'moving' between physical and digital forms, creates a state of 'playing' – initiating an intuitive haptic treatment. Extended connections with overdrawn words and images are added to the finals. Materiality and the visual vernacular remain messy, overlapping and con-

Fig 3. Final film stills – *Paranoia*, DEMO Festival Exhibition, Amsterdam
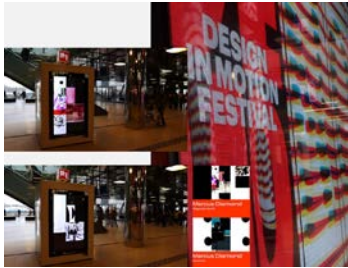
fusing, to indicate ephemeral gaps and emotional triggers. As tangible forms emerge, the formalisation of the finals is considered through speed, pacing and timing. Deliber-ate consideration of impact over distance is due to the dynamic on-site setting/use of installation/screenings. The films use quick cuts, overlays, and a dynamic over-arching tension – the viewer has to contextualise the fragments in the short-given, yet repeating screen-ings on-site. Adhering to the festival requirements, *Paranoia* runs at 20 seconds, and *Magnetic North* at 30 seconds, the latter can be viewed here: https://vimeo.com/433662294

5. Conclusion

Several observational notes from this research are as follows – the sketchbook has been moved into a new space/device for ethnographic interpretation. By challenging methods of archival interpretation through the personal, cultural and historical, new opportunities arise for research enquiry. To enable engagement with content, and external archives, allowing time to develop and build personal internal archives over extended periods, can be advantageous. This is seen through reimagining and recontextualising archival/historical material into new stories, onto new platforms making representation of loss of voices/her-itage/landscape values, visible.

Aligning and underpinning theory has informed the research, by embracing alternative thinking from other disciplines. Application of deconstructive and postdigital theories supported advanced duality, authorship consideration of sketchbooks. Drawing on techniques from fine art, animation and design impacted the use of mixed methods – a hy-brid, risk-taking approach led to the creation of new ways to engage with

content, materiality and image-making. This contributes to contemporary digital practice. A blended iterative approach with reflective engagement indicated new ways of viewing/using these tools. Democratic use of analogue, mechanical and digital applications and technologies, supported the building of a visual vernacular.

Placing the personal, intimate sketchbook pages into new spaces, challenges environmental/public display and viewer participation. This transformative practice through the sketchbook, questions how significant connections can be experienced. Alternative use of digital media advertising screens challenges new modes of messaging, communication and dissemination. The research created other spaces to encourage 'useful' mistakes, finding value in the discarded, unfinished and raw. Participatory actions, interventions and interruptions engaged technologies to control them (rather than vice versa). By limiting options within technologies and content (use of anti-narrative), research can be engaged, deeper, through problem-solving. Consideration and application of the 'in-flux' are significant for the different phases a sketchbook can take, both as a position and output. The use of process, as finality, offers opportunities to shift the paradigm further.

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"Gameful" thinking of hues: A color study of three videogames

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Abstract

This paper explores the role of the color in a video game, aiming to demonstrate how color might improve the overall playing experience for the player by bolstering the game's narrative and fostering emotional and symbolical connections. It begins with the premise that there is a significant connection between the feelings that an individual experiences and the colors that they see, and that this connection is established through instinctually human, social, and cultural connections. In order to do this, three distinct video games are examined, and their many uses of color and the ways in which it is used to influence the emotions of the player are observed and evaluated.

1. Introduction

Numerous fields contribute to a better understanding of color, including physics, biology, psychology, art, and design. Color allows the artist to evoke emotion, the game designer to stress function, and the marketer to differentiate themselves [1]. Although there are currently several studies on color, and its role in films or painting, more in-depth studies on its use and application in videogames are only now starting to emerge.

> With media such as film, the color tends to be analyzed. (...) In the film, we see how colored lighting can foreshadow an event. (...) Videogames follow these rules as well and even used color as a tool in design [2].

The language of videogames is continually evolving and has been ingrained in the vocabulary of the players. The interface and universe of a videogame are designed so that a person with no prior knowledge may learn and comprehend its features quickly and intuitively. Examples of this language are the green or red bar representing health, the blue bar representing magic, and the yellow bar being energy [3].

Recent years have seen an increase in the number of research that investigate how the thoughtful and intentional use of color in videogames might influence the player's learning ability while also influencing their

feelings and immersiveness in the game. Colors are as crucial to the context of a game as sound, coding, and graphics. They can add to a sense of immersion in a setting or explain how to utilize a certain object.

A game designer who has a firm grasp on the many functions served by color will be able to craft a more effective means of conveying with players. Oftentimes, designers employ space, movement, environmental lines, and color to direct gamers to their destination without their knowledge, by, for example, implementing color trails that guide the eye [3].

Even though the primary function of color in games is to facilitate object recognition, such as apples being red in videogames because they are red in real life, making them easier to distinguish, there are numerous other applications and uses for color, including marketing and branding, level design, influencing player behavior, and evoking emotions. [1].

This paper aims to study and analyze how the experience of the player may be improved as a consequence of the intentional and intelligent use of color in videogames, resulting in improved gameplay. The games that will be discussed in this article are *Gris* (2018) by Nomada Studio, *Limbo* (2010) by Playdead, and *Journey* (2012) by Thatgamecompany, due to their intelligent and rich use of color.

2. Color, immersion, and emotion in Game Design

Using color well in games is vital for eliciting emotional responses and immersing players in believable digital worlds. Developers may make a place feel colder by using whites and/or blues, energetic with greens, mysterious with the usage of purple, or any manner they wish by toying with different hues.

Studies have been published trying to understand the effect and relationship between color and emotion in videogames. In 2010, Joosten, Lankveld and Spronck conducted a study exploring the impact of colors on emotions and investigated the potential use of colors to evoke different emotions in video games. The authors employed a video game that incorporated different colors, each associated with a specific emotion, in four distinct scenarios. They focused their research in the relationship between the emotions and colors in Table 1 [4].

Emotion	Color
Surprise	*Light blue*
Fear	*Dark green*
Acceptance	Light green
Joy	*Yellow*
Anticipation	Orange
Anger	*Red*
Disgust	Purple
Sadness	Dark blue

Table 1 – Emotion and Color relations as used by Joosten, Lankveld and Spronck in their research.

Joosten, Lankveld and Spronck observed that only novice participants exhibited emotional reaction effects to color. Unfamiliar videogame players utilize the visual elements, including the colors of the game to interpret the scenario, therefore, they are unconsciously more attentive to visual stimuli. This study related substantial impacts of the colors red and yellow on emotional reactions. Red relates to wrath, which generates a highly aroused, negative emotional reaction, whereas yellow is related with happiness, which evokes a highly aroused, positive emotional response. They argue that game designers may use certain colors to alter the emotions of players, particularly novices [4].

Index	Completeness	Psychological Association
1		Happiness, Peacefulness, Authority, and Persistence
2		Powerfulness, Warmness
3		energetic, radiant, Anti-Depressant
4		Aggressive with a threat probability
5		Truthfulness and Responsibility
6		Cool and Entertaining
7		Warmness also Logical
8		The sense of safety and quietness, Not tiring and boring
9		Inducing an unusual environment to intensify understanding of special moments
10		Quietness and deepness
11		Inducing an unusual environment to intensify understanding of special moments
12		Friendly and casual
13		Inducing an unusual environment to intensify understanding of special moments
14		Quietness and deepness and not annoying
15		Inducing an unusual environment to intensify understanding of special moments
16		Quietness and deepness and a little exciting

Table 2 - Color chips obtained from the color psychology principles (association, combination, and completeness).

In another study from 2019 the authors Roohi and Forouzandeh, analyzed color psychology concepts such as association, combination, and completion to derive a suitable and harmonious coloring scheme for an adventure game. In this research, a comprehensive study was conducted to compare the sensation of immersion, performance, and behaviors of players in intuitively constructed game modes to those in versions built using color psychology principles [5].

The authors present the following table (table 2), that represents color relation with emotion obtained from the color psychology principles.

Roohi and Forouzandeh reached the conclusion that incorporating color psychology concepts into the design of computer games increases the amount of immersion experienced by players with a typical visual system. In addition, the results imply that incorporating color psychology concepts into game design can influence the performance and conduct of players. The creation of more believable computer games would result from using color psychology concepts in real-time mode to game characteristics such as a player's competence [5].

All of these studies demonstrate how much the use of color can affect a person's behavior, their way of interacting with different elements, and their perception of them, all elements that, when understood and applied by game designers, allow them to manipulate the way the player interacts and reacts with the entire universe of the game, causing them to make decisions they are unaware they are making. In the next part it will be possible to see how designers did take advantage of color to create a better, more immersive videogame.

3. Game Analysis

The ability to manipulate color in a videogame may have a significant impact on how a player progresses through the game and how much they enjoy it. The following video games make use of color to express feelings, enhance immersion, and produce richer narratives, so enhancing the overall experience for the player.

Gris is a game about the philosophy of colors; not only does it tell stories about colors, but it also causes players to correlate colors with emotion and experience. This relationship is unique to each participant depending on their own experiences. Nomadic Studio was able to elevate Gris' narrative by utilizing color in a dynamic manner. Each game level symbolizes one of the five phases of grieving, and color is employed to convey the intricacies of sorrow and therapy [6]. Each of its four stages correlates to a distinct hue, illustrating different facets of the protagonist's journey [7].

The videogame Gris begins with a vibrant scenario in which the protagonist, also named Gris, is singing. This opening's color scheme conveys a sense of tranquility and gentleness to the player which is abruptly shattered as the main character suddenly loses her voice, the earth underneath her collapses and she crashes in a colorless, gray wreckage [7]. The white background becomes a symbol of destruction and devastation,

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the first stage of grief, denial, characterized by numbness and a refusal to accept the truth, as shown in Figure 1.

Contrasting with the white background, the color red dominates the next level. In general, the symbolism of the color red is associated with suffering. The extended exposure to the color red causes a significant rise in the player's heart rate. Utilizing red graphics, gamers began to discreetly simulate such bodily chemistry, as demonstrated by the aforementioned research. By employing a deep, strong shade of red in the game, the player begins to experience the same emotions as Gris.

The following level is represented by the color green. In general, green is associated with growth, nature, and life; but, in this game, green represents a deal. It seeks to find a consensus in eliminating sentiments of loss, a need to reach out to God or other entities or individuals who may be able to alter the outcome and stop the pain. Yet, green is not the only hue present at this level; red is still present. It was more than simply an artistic choice. This helps to demonstrate that the progression of the character is not linear, where moving to the next level erases the previous one. Grief is an up-and-down journey in which a person experiences each stage one at a time and simultaneously, experiencing pain, fury, and other complicated emotions. By this use of color in the game, the designers convey to the player how difficult the grieving process is, so generating a deeper connection between the player and the narrative.

This level concludes with the color black, a manifestation of Gris's darkest aspect when bargaining fails, and the protagonist and player are still dominated by sadness. Darkness has become a new experience. Gris feels helpless in the face of such a terrifying truth. Black represents the character's unwillingness to move on and overcome her sadness, as well as her most illogical and profound fears, from which she attempts to flee.

Blue is the next hue to appear, as shown in Figure 2. Even though blue can be associated with calm, peace and purity, darker shades can be associated with melancholy, sadness, and deep depression. Another perspective describes how blue light influences impulsivity to a certain degree.

Blue, although being a relaxing hue, represents melancholy in essence.

After blue, yellow emerges. A little golden light illuminates the route of Gris. The color yellow increases the players' focus. In addition to caution, the hue may evoke feelings of hope. It vaguely brings the protagonist back towards the road of acceptance and into the light. These selections perfectly describe the stage. Acceptance is a deliberate and patient process.

By combining abstraction, aesthetics, and subtractive, all the colors combine. By mixing colors to create white, all colors are there but cancel each other out. White has always been associated with rejection. Black is

Fig. 1 – Image from the game *Gris* showing the first stage of grief, denial, subdued by a intense off-white hue. https://nomada.studio

Fig. 2 – Image from the game *Gris* showing the stage of depression, where the color blue takes stage. https://nomada.studio

also a sign of disorder, which is prevalent but difficult to subdue. In conclusion, Gris is a philosophy of black and white hues. It concerns tranquility and storm shelter.

It is the combination of color and architecture that helps *Gris* tell its story. The game doesn't have any dialogue or narration, instead relying entirely on visuals to convey the narrative. "We tell a big part of the story through the statues while relying heavily on the colors," Mendoza explained in a interview "The colors mark the progression of the story and the characters. That's why at the beginning we did a color script to see the general palette of each area to make sure it worked well with the story." [8] Despite the fact that the game could just as easily convey the tale of the levels, it performs a great job of painting a narrative in sloppy lighting. Transitions between stages are not usually simple or even linear. It becomes an arduous trip that requires persistent effort to accomplish. [6]. Any other usage of color in this game would not be able to convey the tale and narrative to the player; it would break immersion and make the narrative feel distant. Without uttering a single word, game designers and developers are able to convey a better, more immersive tale that may move players to tears through the use of color.

In other hand, Limbo is a two-dimensional videogame featuring a monochrome color scheme with extremes of light and darkness, where greyscale images and sparse background music are used, resulting in an unsettling, haunting atmosphere. This game is stripped of all its visual complexity to return to the essentials of art: light, shadows, color, and composition. All these elements are what brings Limbo's beauty to the forefront. Every object in the game is rendered as a silhouette, giving this bleak and desolate environment a hue of mystery. The grey background makes the world of Limbo mysterious and otherworldly, which is exactly how it behaves from a game design perspective and how the story supports it [9].

No one knows the genesis tale of the main character, a young child. His surroundings consist solely of darkness and shadowy figures lurking in corners. The contours and shadows are exaggerated, as if the world were viewed through the hyper-realistic lens of a kid afraid of the dark. Because of this, each shadow is piercing and menacing, concealing something incomprehensible inside its depths. One might say this game lacks color, however, the truth is that is field by a rich grey palette, which create amazing and intense contrasts. Limbo is a wonderful illustration of how stunning silhouettes can be. And yet, how terrifying it might be to not know what lurks in the shadows.

The game's captivating qualities make it a true work of art within its medium. The game's basic aesthetic and intriguing use of darkness also place it in its own category. The use and application of color, or rather the absence of color, heightens the game's experience, its horror, intensifying the grotesque deaths and drawing the player into the universe, leaving him fearful in the face of a world that proves to be totally hostile to the main character and, thus, to the player himself. The use of this monochromatic palette with high contrasts makes it possible to play with the

Fig. 3 – Image from the game *Limbo* showing its intense black silhouettes, and the intelligent use of negative space and composition. https://store.steampowered.com/app/48000/LIMBO/

Fig. 4 – Image from the game *Journey* showing the harmonious use of greens and pinks at one of the game stages. https://journey.fandom.com/wiki/Journey

psychological concepts of good and evil, safe, and dangerous, resulting in a game of divergences that is not only visual but also psychological, penetrating the player's head and affecting their emotions.

Limbo stands out by its visual simplicity, compared with other videogames. Tue lack of visual and audio stimuli gives the players the feelings of emptiness, silence, and simplicity. The minimalist aesthetic adds weight to the game's dreary content, helps the player focus on the narrative and gameplay, while still being able to show a complex world with a deeper meaning and a rich narrative, even without any text.

Lastly, but no less important, Journey, seen in figure 4, is a third-person perspective game in which the player traverses an interactive landscape of ruins and desert while experiencing the passage of a person's life. Unlike other games, is neither about solving a complex problem or vanquishing a formidable foe, nor is it about the goal; rather, it is about the path itself. This game is, as its title suggests, a physical, spiritual, and figurative journey.

In this game, each scene has its own dominating hue, which provides the player with an emotional understanding of the scenario and the narrative storyline in a particular line. An example of this emotional response to color comes in one of the levels of the videogame where green and pink hues dominate the scene. As individual hues, the pink hue evokes feelings of harmony and enjoyment in the player, while the green/lime-green hue promotes relaxation. The combination of the two colors generates a harmony between them, which strengthens their pleasant effect on the player, enveloping her in a sense of security and tranquility [11].

As the game advances, the flow of color throughout the game provides its own story without using words, only presenting the player various settings through color and music. She undergoes a variety of abrupt transformations as well as gradient transitions between scenes, which accentuates every emotion conveyed by color.

Its design is so simple that colors are essential to its narrative. It was no accident that the protagonist is this shade of red. During the entirety of the game, the color red is never lost in the surroundings. It is no accident that the tonal values are never excessively harsh. In other words, no color is too close to complete black. This imparts a rather mellow aesthetic to the game's overall appearance.

When the player goes through the game, they first traverses zones of yellow, red, and orange hues. It stimulates curiosity and enthusiasm. The player then descends into the depths of the blue with terrifying streaks of light. Danger is nearby. When escaping the chilly tones, the player is once

again immersed in warmth throughout a thrilling rise.

Journey is an excellent tribute to the color wheel, philosophy and psychology. Each location offers a crucial feeling to the entire narrative. The player's quest involves more than simply traversing the desert and ascending the summit. It's all about the colors and how they lead the player through an incredible story that may be interpreted in a variety of ways.

It is essential that Journey utilize color well. The selection of color has a significant effect on the players' emotional response to the environment. As a metaphor for how the story progresses from scene to scene, the creators of Journey used a color script, seen in Figure 5, that allowed players to see how the colors change throughout the game. On the other hand, it is important to balance the game into different schemes of harmony, such as analogous and complementary colors. Without these, the game would display a whole different set of feelings, and the emotional journey would be less dramatic.

With the assistance of dramatic shifts in value, hue, saturation, and temperature, the designers were able to portray a variety of emotions in each scenario. It influences the narrative by allowing the player to navigate emotions and comprehend its environment using only what is immediately visible. Combining the colors from the prophesy and the game's growth establishes a connection between the two. Every scene has its own hues and, hence, its own emotional narrative [11].

3. Conclusion

For those who work with color, it is important to understand how it affects people. Color is often the most significant part of a painting, product, or design because of its significance in culture and everyday life. It is not sufficient for an artist or designer to develop a product in any hue; they must also consider how their choice will affect the spectator. Even a comprehensive understanding of color harmonies, such as how two or more hues can be combined to generate an endless number of new colors, cannot guarantee that viewers will get the artist's message [12]. It is consequently the responsibility of the game designer and developer to have a comprehensive understanding of color theory and psychology, as well as its use in universal, social, and cultural settings, in order to enhance the enjoyment of the many color components.

A weighted and proportionate application of color, or the absence of it, as shown in the games analyzed in this article, allows for a more intense narrative, creating an emotional and powerful environment that captivates the player.

The fact of the matter is that as technology has advanced, the video game industry has increasingly explored its more artistic and visual side. This can be seen not only in the improvement in the visual quality of its images, but also in the way that they use design elements, such as color, to elevate their games. This has led to the point where video games can be

compared, in terms of artistic and emotional richness, to films and paintings, thereby elevating the game to the status of an artistic object, despite its role as a commercial product.

In this work, it was possible to understand these contributing aspects. Despite the fact that it is difficult to define color, its influence, and the ways in which it can be combined with light, shadows, composition, and line, especially when taking into account how personal the psychological and philosophical meanings of color can be, the study of these games allowed for an understanding of how color is used to reinforce the experience that the developers wanted for the players while they were playing the games. This was made possible by considering how personal the meanings of color can be. It amplifies every emotion and how emotionally invested one is in the information provided by the scenes.

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AI in visually based creative industries: impact, challenges, and predictions

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Abstract

Different generative AI models, such as Stable Diffusion, Dall-E, and Midjourney, were introduced to the market within the last year and have disrupted the creative digital industry. This quickly leads to legal disputes, determining not only what kind of protection artists' artwork has but also how fast artificial intelligence (AI) technology will develop. This article investigates how AI has already affected the digital visual industries and what changes, challenges, and new opportunities await in the near future. At the end of the article, the authors present predictions about how AI will affect various specialities in digital visual industries.

1. Introduction

Recent development in Artificial Intelligence (AI) technologies are seen as the game changer in the digital visual industries. Although AI tools are not something new in digital visual industries (in fact, it's been used in various industries for decades), 2022, arguably, will be remembered as the year when the practice of how digital visual art is produced changed forever. And there is one particular reason for that – AI-generated visual content became (as many industries' specialists describe) "actually good" [1], [2], [3]. In other words, AI tools reach the qualitative point where they can not only significantly change digital visual industries' work practices but also substantially affect the visual artist's livelihood.

And although, at the moment, it is still not clear what kind of relationship there will be between AI (as a technological phenomenon) and digital visual art creators, it is already apparent that AI is a genie that is out of the bottle. Therefore, this article aims to review the current situation (with a focus on visual creatives and their practices) and identify the key challenges that AI technology (and digital visual industries) will have to resolve before it will be fully implemented in the creative processes of various digital visual industries in order to enhance it. And what creative positions AI, most likely, will eliminate.

It is important to note that with rapid advancement in the AI field in recent years, there has been an increasing number of studies about the

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use of AI in creative industries. However, most of the studies focus on the technological aspects of AI [4], [5] or on the nature of creativity [6], [7], [8]. Therefore, this article will focus on how AI affects digital visual creative practices right now and in the near future.

In this review article, the authors will first provide a general overview of artificial intelligence technology in the context of digital visual industries. Secondly, the article will give a general overview of how AI technologies prompt the need to redefine and broaden current legal practice and how court decisions will impact the further development of creative industries. Thirdly, the authors of this article will explore how artists judge this new technology and its impact on their creative practices. Finally, the authors will conclude this article with short remarks and our predictions for the future.

2. What is artificial intelligence, and how it creates an image

As with most new technologies, AI tools aim to produce the required results faster, more accessible, more accurately, or cheaper. And in some cases, AI even can deliver results that would be impossible with alternative tools [4]. It is important to note that AI has made this impressive revival over the past few years thanks to advancements in Big Data technologies [9]. In other words, Big Data and AI work in synergy – Big Data analytics employ AI for higher-quality analysis. At the same time, AI consumes a massive scale of data to learn and produce higher-quality results.

This synergistic relationship between AI and Big Data is a crucial element in understanding how AI functions to produce digital imagery. It is essential to address that although such popular AI models as *DALL·E 2*, *Stable Diffusion*, and *Midjourney* use a different approach to train AI to produce imagery, all three tools require pre-existent visual data (photographs, paintings, movies, and video game stills, CGI renderings, etc.) that corresponds to a given label that defines the visual data. Or, to be more precise, Stable Diffusion (an artificial intelligence product used by Stability AI, DeviantArt, and Midjourney) was trained on billions of copyrighted images [10] or almost 240 terabytes of data [11].

Most major AI image generators use a process known as *diffusion*. This process is described (in laymen's terms) as first "adding noise to an image, reducing it to a pixelated mess" and "It then learns to recover this data by reversing the noising process" [12]. And paired with the AI model's ability to understand between an image and the text[5] (or labels) used to describe it, AI generators can produce various visual interpretations and reshuffles of learned visual data.

At the start of 2023, the most popular AI generation tools have already proven their ability to produce high-quality visual content. However, the visual content generation process still has drawbacks. First, the user needs to fully control what the result will be. Of course, AI can provide completely unexpected solutions (a feature that is often cited as an

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5 The text commands for AI are referred to as prompts.

advantage of this technology [13], [14], [15]), but when the user has some specific desired result in mind, working with AI can become tiresome, frustrating, time-consuming, and in the end - fruitless. Second, such tools as Midjourney naturally tend to present solutions replicating the compositional and aesthetic solutions most often repeated among the analysed data. This means that Midjourney is not inclined to experiment and come up with visual solutions that violate the aesthetic canons it has learned.

Third, AI technology still has an almost comical level of inability to comprehend hands. And this problem will take considerable time to resolve, as the AI models will need to be fed significant amounts of 3D content (instead of 2D pictures that AI is basing its understanding on right now) before it can produce accurate results [12]. However, once this problem is resolved, AI most likely, will be able to deliver not only 2D results but also 3D content.

3. Artificial intelligence and transformation of legal practice

New ethical and legal challenges were identified as soon as the AI models produced tangible results. For example, in 2020 European Parliament's study on "The Use of Artificial Intelligence in the Cultural and Creative Sectors" [4] identified that AI-generated content is challenging authorship, ownership, and copyright infringement. However, these legal and ethical challenges have been addressed in public interviews, academic studies, and white papers much earlier. Some of these problems were forecasted in fictional literature by authors like Isaac Asimov almost a century ago. However, 2022 is the year when named issues were no longer of theoretical or philosophical nature.

At the moment of writing this article, the questions stand unresolved with a practice that all images generated by AI models don't have attributed copyright to any person. Thus, effectively making it public domain. And this means that anyone can use everyone's AI-generated imagery. However, as of January 2023, when three artists - Sarah Andersen, Kelly McKernan, and Karla Ortiz - filed a copyright infringement lawsuit against Stability AI, Midjourney, and DeviantArt, claiming that these companies have infringed the rights of millions of artists by training AI tools [10], [11], [16] situation is about to change drastically. And the outcome of this lawsuit will determine the future of AI and artists.

This court case is as important as it is complicated. Because copyright and authorship lawsuits are complex even when AI is not involved. In this case, the court will have to create an entirely new precedent that will affect whole industries and the livelihoods of digital artists. One of the critical decisions that the United States District Court for the Northern District of California will make its determination whether AI-generated art is derivative or transformative. A decision that will have a far-reaching effect on artists, creative industries, and even how AI research will be conducted.

Because as the European Parliament's study on the use of artificial intelligence in the cultural and creative sectors [4] notes, the decision on how firmly an artist's work should be protected can not only cripple the advancement of the technology but also influence how further technologi-

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cal innovations will be conducted. In other words, if for-profit organisations can not use copyrighted data, it can sufficiently hinder future research and innovation processes. And as Buning argues [17], future copyright law amendments need to consider taking balanced legislative action, leaving room for the fair balancing of public and private considerations.

But while the previously mentioned lawsuit is still being battled in court, the U.S. Copyright Office has already turned away an AI-generated piece of visual work and firmly stated that any artwork a human does not produce cannot be copyrighted [18]. Thus, at least for now, artists have a substantial advantage in cases where the customer needs to maintain exclusive rights to the artwork. Therefore, if an enterprise wants to monetise from produced artwork in the USA, AI technology must be used as an additional tool in the artist toolset, not as a gadget that replaces the human voice.

And while the exact relationship between AI technology, visual artists, and *for* and *non*-profit organisations will be determent in legal and legislation courts in the following years, it is safe to predict that AI technology is here to stay. In other words, the results of legal courts may influence how protected artist copyrights are and what limitations AI models have to collect data. But, in the end, just like photography in 19 century and the digitalisation process more than a century later changed the landscape of visual art, AI technology has already started redefining visual art's creative process. Furthermore, not only the way will change how digital art is created, but also what job positions will need to adapt and what will disappear. The education sector will also have to be reshaped because of AI technology, as some formidable skillsets in universities are soon to become absolute.

4. Artificial intelligence and the creative industries: discussion

It is interesting to witness how AI is already reshaping digital visual industries. But, of course, the most publicly noticeable aspect is the outrage of the prominent artists as they observe how AI threatens their livelihood... which generate image based on their artwork! For example, one of the most famous and renowned modern concept artist Greg Rutkowski has been used as a prompt around 100,000 times just in Stable Diffusion [19]. With led to an interesting, albeit negative, situation where AI-generated artwork started showing up when the concept artist googled his name. Naturally, most digital artists quickly realised the danger to their image (brand) and livelihood in such a situation. This situation soon led to demands from the digital artists' community to portfolio platforms to implement tools that would prevent AI models from using their artwork. Which quickly escalated to litigation.

But there are other, less visible aspects of how AI technology is affecting now and may affect artists in the near future. For example, in an ironic twist, one illustrator was banned from a Reddit forum for posting artwork that looked too much like an AI-produced image [20]. But the story does not end there - when the artist explained that this is an artwork produced

by him personally and not AI, the response from the moderators was that "Even if you did 'paint' it yourself, it's so obviously an A.I.-prompted design that it doesn't matter.". The message from the moderator then concluded with suggestions to find a different style because "A) no one is going to believe you when you say it's not A.I., and B) the A.I. can do better in seconds what might take you hours.". This situation suggests that soon not only that AI can take away some creative tasks but also tasks that fall under particular visual styles.

However, one study identified that humans perceive the value of paintings made by AI as lower than the value of those made by humans when the creator of the work is known [8]. This suggests that the signing (or another form of identification) of creative digital artworks will gain new and long-unheard importance. In other words, in the near future, there will be strong motivation for an artist to find ways to clearly identify the artworks as created by them and not by AI.

Another important AI-related topic that must be discussed is how AI will transform the pornography industry. And this topic requires analysed from different aspects. The most concerning ones are non-consensual AI-generated deepfake pornography. And this particular AI technology can be weaponised to produce pornographic content to humiliate and/or mentally attack a targeted person. This can become a terrifying issue if effective legal and technological measures are not taken soon. However, there could also be a positive side. If pornography can be produced without the involvement of actual humans, that could (at least in some capacity) limit human exploitation.

Another interesting aspect that AI technology may foster is fantasy genre pornography. And in this particular case term fantasy is referred not to sexual positions or role-playing situations but such concepts as orgs, furriers, or any other fantasy creatures or races. This aspect of AI-generated pornographic and erotic imagery will provide very interesting data about humanity's sexual fantasies.

Before presenting future predictions formulated by the authors, it is important to note a few things. First of all, the outcome of the AI copyright infringement lawsuit in the USA will have a significant impact on how fast and effectively AI technologies will revolutionise creative industries. Still, it is highly doubtful whether the court will be able to stop the use of AI technologies effectively. The most likely case is that AI models will be obliged not to use certain authors' names as prompts, but this will not fundamentally change the arrival of the technology.

Second, these predictions are formulated through data triangulation: (i) literature analysis, (ii) authors of this article's personal experience using various AI models, and (iii) authors of this article's personal practical experience with various visual digital content creation. Our predictions for how AI will affect various specialities in digital visual industries:

> - The digital concept artist's speciality will take a hit quickly. Still, it will eventually return to being a stable and prestigious profession in the creative industries as it will become clear that even with tech-

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nological advancement, AI cannot generate high-accuracy results. However, fewer people will likely choose this career path due to a substantial training period before becoming sought after in the digital visual industries.

- Image stock platforms will have to adapt to the new situation. Most likely scenario, image stock platforms will have to form partnerships with AI companies to access user-generated content and change their service to providing content storage and convenient image search services.

- Illustrators and designers specialising in one-off artworks (like covers and thematic illustrations for magazines and books, covers for music albums, design elements for websites, designs for T-shirts, postcards, and tabletop cards, etc.) will effectively lose all income from small to mid-level companies. Of course, designers will need to do the final touches, but the specialists that will survive in the future will be the ones that can work fast, cheaply and provide service to many clients simultaneously.

 In the animation field, at least the jobs that require strong creative input will not be affected by AI technology. Some highly repetitive and non-creative positions may be more efficiently automated than now (like colouring, in-betweening, lip-sync, etc.). However, in the end, these positions still will need a supervising human. The only area the AI may take completely is an experimental animation, usually required in various events as a thematic display in the background. Illustrators specialising in producing fantasy, fairytales, and similar genre book covers will soon lose all income from small to mid-level publishing houses. Therefore, the only specialists that will survive AI will be those with a unique style and/or name that brings additional (marketing) value to the product.

- Storyboarding and comic book artists will not be affected by AI in any meaningful way, as these professions require vast amounts of illustrations of consistent quality, style, and recognisable elements (characters, backgrounds, props) throughout. However, AI technologies will provide somewhat effective tools for smaller-budget film production to test some ideas in storyboarding format. The same goes for comics – people that don't have financial resources and/or necessary drawing skills will have tools to produce relatively simple comic books. Thus, AI technologies will provide opportunities to those who would not otherwise create storyboards and comic books.

- For architects, AI will have only a positive effect, as AI will help to generate various ideas but will be unable to provide anything that could challenge architects' services. This could somewhat change as AI will learn to generate 3D models. Still, even then, the AI impact will be limited to small-scale solutions due to quality, liability, and human security concerns.

- Logo designers will not feel any substantial adverse effect, as this is a high-end luxury service that companies want to have complete copyright control. However, AI may attract small business owners that would not want to invest in logo design production in the first place.

Fig. 1. Image generated with Midjourney: "Science conference on animation. In 2D style.". The top illustration was generated in January, and the bottom one in May 2023.

Additionally, it is essential to note that AI technologies will provide tools for people who want to create a visual identity for their presentations, Facebook-based startups- businesses, self-made websites, various visuals for their shops, etc. And in this case, it is essential to understand that this is not a zero-sum situation because it is doubtful that these people would invest in producing original artwork in the first place. Thus, although there will be a considerable increase in the visual content generated by AI in the near future, only in some cases will it automatically mean that it takes the potential income from digital visual artists.

Undoubtedly, AI technology will also create new creative positions that did not exist just a year ago. For example, one will be an "AI artist" specialising in visual content generation using AI technologies. The need for such a specialist was identified almost as soon as AI models began to be widely used. Because as Bieg noticed [14], it takes time and experimentation to understand how AI models connect visual meaning to words. Furthermore, even at the time of writing this article, there are already job postings for "AI Artist" [21] and "AI Concept Artist" [22]. Therefore, it is very likely that shortly most digital creators will be encouraged by their employers to be reasonably familiar with the AI-generating design methodology.

On a final note, the authors of this article would like to believe in a bright future where AI becomes another creative tool in the hands of professionals and amateurs. However, such a future is unlikely. The bureaucratic mechanism is likely to continuously drag behind the technological advancements for a considerable future until a satisfactory (or equally unsatisfactory) solution is found to protect the rights of digital creators and the ability of AI developers to improve this technology further. Furthermore, as AI develops and becomes better able to create realistic images, many ethical dilemmas will arise, starting with issues such as the right to own one's artwork, identity falsification, and ending with images of violence and pornography. Finally, there still is the question of how much AI technologies will affect the motivation of future developers. It cannot be ruled out that advancing AI will shape the perception of visual designers as another unattractive, time-consuming to master, but low-demand profession.

The only sure thing is that AI has changed how digital art will be produced and owned.

5. Conclusion

There is very little doubt that AI technology has the potential to revolutionise creative industries. At the very least, AI, as a new tool, will open different content-producing opportunities for various specialists in visually based entertainment fields. However, several challenges must be addressed to successfully utilise AI tools in digital visual art industries.

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First, it is essential to understand not only the ethical implications that AI-generated creative work brings but also how it will affect the artist's ownership rights.

However, although there are still many unanswered questions about how AI will affect digital visual industries, the authors of this article recommend that all digital artists familiarise themselves with the most popular AI models and identify how to use this tool to supplement their work. And, in those cases where AI may replace job positions, to do the same as creatives did when the photography and digital revolution happened – to look for the creative aspect that no technology, even intelligent, can accomplish. And what should never be forgotten is that no matter how automated the creative process could be, it must still be overseen by a person who fully understands it.

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Haunting and Hauntology in AI Collaborative Image-Making

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Abstract

This paper documents the Author's experiments with 3D-based AI image generation software, identifying within the visual outcomes a tendency towards hauntology that is seemingly the result of the collaborative image-making process as well as a material quality of the method. The paper suggests that a combination of the authors own aesthetic concerns and working methods, combined with the tendencies inherent within the training method used to develop the Stable Diffusion AI model, results in images that are haunting in a number of ways that align to the conceptual framework of Hauntology: through unexpected traces and glitches; anachronism; notions of shared dreaming / remembering; and through the invocation of the poor image.

1. Introduction

The promise - and threat - of Artificial Intelligence has had an incredible impact upon the public imagination in recent years. During the early 21st Century advancements in AI research have transformed a seemingly distant futuristic fiction into a real and tangible force within our daily lives. With increasing computing power in both networked, home and mobile computing, many of the tools and systems that we regularly engage with have become increasingly augmented or replaced by machine learning and AI tools – from predictive text, search engines, and intelligent image-manipulation and refinement, we interact with unseen and unknown AI systems on a daily basis.

However, the release of publicly available AI models such as Dall-E and Midjourney has brought powerful and new image-making methods into the hands of creatives - who are both keen to test and explore the creative possibilities of these tools, as well as anxiously imagining the potential impact of these same tools upon their own professions. AI tools seemingly offer up a double-edged sword to the artistic community - at once promising to revolutionize swathes of creative practice through their speed and ability to collaboratively produce professional-quality images or provide rapid idea-generation [1], [2], but also raise philosophical questions regarding notions of creativity and the role of professional artists [3], [4], [5], [6], or even threatening to replace wholesale entire creative practices [7]. Whilst it is obviously relevant to consider how creative AI

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might impact upon professions and livelihoods in future, such musings
are better covered elsewhere, and are beyond the scope of this paper.

However current thinking tends to gravitate towards a belief that AI
offers strong potential to augment creative practices, acting as a col-
laborative tool and enhancing creative practices rather than supplanting
existing roles or methods. There then arises questions of materiality and
affordances – what does this medium or process contribute to the image
making process and outcomes, and how might a collaboration create dif-
ferent kinds of images than those that can be achieved alone? This paper
explores one particular case study of AI / human collaborative image
making, documenting the authors own experiences of using a 3D-based
AI tool (Dream Textures) in combination with 3D software (Blender); and
locates within these images artefacts and features that align to notions of
haunting and Hauntology.

Fisher's writings on Hauntology are used as a lens for reading and
contextualising these images, as they seek to address questions of tech-
nology and notions of the future or futures; appropriation and re-appro-
priation; and presence and absence – each of which are concerns that
have been raised in relation to AI, and which mark themselves as relevant
issues in the documented visual outputs of this research.

2. Dream Textures

Before exploring the visual outcomes and findings of the author, it is
worth taking a moment to describe the software and processes behind the
image-making. The research made use of Blender 3.4.1 with the Dream
Textures AI addon installed.

Blender is an Open-Source and free 3D software package. Blender
combines modelling, texturing, animation and video-editing, and can be
used in the production of a range of media outputs and formats. Blender's
Open-source nature allows for interested parties to build and share
addons – modifications to the core software - that augment, extend, or
modify Blender's toolset and processes. Dream Textures, developed by
Carson Katri, is one such addon that implements the Stable Diffusion AI
within Blender to allow for the creation of images, textures, and renders
that can be applied to 3D models.

The Stable Diffusion AI model uses natural-language text 'prompts'
in order generate images based upon the user's input. The user describes
through a short sentence what they would like to see in the image, and the
AI interprets this into an image or set of images. Starting from a random
noisy image as a starting point, the AI iteratively refines the image, select-
ing what to retain and what to augment within the image. This is achieved
by comparing each iterative outcome with the AI's learnt model based
upon its' subsequent fit with the textual prompt. In order to successfully
identify when the image is correctly fitting the textual description, the
AI is trained on large sets of captioned images, and each subsequent AI
model is a culmination of its training and dataset. Early models such as
Dall-E 1 exhibited surprising if somewhat limited abilities to approximate
human-made images, however its second iteration (Dall-E 2) has been

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notable for its ability to produce images that are often indistinguishable from professional outputs, able to render high resolution images and excelling at portraits and the simulation of a number of styles and media.

The Stable Diffusion AI model which underpins the Dream Textures addon used in this research is trained on massive image datasets. These datasets, which are comprised of millions of captioned images, are drawn from across the internet and collated by the LAION (Large-scale Artificial Intelligence Open Network) organisation. According to Baio [8], the LAION dataset includes images taken from a variety of popular websites such as Pinterest, Blogspot, Flickr, Deviantart, and Etsy, as well as more established image-repositories such as Getty and Shutterstock. As such, the AI model is able to present outcomes based upon training that utilises publicly available images (not necessarily publicly licensed images!), including historic and contemporary paintings, illustrations, and photography, produced by both amateurs and professionals. As such the AI is capable of reproducing or imitating a very broad range of processes and can imitate to varying levels of success recognisable artistic styles – as long as these styles feature and are identified within the model's training dataset.

Whilst many of the currently available image-making AI models exhibit similar properties in their text-to-image abilities, the Authors' interest in Dream Textures - and one of the innovative features of the addon - is its' ability to utilise depth information from a 3D scene in order to guide image generation and composition. Many examples of AI image generation such as Midjourney can build new images based upon existing visual images as a seed or starting point (instead of a noisy seed image), however most existing models are restricted to using the colour information from a prompt image only. In comparison, Dream Texture is able to read information such as the depth and colour of objects within the scene in order to accurately map images to the 3D space. As such Dream Textures not only presents a more natural approach to AI image making within the authors own creative work process, but also enables greater levels of control which reflects the kind of processes and methods that professional artists are more frequently accustomed to. Unlike in previous models, issues of layout, composition, and depth can now be addressed and easily revised without relying upon crude textural description. In other words the authors' own 3D models provide the basis for building a scene or final image.

3. Process

For this research project the process of image generation started quite simple, with the author using primitive shapes (cubes and planes) to build a rough approximation of a physical space – a kind of 3D sketch. Initial experiments built from single objects to more complex scenes made up of walls and a few suggestive items of 'furniture'. Primitive objects such as cubes would be laid-out in front of the 3D camera in a basic composition that would test the AI's ability to read and engage with depth information (e.g overlapping shapes, arranged using perspective

rather than plan or side projections). Unlike in other methods of 3D image-making, lighting was not utilised, and the set-up of the scenes was relatively quick, often taking minutes rather than the more laborious process of modelling and spatial arrangement that would be recognisable to other 3D artists. Subsequent iterations of this process would go on to add more sophisticated shapes and a greater number of objects (although these were still relatively primitive constructions) that allowed for increasing refinement and control of the outcomes. For example, in later tests, houses were made which consisted of boxes with triangular roofs. Simple 'windows' and 'doors' were added to bring architectural details, and crude boxy shapes were added to suggest vehicles or other street furniture. However there was always a level of unpredictability as to how the AI might interpret and render shapes within the 3D space or object within it. The AI appeared consistent in its ability to render chairs and tables, but in one instance turned a primitive car shape into a hedge or collection of dustbins.

Following the initial 3D setup of the scene, the AI would be given an appropriate textual prompt to interpret and apply to the space. Prompts were simple, using a single line of description such as a particular room or place. The AI addon used in this research was capable of texturing (adding colour and fine detail) to single objects or multiple objects at once, and so the experiments proceeded with an approach that would treat the whole scene at once, creating a complete image in one pass. This was deemed to not only be a quicker approach, but also more satisfying visually as it created more unified and visually consistent spaces than ones made of individually rendered components.

For each new image, subsequent iterations of this AI texturing would be deployed using the same prompt in order to allow for identification and selection of the best images, usually working with batches of 10-15 images in total. In later versions of the process, objects within the 3D space would be moved or removed, re-scaled or rotated to further refine the visual outcomes and help guide the AI towards 'seeing' aspects of the scene. In some rare instances, single objects within the scene might be individually selected and prompted to be re-textured by the AI in order to assign a different particular look or feel, however many of these examples were less successful than the more holistic scenic approach to rendering and later iterations abandoned this approach.

In a more successful approach, camera locations would be adjusted in order to refine the composition or achieve different perspectives on the scene. However it is worth noting that the method of applying textures relies on UV projection which is akin to wrapping a gift with a 2D piece of paper, or attaching a 2D map onto a 3D globe. The method of projection used in this case is however somewhat crude, assigning each 3D object a texture as if projected from a set viewpoint. As a result, any change to the camera settings and viewpoint would subsequently result in heavy distortion that, whilst not undesirable in some cases, warranted a revision of the AI prompt to update the scene for anything but minor changes to the viewing-angle.

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4. Haunting

The initial visual enquiry into the process of making collaborative human/ AI spaces started with few preconceptions or preconditions. The author had previously used other AI image generators and was aware of some of the methods for rendering particular styles or kinds of images, and had also seen videos exploring techniques for using dream textures. However the first experiments focused more on setting up very simple shapes (some flat 'walls' and a couple of cubes as stand-ins for some kind of undefined furniture, as well as a more carefully modelled table) and a simple prompt ('a stylish modern apartment'). The AI model defaults to a photographic method of rendering a scene absent of any contravening instruction, and this method was chosen as the most useable method as it would not entail any recognisable artistic or generic style that might impact upon future uses of these images.

The early images were highly surprising, not only in their technical refinement and verisimilitude to real photographs, but also in their relative consistency. Each image gave prominence to visual signifiers of Modernism (rather that notions of being modern), which was particularly pronounced in the rendering of furniture - which exhibited a strong mid-century aesthetic. The AI images also tended to create some elements that were suggestive of strange machines reminiscent of alternative televisions or communication devices, large audio speakers or retro-futuristic fireplaces. Paintings and décor also featured heavily, with examples alluding to a range of 20th Century styles. Finally, the images overall tended to use the 3D shapes to suggest features, but never mapped textures fully to these objects. This left visible signs of the projections falling across multiple objects, such that table legs might be projected on to walls instead (or vice versa), and ghostly traces of the initial 3D space persisted in each image.

Fig. 1 A Modern *Apartment (7). (2023) Paul Roberts and Stable Diffusion.*

Within subsequent scenes the author would variously emphasise textual prompts that would play up the historical focus and request that the AI featured particular periods, or attempt to create specific historic styles – with varying but often limited success, and the majority of experiments avoided overt allusion to a time period or stylistic instruction. Overall, the outcomes exhibited a number of consistent and re-occurring features of these visual experiments that would define these images as strongly hauntological and were evidence of an emerging materiality of the process:

Firstly each image exhibited a *trace*, or *traces* which are presented either through the lingering palimpsest of the 3D model, or as visual artefacts that hint at unresolved (and under-rendered) manifestations of human or other presences in the training images, strongly reminiscent of ghostly apparitions.

Secondly, images tended to feature *anachronisms* that point less to objects / spaces being out of place, but rather being out of time altogether,

as if drawn from an alternative timeline.

Thirdly renders overall exhibited features reminiscent of Steyerl's description of the *poor image* – indications of visual degradation, but also of *poor visual recall* as if the image was a facsimile of a badly remembered space from a dream or old memory.

And finally, as is right for hauntological media, these aspects of haunting also manifested within images that at the same time appeared vaguely familiar, recognisable and homely, whist simultaneously appearing 'other' – unused, unspecific, out of time - resulting in a sense of the *unheimlich* or *unhomely* (the 'uncanny').

The following sections will explore these features in more detail, examining where these features may varyingly point towards material qualities of the medium, and where such manifestations are the result of conscious interventions by the author.

5. Trace and palimpsest

The palimpsest is the surface upon which an image or writing is superimposed, obscuring or erasing that which is underneath. In a much broader sense within the arts, a palimpsest may represent an image that is overpainted, a structure that is built upon, its original form erased.

By its nature the crude projection of a texture onto a 3D object that is inherent to this process is always likely to both erase or overwrite the structure underneath but also retain traces of the original. As the AI experiments developed the author sought at first to find ways of removing these traces – hiding the starting model or fixing the texture to feel more accurately mapped to the object - but eventually settled to retain and in some cases emphasise these traces due to their desireable and haunting presence. As with many aspects of haunting manifested in each of these images, the disjoint between the elements brought about a satisfying

Fig.2 *We moved here to be closer to the sea* (2). (2023) Paul Roberts and Stable Diffusion. Image shows the crude overlay of textures on primitive 3D models leaving traces of the palimpsest.
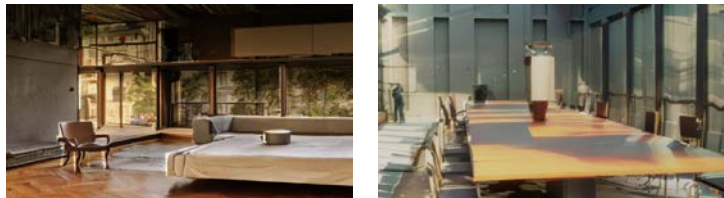
Fig.3 *Meeting Room 12.* (2023) Paul Roberts and Stable Diffusion. *Ghostly apparitions of office workers (middle left) appear as artefacts of the AI image generation process.*

contrast and highlights interesting contradictions of the process – for example, the projection appears more real (although distorted) than its 3D palimpsest despite its artificial origins. The trace highlights the crudeness of the underlying form, which acts as a prototype, but an imperfect one. And importantly the trace points to the notion of presence that Fisher highlights in his *Metaphysics of Crackle* [9]. For Fisher the crackle of Vinyl recordings reminds us of the physicality and presence of recording, as well as the absence of the artist at the same time. In a similar way the presence of the 3D model points towards the artificiality and constructed nature of the image, as well as the trace of a maker.

The second aspect of trace present in these experiments manifested through spectral images of human-like forms that appeared in renders of meetings rooms or corporate spaces. It is likely that such apparitions are a result of AI training on images saturated with human presences (stock images of office spaces no-doubt feature countless smiling faces sat around desks and laptops), and of training methods that prioritise everyday imagery over more controlled and carefully captioned image sources. However these apparitions are doubly haunting – both in their unrequested manifestation (all ghosts are surely unwanted presences?) as well as their seeming displacement within the visual space. These figures do not occupy the space comfortably and instead ghostly office work-ers awkwardly intersect vases and walls like some form of badly applied sticker or transfer; neither part of them, nor apart from them.

6. Anachronism

For Hauntologists and scholars of Nostalgia in the late 20th and early 21st century, a defining feature of modern culture was a sense of asynchro-nism and anachronism. In asynchronism, artefacts, styles, fashions and objects co-mingle irrespective of their origin and supposed belonging. Retro games from the 1980s are played on Mobile Phones, whilst the music of the 60's and 70's plays on Bluetooth ear-buds. In anachronism, objects appear out of time or out of place - the 'ghost' belongs neither to the past nor the present and is strange in both.

Author's such as Mark Fisher, Simon Reynolds, and Franco Beradi - themselves drawing upon the writings of Baudrilliard and Virillio as much as Derrida - highlight how the perceived collapse of time and space in contemporary society is a result of tele-technologies, media that bring dis-tant objects close and vice versa. But for these later writers the technolo-gies of the digital era present more far-reaching effects than the cinema or live television broadcasts and 24 hour news. As Fisher explains,

But here we have a first reason why the concept of hauntology should have become so attached to popular culture in the 21st century. For it was at this moment when cyberspace enjoyed unprecedented dominion over the reception, distribution, and consumption of culture. [10]

Thus, unlike previous technologies, the internet provides a more saturated experience of this collapse, in which notions of the linearity and contextual nature of other media are increasingly broken down. An AI trained on the modern internet can only experience and re-present visual culture as an a-historic, asynchronous or anachronistic mass of image-data. However the production of the asynchronous and anachronistic is where AI seemingly excels. It is not by accident that much of the more compelling examples of AI artwork produced by *Dall-E* or *Midjourney* have been in the production of concept art, science fiction and fantasy images, in which strange combinations of objects and people can unprob-lematically co-exist.

However the sense of anachronism in these particular images is less related to ideas of objects or things being out of place within the image space itself – but rather related to the notion that the space of the rendered

image and all of the content depicted within it is not real and does not belong to a particular space or time. These images allude to photography - to acts of documenting; to a chemical or digital verisimilitude based upon light falling on a film or sensor – but no such original exists, and the image is merely a dream and the simulation of a photographic effect based upon a kind of digital remembering.

The best example of this anachronism comes from a set of AI generated images made by the author based upon a UK living room. The initial 3D space upon which the AI images were based was loosely modelled upon the author's Grandmother's living room, however the space could have been any living room, anywhere. The real house upon which this model was based was originally built in the 1920s and containing furniture and features acquired over a period stretching from the 1950's to the early 2000's. However the 3D seed model presented little of this information besides indicating the rough forms and placement of vernacular items: sofa and some armchairs, the location of a fireplace, suggestion of shelves, a table, a television. The AI was given the prompt of "A Vibrant Colour Photograph of a British Lounge".

Figs.4 There's a paper on the side table (13) and Fig.5 There's a paper on the side table (10). (2023) Paul Roberts and Stable Diffusion. Strange entertainment machines and photographic memorabilia occupy thes AI-imagined lounges.

Fig. 6 The Studio (2) (2023) Paul Roberts and Stable Diffusion. 'Documentary photograph' of the working space of an unknown artist (who never existed).

The resulting AI-generated images produced numerous approximations of objects which at once were both familiar and alien. Within the images, gold-edged frames contained hazy black and white images, shelves were adorned with approximations of porcelain statues, and the television stand-in transformed variously into boxy abstract paintings, or weird machines reminiscent of 1950's or 60's sci-fi props. These objects were at once vaguely familiar and yet out of time and out of place. Absent of the historic markers of brands or familiar cultural iconography (a Haywain or Jack Vettriano reproduction, an Ikea shelf, a vintage clock, or Sony TV), each object and each image betrays it's sense of inauthenticity through its failure to connect to particular memories or remembered objects. In an inversion of Barthes' famous discussion of his mother's photograph [11], there is nothing familiar here, nothing that speaks of a recognisable presence or absence. There is no 'Punctum' as there is nothing to recognise that might prick us. No-one has ever lived in these spaces, or ever will. They are apparitions, mimics, empty stage sets for a drama never to take place.

In another set of AI-generated collaborations the author set a prompt for the creation of an artist's studio. These images presented the working spaces, canvases, and sculptures of forever unknown artists, their reference images hung on the wall, used materials scattered on the floor.

In a 2022 article for SFReview, Emma Dee describes the production of a series of images by Hiroyuki Masuyama that re-create lost historic

artworks originally created by the Romantic painter Caspar David Friedrich. As Dee elaborates, the set of 5 images were carefully formed from historical records in order to recompose and remake these lost artworks. Dee suggests that '[t]he image is essentially haunted by the lost works, created by a series of digital memories and yet not of them.' [12]. In comparison the AI-produced images of the studio series are haunted not only by one artist or their work, but by the thousands of artists who form the 'digital memories' of the AI Model's dataset – and yet also by none at all.

7. The Poor Image

Ultimately, the visual outcomes of this research might be described as 'poor images'. That is that despite high resolutions the images exhibit traits of both being heavily processed (fuzziness, pixelation, distortion, visual artefacts) which is symptomatic of their final production method[2] more often than of the AI models' inability to create hi-resolution images. Moreover these images tend to fit with Hito Steyerl's description of the poor image: itinerant, expressive of errant ideas, reformatted, and defying a sense of patrimony, national culture or copyright. In particular, we might wish to assert that these visual outcomes are very much the product of images that have been...

> ...liberated from the vaults of cinemas and archives and thrust into digital uncertainty, at the expense of its own substance. The poor image tends towards abstraction: it is a visual idea in its very becoming. [13]

At present, AI models are trained on images of a specific resolution[3], and thus have an accuracy and rendering output that by modern standards is somewhat limited, although improving at a pace, and capable of being up-scaled. The resulting images used in these experiments thus tend to exhibit a grainy and imprecise nature, much more reminiscent of mid 20th Century amateur photography rather than the crisp digital images we are familiar with. Such features are exaggerated or can be further emphasised through the use of the 3D processes which underpinned these experiments.

However the images of AI production are not merely re-presented versions of some distant prototype – some kind of low resolution facsimile (fax?) - but are rather re-imagined illustrations of a conjured text, re-built from scratch, constructed from the building blocks of a digital 'memory'. As such the notion of deterioration, compression, or reduction become redundant. The elusive 'original' image has not edited and re-distributed; it is instead pulped and atomised, absorbed, and then remixed with other images – homogenised – in the service of the production of an entirely new product or idea.

Like their 3D counterparts, the AI-imagined textures that would come to be projected within the virtual spaces of this research would be crudely made, distorted approximations - always slightly out of focus,

2 Each AI texture is mapped to the 3D model and then re-rendered at a relatively low sampling setting which results in a significant level of noise and grain.

3 In the case of the Stable Diffusion model used in these experiments, a resolution of 512x512 pixels.

lacking the detail that would give a precision to their form or function. Each of the AI 'photographs' contain approximations of chairs, tables, or books, which never fully cohere into or stable and distinctive features – they are always out of reach and out of focus, as if seen out of the corner of the eye. Whether an artefact of imprecision within its own source images (trained on photos with limited depth of field) or merely the AI's own inability to comprehend exactly what it is that it is depicting each image presents itself as a kind of photographic sketch, or a montage made of crudely pieced together parts. To the AI it doesn't matter if it fools us into believing that the thing described is present, but rather that it bears a resemblance to the thing described – it is a close match.

However this quality again aligns these images with notions of haunting. Each generated image presents itself as if drawn from an archive, it's yellowing colours or hyper-saturated tones present themselves as if a result of some form of chemical degradation, the images' fuzziness alludes to the use of cheap lenses and shaking hands as instruments of the production process. And these false documents of lounges and living spaces present as records of real lives – images found in a family album – rather than the more curated images of fashion magazines or furniture catalogues. Their sense of history is a fabrication, but is nonetheless felt in each iteration, if only fleetingly. Their imprecision in depiction forces us to fill in the gaps of knowledge, to assign a history to the families who we imagine as occupants of these rooms; or build narratives around the tragic lives of the unknown artists who painted abstract canvases in imagined brick and glass studios.

8. The Unheimlich

Fisher's examination of the weird and eerie [14] contends with Freud's notion of the *Unheimlich* or the *unhomely*. Fisher argues that the weird and eerie distinguish themselves from the latter through their relationship between notions of inside (Unheimlich) and outside (weird / eerie) – between the familiar, or f*amilial*, and the unfamiliar and external. Whilst Freud's concept deals with the 'strange in the familiar', Fisher suggests that the weird deals with 'that *which does not belong'* (p10)- i.e that which comes from the outside and is not part of the familial; whilst the eerie deals with the outside itself - such as the landscape – and 'is fundamentally tied up with questions of agency' (p11).

At first glance it might be possible to suggest that the hauntological features that present within these images are inherently of the domain of the unheimlich. Indeed, the majority of the examples present domestic and familiar settings (by design), and each engages with relatively 'modern' settings and themes instead of more alien worlds or fantastical landscapes. Moreover, each renders objects, furniture, spaces in ways that are both familiar and at the same time alien, not quite right. In other words, these images are constituted of the familiar and the unhomely.

However the weird and eerie come into play through an understanding of process rather than content of these images. The collaborative process of AI image making relies upon a hand-off by the artist to an external

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(non-human) other, and whilst a similar process is inherent in many digital processes, the extent to which this hand-off gives agency to the machine is of a more significant extent than previously experienced in other forms of image-making. Whilst it is a stretch to suggest these images represent a spontaneous act of creativity on the part of the machine, the machine does presents itself as an agent, through the manifestation of its desires and its' dreaming. Indeed, anecdotal reports regarding AI such as ChatGPT (a text-based AI) testify to hallucinations and fabrications; outright lies in the presentation of data and the creation of false information.

In many of the experiments undertaken during this project, the AI's sense of will was revealed through its 'creativity', as well as its seeming refusal to conform to the sense of order imposed upon it by its human collaborator. For example, in a series of street scenes, the AI demonstrates a surprisingly persistent predilection towards bay windows (a popular but not ubiquitous feature of some UK housing) in the rendering of a row of terraced houses - despite the seed image containing no-such feature, nor textual prompts to indicate their inclusion. Such an act would not be deemed unusual if undertaken by an artist – we might even assert this as a signature or creative flourish, a sense of personal style – however when performed by a machine, a sense of eeriness becomes the more pervasive mode of reception.

Of course notions of the agency of AI and machine learning lead us back to previous assertions and reminders that these processes are a function of their making and ultimately reflect our own human imprint on machines. The strange familiarity of these images is a testament to the fact that AI models learn from society's stored network memory, representing to us our collective conscience in visual form. The same images that we have stored, cherished, and saved in social media and Pinterest boards, alongside the images that saturate our media landscape are again being re-made for us as a form of digital hyper-montage. AI is merely a function of its creation and the circumstances of its training, in the same way that human artists are a function of their environment. This does not alleviate a sense of the unheimlich, strange, or eerie operating within these images, but it does explain why we might find so many of these images strangely familiar as well as strangely alien at the same time. And this also explains why we are likely to find within current and future AI images many of the biases, predilections and stereotypes that currently haunt our media and data landscapes as well as wider society.

Perhaps then, what ultimately haunts these machine-made images is not so much the AI; instead the human haunts AI images. We are the external agents that seek to bend machines towards our own dreams, desires, and experiences. We are the ghost in the machine. We are the external and weird.

9. Conclusion

The sense of *wrongness* associated with the weird – the conviction that *this does not belong* – is often a sign that we are in the presence of the new. The weird here is a signal that the concepts and frameworks which we have

previously employed are now obsolete. If the encounter with the strange here is not straightforwardly pleasurable ... it is not simply unpleasant either: there is an enjoyment in seeing the familiar and the conventional becoming outmoded. [15]

AI image-making is a relatively new phenomena that has shown rapid advancement in the last decade but is still an incredibly young medium. It is likely that the ramifications of this technology are likely to be significant, as well as unpredictable - especially for creatives. Whilst AI creativity will raise a number of technical, moral, philosophical, and legal questions in the future, it is also incumbent upon artists to consider questions of materiality and the affordances of this new medium. Whilst early engagements with AI have marvelled at the technical abilities of the medium, its' ability to reproduce a range of styles has been seen to be varied. In the same instance we might find exceptional rendering of portraits that are breath-taking in their realness and stylistic mastery, coupled with anatomical in-exactitude that is often comical, if not disturbing (hands with 8 fingers, limbs bent into torturous positions). Aside from questions of accuracy however, this research paper points towards other concerns such as the affect and emotional or intellectual resonance of AI images.

This paper has identified within these AI image-making a tendency towards the hauntological, a tendency that admittedly has been amplified through the collaborative process; but also a tendency that is seemingly inherent to the material process. It has been suggested that the method of training for AI models, based upon massive data-banks of human-made images, and bent towards mimicry or simulation, leads to outcomes that naturally draw out and reflect our own visual cultures. That these worlds appear as distortions is partially a result of glitches, errors, or failed learning – the machine has not been taught what is important, what makes a thing a thing, and within such images we might find disturbing apparitions. But these distortions also reflect the viewpoint of an outsider, an external viewer which is not always burdened with the expectations of the social or familial group.

Through this hauntological approach we might find within these AI images new possibilities, new ways of looking and seeing. Mark Fisher's writings on Nostalgia and Hauntology recognised nostalgia as a problematic symptom of the current social context – a perpetual present that constantly raids and remakes the past. But Fisher also recognised, a la Derrida, the potential for culture to identify within the past alternative futures, different ways of looking and seeing, or things that were missed:

[O]ne function of hauntology is to keep insisting that there are futures beyond postmodernity's terminal time. When the present has given up on the future, we must listen for the relics of the future in the unactivated potentials of the past. [16]

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The Contribution of Co-op Board Games to the Development of Human Soft Skills

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Abstract

The game universe has taken a fast impulse in the past ten years. Despite the growing influence of the digital world, board games represent a vast evolving field within that universe. We highlight the case of the natural development of communities dedicated to the enjoyment of leisure, culture, and socialising moments, brought to life by engaging in board game events. The present research aims to develop a study on the contributions of cooperative board games in the development of soft skills, be it as a group or as an individual, as well as in the assembly of strong and healthier social communities. To this end, the theoretical component of this research will be focused on understanding and contextualising the relevance of cooperative board games within human history and the situation of board games as artistic artefacts and objects of agency. We will also analyse character development and narrative design methods that may ease social integration and the development of core social bonds by the player. Finally, we will gauge the interest of the public in this research through workshops where we will facilitate co-op board game play sessions. The workshop content will be developed by surveying the board games market and by using game research methods. The practical intervention of this research will take the form of a cooperative board game whose players are encouraged to complete a series of fun challenges as a team to advance in our game. The production of this board game will allow us to explore alternative methods of game design, narrative and visual design, and to analyse the adherence of the public to this new experience focused on cooperation to build soft skills.

1. Introduction

Apart from being historical artefacts that allow us to analyse the social and cultural dynamics that built humanity as we know it, board games are one of the beloved hobbies of the public. Playing provides the perfect context for exercising the players' mental and physical responses in a light-hearted environment, be it in moments of fun within our inner circle of acquaintances, or in gatherings involving new groups of players.

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Although we find ourselves progressively drawn to navigate the digital world, whose influence introduced a new era for humanity coined as *Homo Digitalis* [1], cultural and social activities with physical character remain essential for the well-being of humans. This necessity for physical tangibility is visible in today's adherence to board games, as it has increased exponentially in the past ten years [2], with its peak starting in 2019 as a running consequence of the effects of the pandemic. Research conducted by news reporter Jaclyn Peiser demonstrates that the search for board games has grown during the pandemic because games became a sustainable and fun bonding activity for households, serving also as an outlet for the emotional buildup stemming from Covid 19 isolation periods. The two game groups that largely stood out in Peiser's investigation were cooperative games, such as *Unfathomable* (2021) [3], closely followed by silly games, or party games, like *Unstable Unicorns* (2017) [4], and, since then, the production of cooperative games has expanded [2].

Another key fact to remember is the existence of board games whose universe extends from analogue to digital platforms, e.g. *Uno!* (1971) [5]. These games allow players to hang out and engage in long-distance matches, creating worldwide gaming communities [6].

As a result of the relationships built within these online communities, the desire to organise real-life meetings is common, extending these interactions and events to a physical experience. This suggests that the potential of digital media does not overlap with the relevance of the physical presence of analogue games. Not only does being in the presence of people provide sharper sensory cues, such as body language and disposition, that help during the game, but it also promotes emotional and physiological benefits [7].

2. Board Games: Cultural Phenomenon

Although evidence dating back from 5000 B.C.E. is significantly scarce, according to historical records we can hypothesise that game components date as far back as 7000 B.C.E. in a shape similar to dice. Board games emerged subsequently around 3500 B.C.E. [8]. For instance, one of the first manifestations of a board game-like artefact goes back to the first human settlements in the Middle East. This artefact is composed of two parallel rows of cavities carved into the stone floor of an Aksumite Stelae, in Ethiopia, presumed to be a representation of the game *Mancala*. To understand the importance of this game as a social instrument, writer and journalist Quintin Smith analysed the evolution of *Mancala* within African societies, ascertaining the permanence of symbolisms and superstitions connected to the results of game matches [9]. To illustrate this permanence, Smith brings up *Omweso*, the traditional mancala game from Uganda played as a means of social conference, once used to determine how good of a leader or warrior a society member could be [10].

Fig. 1 *Omweso* board, a traditional mancala game from Uganda. Sourced 10th April 2023, from Facts East Africa on Twitter.

Board games were created as a recreational and political activity focused on luck and strategy and were mainly popular among royalty. As the influence of this activity spread, it became linked to religious motifs, dictating if the position of the player would be favourable to the eyes of local deities, or influence their social status [11].

Significantly, when discussing the subject of board games, it is relevant to reflect on the meaning and origin of *play*. The word itself can be regarded as an umbrella term, embracing diverse forms of engagement, and it determines a concept in and of itself. Huizinga explains the extent of the *play* concept by stating that *play* surpasses the limits of evolution [12]. It is a voluntary action that both humans and animals take a part in, although unnecessary for the world to function. This release from biological and psychological duties displays the contrast between play and reality. Blumenfeld proposes a phenomenological analysis of *play* that frames this act as an adoption of a state of mind, which is not determined by the type of activity, type of player or the emotions resulting from such action [13]. In other words, a board game match can be enjoyed as a competition and as a recreational activity, yet, its resolution has an impactful effect on a professional player whereas, for a casual player, its effect stops when the play ends.

Playing provides a situation in which the human brain receives positive feedback [7]. There is a correlation between play and the expression of feelings such as joy, tension, accomplishment and wonder. Although it is not a chore, once played, a game leaves an impression on its players, encouraging them to share experiences and emotional contributions drawn from their game experience [12].

2.1. Board Games as Part of the Day-to-Day Life

Mass production became possible during the industrial revolution, allowing the industry of games to flourish and carving the path for creating some of the classic world-renowned board games [14]. Such is the case of the famous *Monopoly*, published in 1935. A controversial fact behind this game lies in its authorship and origin as we came to know it. *Monopoly* emerged from a marketing ploy that covered the inequitable deal offered by the Parker Brothers for the patent rights to the original game, *The Landlord's Game*, created by Elizabeth J. Magie Phillips. Several variations of her game began circulating among colleagues and other scholars after she patented the original version, in 1904, which culminated in the publication and distribution of *Monopoly* [15].

Although *The Landlord's Game*'s end goal is to amount as much wealth as possible for the player to win, it does so using an equitable system of wealth distribution that guarantees the growth of every player, if the players opt to play within those rules. According to data on the history of cooperative games, this might be the first cooperative board game to be commercialised [16]. Cooperative games were implemented in the 20th Century for educational purposes, predominantly for a younger audience as means of teaching social skills [14]. This category of games has reached a far wider audience nowadays [2].
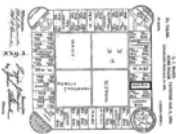
Fig. 2 *The Landlord's Game*, 1904 patent by Elizabeth J. Magie. Sourced 21st January 2023, from the online forum BoardGameGeek.

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2.2. Games Within the Landscape of Art

Until the late 19th century, the concept of a work of Art was alienated from the audience's reality. Art and Craft were two distinct fields of work whose intersection was unheard of, for the fact that the Art within a craftsman's work was undervalued for having a functional purpose, it was not intended for worship of the gaze [17]. Aesthetic value is a modern concept that emerged only in the 18th century, yet it was a characteristic attributed predominantly to artwork, therein lying the cultivated distinction between Art and Craft which is still debated within the artistic community.

Regarding the intervention of the community in the perception of games as Art, Sharp affirms that games and Art are concepts that fluctuate between multiple forms and presentations, they can coexist within their faint boundaries [18]. Moreover, Sharp associates the efforts put into the integration of games into the Art sphere with the phenomenon of comics in the decade 1950. Back then, comic Art was considered a threat to the premises of artistic intent and practice, despite its rise as a cultural icon that sparked an era of experimentation and reconstruction of Art and society [18].

But why is the idea of games as an Art medium regarded as a threat? Firstly, Sharp remarks that the intangibility of a digital game is seen as a product of lesser technical and intellectual skills. We evoke the moral panic installed during the 18th century when novels were made readily available to the general public. Vogrinčič's analysis demonstrates that novels were compared to an addiction that presented fanciful life expectations to the readers, turning them into whimsical individuals. The attitude towards the genre became downright aggressive, with reviews accusing novels and novelists of being obscene and dull [19]. Digital Art was received in a similar light, sticking out as an oversimplification of the analogue artistic process. But if we analyse the instruments used to produce digital Art, we will find materials, canvases and tools that were supposedly absent. They exist in admittedly different configurations, and behave in distinct ways from their analogue counterparts, demanding a whole new process of learning and operation.

Secondly, the introduction of games as an artistic medium continues to be frowned upon because their reproducibility is seen as a debasement of the status of Art [18]. Here we tie back to the similarities of the instalment of comics as a medium. The idea that Art is meant to be a singular experience, one that the audience has little control over, was broken by shortening the distance between the audience and the work of Art. In other words, the ritual instilled by tradition is lost [17]. We believe that the ritual – in its superficial connection to play presented by Huizinga – has become more malleable.

Art is a broad term under which we can find diverse experiences, physical, permanent, intangible, ephemeral or a combination of the above. A game can embody those same combinations. That being the case, it is a valid contender to belong within the umbrella term of Art. Still, when considering other aspects of a game that draw it closer to Art, specifically in the theme of board games, we must understand the visual components and practices in its production, as well as the impact it can have on its audience.

3. Board Game Elements: Process Beyond the Components

3.1. Narrative as Gameplay Enhancer

Good game design and narrative design are essential to provide an immersive experience to the players and capture their continuous interest, perpetuating gameplay. Let's look at narrative as a binding agent, keeping all the parts of production and the final product connected. Breault sorts a narrative designer's tasks into three groups: a) Writing, the bulk of their work, encompassing story elements, script writing, concept and dialogues, to illustrate a few; b) Designing, the foundations of level design and the scripting of the storyline into game events; c) Communication, since game development is often a team effort, narrative designers must communicate with everyone to ensure that the pipeline of production works at its best [20].

In *The Narrative Toolbox* [21], it is possible to ascertain a common description of narrative design as being an enhancer of constant feedback between the elements of the game, leaving enough space for the player to construct their path relatively freely.

Narrative builds a cohesive universe behind the game, accommodating the player with enough clues to complete tasks and missions while keeping a degree of mystery and fun. Supplemented by a storyline, a game can become an immersive experience. E.g., *Stuffed Fables* (2018) [22] is a cooperative story-driven game in which players become stuffed animals entrusted to protect their young human through the scary adventure of sleeping in a big bed for the first time. During the game, the characters face encounters with creatures they must defeat, accompanied by short stories included in the rulebook.

By contrast, games can go beyond or even without the storyline, e.g., in *Exploding Kittens* (2015) [23], a fast-paced survival card game, players must play their cards right to survive the exploding kitten cards until the deck is played, and the last one standing is the winner. A story is not necessary to play and enjoy the game, because the tension provided by the system works as a motivation element for the players.

Through academic and practical research, we have found that a storyline promotes the effective emotional investment of the player in lengthier gameplay that involves problem-solving as a team. E.g., *Dungeons & Dragons* (1974) [24] campaigns nurture the practice of intense storytelling to partially conduct the trajectories of a game session. To accomplish the role of storyteller and mediator, the campaign has an elected dungeon master who devises the narrative and challenges that the players will confront.

With this in mind, we are complementing the narrative of our game with a storyline that is revealed to the players as they move forward. The main plot is presented at the beginning of the session since it's essential to motivate the players to seek the goals of our game. Each player is also provided with a random character card that gives them an insight into the qualities of who they are in the story. In our game, the players are impersonating a group of friends who sign up for a contest as a team, and each one has skills that prove useful during gameplay. The randomised distribution of roles, while not crucial, preserves the sense of curiosity in the portrayal of different characters.

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After running tests of our game in this simplified version, which we dissect in section 5.1, we are working on the possibilities of expanding the plot. For instance, once the team starts shuffling through the deck of challenges, certain cards will cue events related to the contest and the world to which the storyline belongs. Some of those events will affect our game directly, by becoming part of the in-game challenges, while other events will be inconsequential to the main plot, as they are aimed to engage the players in comedic short intervals similar to cutscenes in video games.

3.2. Game Prototype Visual Development

A rich component that can add to the appeal of a board game is the illustration. While a good game is not dependent on illustrations to be functional and fun, it can benefit from the aesthetic interest brought to the product. While board games might have started with a focus on playability, with visual development emerging as a second thought, nowadays the possibilities are so vast that game designers seek to explore and refine ideas in various approaches [2]. The system of a game can exist through the visual components, going so far as eliminating the need for the written word if proven unnecessary.

The board game *Forbidden Island* (2010) [25] constitutes a compelling example of the balance between visual cues and the use of the written word. It challenges players to work as a group to rescue four treasures from a sinking island. The island is built with a series of twenty-four tiles that correspond to different sections of terrain. The players draw cards from a treasure deck and a flooding deck. As the flooding cards are collected, their corresponding tiles are turned upside down and turn monochromatic to symbolise the intermediate state before the section is fully sunk. The speed at which the island sinks is dictated by specific flooding cards

that ramp up the water level marker. While the tiles sink, players can use special actions drawn from the Treasure deck. Each treasure has two specific tiles where it can be rescued, so players must pay special attention to those.

In this game, illustrations are a visual system and a form of entertainment. The compositions and colours used in the section tiles and corresponding cards are compelling, as we can briefly examine in Figure 3. We embark on a journey through several environments, where contrast, hue and saturation change our perception. The style of illustration helps set the mood for the narrative of the game, presenting us with semi-realistic depictions of elements and places.

We consider the synesthetic experience to be an engrossing theme to explore in the board game world. The human senses are connected to reflexive memory [26], from the way we unconsciously reach for an object with our hands in the precise width to grasp it to the vivid memory of scent when looking at a picture of chocolate. The narrative we are writing for our game, plays off the act of planning and cooking meals, seeking

Fig. 3 *Forbidden Island*, Matt Leacock, C. B. Canga (2010). Sourced 21st January 2023, from the online forum BoardGameGeek.

to stimulate the senses of players to create a fun and appealing game environment. In a broad description of our game, the team must go on a scavenger hunt to find the correct ingredients they need to cook the menu they will present at the contest of their village.

Food is a visceral component of our experience of the world. To accomplish the immersion in a somewhat synesthetic gameplay, we adapt the rich cultural significance of comfort foods and a few refreshing combinations. Illustration and colour become crucial in this connection because they trigger memory and imagination as the food cards are revealed to the players.

4. Cooperative Board Games

The categorization of board games suffers recurrent changes, driven by the growth of the industry. Every year, about 3000 games are launched with help from Kickstarter alone [2]. While some resources organise game categories according to their mechanics, others include a broader range of possibilities, with lists ranging from the ten most common categories in the market [27] to comprehensive analysis that classifies about eighty-four categories and one hundred and ninety mechanics [28]. This diversity allows for several categories to coexist in a single game. If we examine the components of *Forbidden Island* we can identify other categories beyond Cooperation, such as Diceless Board Game, Action/Event and a simplified form of R.P.G.

When referring to the number of players, there are two game modes: Single-player and Multiplayer. The former refers to games whose mechanics work with only one person. The latter requires more than one player to function. Within Multiplayer, you find games that allow for a competitive dynamic, in which players fight against each other, or a cooperative one. *The 7th Continent* (2017) [29], Figure 4, can be played in single-player and multiplayer modes, due to a choose-your-own-adventure mechanic. A player can explore the 7th continent on their own or have more players to build a team of explorers, each one with their skills.

Fig. 4 The 7th Continent, Ludovic Roudy, Bruno Sauter (2017). Sourced 21st January 2023, from the online forum Board-GameGeek.

When referring to a system of cooperation, collaboration comes up as its immediate synonym. Although both dynamics aim to search for better results in teamwork, provide a space for socio-cultural interactions and encourage active learning, they differ in certain aspects. Collaboration is present when there is constant interdependence in the actions of a group, focusing on the individual skills of each person and the process first, then the outcome. Meanwhile, in cooperation, there is a focus on both independent and dependent actions, promoted under a set of rules, the outcome being the goal of the system.

In recent experiments with a rough prototype of our board game, we have found that although general mechanic is set to work in cooperation, a collaborative system can merge seamlessly within the gameplay. Considering this finding, the focus of this research is cooperative gaming with an interest in the possibilities of collaboration to allow for personal

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growth. Importantly, a cooperative game must enable a multiplayer experience, since cooperation anticipates the presence of a team of players instead of an exclusive single-player mode.

Belonging to a community is a natural human behaviour that helps shape individual identities. Sharing ideas with a group complements our individual experiences, giving us an expansive perspective of the world. John Sharp emphasises this by encouraging the audience to question themselves on "Who do we play with? Who do we work with? Who do we talk with about these things? Who helps us understand, who makes us aware of the different cultural artefacts that are out there?" [18].

The appeal of cooperative games lies in the human necessity of creating bonds and memories, whether with people we know or with new acquaintances. These interactions allow us to connect, share what we think and who we are and engage in entertaining activities, stimulating the response of positive neurotransmitters.

5. Our Game

To optimise the development of our game, we followed Breault's article guiding questions [20]. Our audience is centred on casual groups of players. Research evidence on Serious Games or Cooperative Play focuses on implementing this category in a corporate environment to improve teamwork by using team-building exercises disguised as games. In this re-

boardgamequest.com	*Life of the Amazonia*, Jamie Bloom (2023)	*Arydia:The Paths We Dare Tread*, Cody Miller (2023)
dicebreaker.com	*Septima*, Robin Hegedüs (2023)	*Daybreak*, Matt Leacock, Matteo Menapace (2023)
ign.com	*Gloomhaven*, Isaac Childres (2017)	*Pandemic Legacy*, Rob Daviau, Matt Leacock
wargamer.com	*Gloomhaven*, Isaac Childres (2017)	*The Crew: Quest for Planet Nine*, Thomas Sing (2019)

search, we look at casual players as our target because we believe this type of game can improve the well-being of society, beyond the work industry. As for the expectations of our audience, we conducted a content analysis of qualitative data, which revealed that examples of cooperative board games have hit the Top 10 list of Best Board Games of the Year consecutively since 2017. Broader research was applied to the year 2023, revealing that this data stands strong, as shown in Figure 5.

Fig. 5 Qualitative data chart disclosing Cooperative or Cooperation inclusive Board Games suggested as some of the best games to play in 2023, according to analysed websites. Sourced 24th of April 2023.

Captivating illustrations carry a meaningful aspect in the lifelong enjoyment of a board game. Having ascertained that an investment in rich illustrative assets is relevant to the appeal of our game, complemented by the choice of a gastronomic contest as the main theme, we are developing a deck of cards with cosy village environments, fresh ingredients and compelling character designs, as illustrated in Figure 6.

To further fulfil our players' expectations, we are considering a series of systems and respective mechanics that come into play at different moments of our game, e.g. role-playing, resource gathering, trading and challenge solving, with Cooperation as the main mechanic. We chose this type of game dynamic because board games are social activities that are often

Fig. 6 First draft of the board from our board game, as of 12th February 2023.

engaged to complement a casual gathering. Cooperative games, like party
games, have the advantage of encouraging active conversation. The chal-
lenges and communication games we are implementing in our game are
key ingredients for this phenomenon. Upon the completion of the game
prototype, which we project to be produced from late July to early August
2023, we will then seek to promote it through a Kickstarter program.

5.1. Early prototype testing

As of early May, we have conducted two major test runs of the early proto-
type at several stages, with two different groups.

The first test was conducted with a skeletal version of rules and assets in
which players had to brainstorm a menu entirely from memory, similar to
a cooking chef contest, with no visual guides. Ingredient cards were only
presented as the game moved forward. At this stage, we found that this
rule hindered the beginning and continuity of the game as the possibilities
they triggered were too vast. We also noted that the game engine needed
refinement, specifically concerning the distribution of points to the play-
ers and the game, considering that the game engine acts as the fictional
opponent in the storyline.

During the second test, we provided a simplified set of rules and a
deck of recipes for players to choose from. At this stage, we had refined
the illustrated components of our game and they proved to be of interest,
as they allowed the first round to begin swiftly and lead to a productive
discussion between players which provided a series of suggestions for
future expansion packs. We observed that the balance between challenges
and event cues present across the board needed some adapting. Players
indicated that the gameplay is fun for the average thirty-minute session,
but with the possibility of extending the game time, our game could
provide an improved experience if there are further events aside from the
main story. From this discussion, we drafted a new board version for our
game and an extra number of possible storyline events.

6. Conclusions

Our research focuses on the study of Cooperative Board Games for their
potential as mechanisms for improving social skills, now commonly
known as personal soft skills, and how these can contribute to the well-
being of the world at large. Playing also constitutes a form of catharsis
from life when we consider the weight of daily tasks and cyclical situa-
tions that may wear away at our well-being. With this in mind, we find that
leisure provides the necessary rerouting from obligation and survival. By
playing board games, we emulate reality in fantasy settings and learn how
to strategize, communicate, and plan actions while having fun. Finally, we
can benefit from spending time with people who are close to us and even
with unknown persons, therefore broadening our circle of acquaintances.

By introducing a game system that puts players to the test as a group,
we aim to stimulate a natural chain of cooperative action and reaction
and to coax players into engaging in a wider span of skills. Aside from the
common skills gained by engaging in games, namely ambition, creativity

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and decision-making, players must improve their adaptability, empathy, reliability, motivation and conflict resolution. Players will also deal with individual decision-making and accountability, operating on the collaborative aspect of a cooperative game that promotes personal growth. The narrative will blend the systems and mechanics smoothly into our game, allowing the educational aspect to become inconspicuous.

Provided that a mechanic of challenge and reward exists to encourage players to work together, another critical ingredient for a good cooperative game is fun. This element is not only implemented by the integration of the systems mentioned above but also by the illustrative work created for our game. The illustrative component promotes a considerable portion of the intellectual, emotional, and sensory stimulation we aim to achieve. Having said that, the board game that we are developing is not meant to be perceived as a chore but as a potential event that people engage in to have fun, seamlessly stimulating the necessary growth so individuals operate well as a group.

In the near future, we are organising a series of board game sessions to test our prototype in its most recent stage of production. Such tests will be run with a diverse audience with different levels of gaming skills, and also with a control group. These sessions will allow us to foster social events in which we can work alongside our audience to refine a game that connects with its players. Friends and new acquaintances will work together to achieve goals and engage in fun activities that encourage growth both as a group and as individuals. We will encourage an open discussion with our players so we can explore and brainstorm about our game, an activity favourable to both our target audience and ourselves.

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Visual Music Film as a project for Design and Multimedia Students

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Abstract

In all areas of visual communication, motion is becoming an abiding element of interest, as the ubiquity of digital screens and the algorithms of social media inevitably result in high demand for dynamic visual content (1). Traditionally, the basics of visual communication are taught with a focus on 2D graphic relationships and gestalt theory (2), but these concepts can only go so far in satisfactorily preparing students to produce audiovisual artefacts in time based media. A key area of visual art that explores the relation of abstract visual languages with sound and motion is Visual Music, in which artists explicitly explore analogues between sound and vision in film, performance, and interactive media. Accordingly, this paper discusses Visual Music as the theme of an exercise for undergraduate design and multimedia students. It provides a brief background section that describes the concept of Visual Music, with reference to key practitioners such as Mary Ellen Bute, Oskar Fischinger, Len Lye, and Norman McLaren; and refers to contemporary examples in music videos by Hextatic, Alex Rutterford, Studio Moross and Michel Gondry. However, the main focus is on the description of the exercise itself, which included a workshop on responding to music through drawing; the creation of a visual score, intended to encourage a systematic approach to the work; and the main output of the exercise, which was to produce a video that directly translated a piece of music into moving image. Through an analysis of resulting videos, several categories of student work emerge and are discussed, including abstract motion graphics; figurative animation; stop motion animation; live action; and typography. In some cases, students used generative or interactive processes to produce the video, suggesting that further iterations of the exercise could incorporate these possibilities more directly.

1. Introduction

Attempts to create synchrony and analogy between moving image and sound have been made for over a century, stretching back to the first abstract film to be publicly screened, Walter Ruttmann's Opus 1, 1921 (3) and if Visual Music can be defined as "time-based visual imagery that establishes

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a temporal architecture in a way similar to absolute music" (4) then origins can traced back further, to the projected coloured lights produced by colour organs in the 18th Century. Mollaghan however, considers Visual Music to be "the representation of music in visual form; a music for the eye, a visual music" (5) that has an inherently hybrid nature. For the purposes of this paper, and of the exercise that is described, *Visual Music* is considered to be a hybrid audio-visual text that includes both sound and image. There is a rich history of artists working in animation, film and video who have strived to express musical ideas and interpretations in visual motion form, and indeed, these attempts have been the drivers of many innovations in animation and film (6). More recently, there has been an abundance of audio, visual, installation, and performance artists who have continued to elaborate connections between visual and audio media (7). Indeed, the exploration of audiovisual relations continues to be a rich area of investigation for many, from computer scientists (8) to contemporary practitioners such as The Light Surgeons, Universal Everything and Daniel Temkin. Certainly, design and multimedia students should be encouraged to explore fields that investigate analogies and overlaps between sound and vision. This paper describes a brief that introduces undergraduate students to the idea of Visual Music by challenging them to directly interpret and translate sound to motion graphics. The project is enriched by several key activities, such as contacting musicians for permissions, a listening and drawing workshop, and the development of a graphic score. A wide variety of solutions were produced by the students, and an analysis of these and the distinct approaches that can be identified are discussed with the intention of improving future iterations of this brief. It is the hope of the authors that certain characteristics of the project, such as the use of specific limitations; the inclusion of a workshop of an experimental character; and the and the linking of avant-garde art movements to contemporary practice; could be considered potential ingredients for the inclusion in other projects in future.

2. General principles of Visual Music

The seminal works of Visual Music began to emerge in the 1930's, as artists such as the aforementioned Walter Ruttman, Oskar Fischinger, Mary Ellen Bute, and John and James Whitney brothers began to make experimental films that pared non-figurative animations with music in closely linked compositions in which the images appear to be directly analogous to the sound, often through synchronisation, but also in many other harmonious ways. In Fischinger's Optical Poem (1938), an animation made with paper cut geometric shapes hung on wires was designed to directly represent visually the Second Hungarian Rhapsody by Franz Liszt, many specific connections between sound and image can be noted. For example, darker shape represent lower notes; shapes appear in time with musical notes and diminish in size as the sounds fade away; segments of music with different moods are accompanied by a change from circles to squares, or squares to triangles, and so on. Mary Ellen Bute produced related work around the same time, Rhythm in Light (1935) used a mixture of cardboard models and found objects, all of which were

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filmed in ingenious ways to create complex patterns and shapes that were arranges to make clear relations with accompanying music. In later work Bute collaborated with Bell Labs that to create an oscilloscope with which she could create moving abstract shapes that were directly affected by sound, the results of which can be seen in her films Abstronic (1952) and Mood Contrasts (1953).

Some exponents of Visual Music who have attempted to define a direct relation between audio and visual properties – mapping pitch to a vertical accent for example – but there are many possibilities, as summarised by Betancourt, "the phrase and measure can be treated as distinct entities analogous to shorter blocks of sound upon which synchronization is conventionally based; separation of image components can be based on the components of musical instrumentation; and the relative dynamics of the music can serve as guidelines for dynamic equivalencies within the image" (9). When Visual Music artefacts work well, they create an affect that Chion calls "synchresis", meaning that the sound and image become linked to such an extent that they produce a new compound meaning, a "spontaneous and irresistible weld" (10). However, others have pointed out that Visual music film makers do not necessarily need to strive for rigid synchronisation but rather articulate a form of visual alliance based on aesthetic harmony instead of strict audiovisual synergy (11). It can be argued that highly synchronized approaches may fail to capture the expressive vision of great works of music, which are based on a multidimensional interplay of tension and resolution (12). Free Radicals by Len Lye (1958) can be seen to have taken this kind of more multidimensional approach, as the improvisational nature of jazz performances are accompanied by spontaneous and expressive marks drawn directly onto the film stock. It is a correspondence between the aesthetic intention of sound an image that provide the potential for a richer relation.

3. Visual Music in video clips

Although there is much to be written about contemporary Visual Music, from the recent video installation of Cristian Marclay to the culture of VJing that developed over the last two decades, to recent games and apps with their varied interfaces that mix graphics and music, for the purposes if discussing this academic project, the most relevant examples come from music videos. The aim of the project was to create a short video to accompany a chosen piece of music, and so this field is too relevant not to mention.

Most music videos explore synchronisation between sound and image to some extent, usually in terms of including lip synching and dancing combined with editing in such away that the images change with some relation to the rhythm of the music. There are examples, however, of much more elaborate and deeply explored "synchresis" between sound and image in the field of the music video. There are some examples that have such a close linking of sound and image, such as Timber in 1998, by Hextatic and Coldcut, that it is almost impossible to separate the two (13). The music itself is composed from the sound that accompany the clips that constitute the video – both were constructed of clips from a Greenpeace

film about rainforest destruction – thus, the video is not only an innovative artefact but also a powerful cultural and political statement.

Alex Rutterford created elaborate 3D animations for Autechre's Gantz Gaff that, while aesthetically very much in the 21st Century, undeniably owe a debt to Visual Music in the way that all of the incredible textural richness of the music seems to be directly represented in the twitching and morphing graphics of the video. Another example of a music video that is closely aligned to the principles of Visual Music is Studio Moross's video for Synthesise by Simian Mobile Disco from 2009. The many percussive and melodic elements of the pulsing electronic track are reflected in bouncing and flashing black discs presented in various sizes and patterns that clearly have specific connections to the music. The images are given additional visual depth by being projected onto the walls of a warehouse at several angles, so that details such as pipes, ladders, wires and other architectural details give patina and texture to the video.

However, the director that has most explored the possibilities of Visual Music in music videos is arguably Michel Gondry (14). Many of his videos could be usefully discussed here, but to select only the most essential then we should note the video for The White Stripes's song, The Hardest Button to Button, from 2003, that literally represents every beat of the drum and stroke of the guitar by using jump cuts to add drums after every hit and amplifiers after every stroke so that streets and metro stations are slowly filled with the representation of sound. Or the equally impressive video for Star Guitar by The Chemical Brothers, also from 2003, in which the passing view seen out of a train window is perfectly synchronised with the music so that every element of the landscape appears to have an analogue in the audio composition. These examples were among those shown to the students to stimulate their interest in the project.

4. The Visual Music project

There were two main reasons for doing the exercise: firstly to challenge the students to develop abstract expressive graphic languages and to apply it in motion, and secondly; to encourage the development of skills in accurate editing and synchronisation of motion graphics to sound. The (mainly) generally non-figurative characteristics of Visual Music make it particularly relevant for design students in our opinion. The exercise also included an aspect that added further value: students were encouraged to contact and engage with artists, composers and musicians and to share their finished results. This should facilitate the development of collaborative and communicative skills and also motivate the students to produce high quality results that they could then share with the authors of the music.

4.1 Visual Music Workshop

To initiate the project and introduce the students to the idea of graphically representing sound, a workshop was devised that focussed on spontaneous drawing in response to music. This workshop took the form of a two hour long, practical class.

Several pieces of music were selected that seemed as though they

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would lend themselves to the task. The criteria was that the music should not be overly familiar, so that ideally it would be a first hearing for most of the students; each track should be distinctive in comparison to the others; the music should consist of sounds and samples that were not easily identified as specific instruments, so that students would need to use their imagination to represent them; and that the compositions of each song should have several

phases and a certain amount of complexity. The tracks used were No Sass, by Photay; Dreams by Romare; Hidden Cities by Memotone; and All Your Dreams by Punk Androids.

Fig. 1. Example of drawings produced during the workshop

Each track was played four times and in each case the students were given a different drawing task. In an earlier iteration of this workshop, students were simply asked to freely interpret the music with drawing, but this had certain drawbacks, since many students were unsure what to do and found it difficult to begin. Using more directed tasks proved to be more engaging for the students.

The drawing tasks were as follows:

> 1. General interpretation. To warm up, the students were asked to draw anything that captured the general mood and 'feeling' of the piece of music. A few students drew little in this stage but at least it allowed all students to familiarize themselves with each track.
> 2. Continuous line. Next, the students were asked to choose in a single colour and to make a continuous drawing without stopping their hand or removing the pen or pencil from the page. This task allowed even those students who were less comfortable with drawing to begin mark making and allowed for a more direct physical response to the music.
> 3. Identify sounds. The aim of this task was to identify specific sounds and to define them with an invented name and symbol. This task produced varied results as different students focussed on different sounds. It also produced many discussions between students as they tried to understand which sounds had been identified by their colleagues.
> 4. Composition. By this stage the students had listened to the same piece of music several times. It was now possible for them to create a timeline or map of the whole piece of music that shows how the composition changes over time and its various sections.

After each task, time was allowed for the students to discuss the activity and to relax their concentration before beginning to draw again. Once the four tasks were completed, the students were encouraged to walk around the classroom and to observe the different results.

4.2. Graphic score

It could be argued that any piece of sheet music is a graphic score: dots, lines, and calligraphic marks skipping or plodding along a gridded time-

line. However the experiments in musical notation that blossomed during the 1950's and 1960's truly shattered the limitations of conventional notation just as the compositions of John Cage and Karlheinz Stockhausen had shattered ideas of what music could be some decades before (15). Although the making of graphic scores was originally a necessity in order to give instructions to orchestras that went far beyond merely playing the instruments (modifying a piano's strings with screws and erasers, for example), soon it became a practice in itself, with some scores becoming just as well known for their graphic appearance as their sound such as Earle Brown's *December 1952*, an austere but beautiful arrangement rectangles organized in widely spaced grid.

The graphic score that was requested from the students for this project was to accurately plan the graphic response to the musical composition, rather than to make music on the basis of graphics, although, perhaps, this could be the basis of another stimulating challenge for multimedia students. The 'making of' video of Michel Gondry's Star Guitar video clip for the Chemical Brothers, (16) provides an excellent and practical example of how a piece of music can be notated in an invented graphic notation that can then be used as the basis for constructing a Visual Music film. In this video we see Gondry drawing on graph paper as he repeatedly listens to the track, then to demonstrate the point, the film maker reconstructs his video using oranges, forks and other familiar objects to represent each sound, as opposed to the landscape objects that appeared in the actual video.

The drawing workshop described above was intended to focus the students on careful listening and open some possibilities for formal translation of images into sound. The task of producing a graphic score required close study of their chosen music and served in some ways to side-step any potential creative block the students might experience with such a seemingly difficult project. By insisting that for each sound, that the students made a graphic representation, no matter how simple, the construction of the films could begin even before any concept was necessary, although in most cases the visual style of the graphic score's were quite different from the finished films.

4.3. The films

The students responded to the brief in various ways, producing a heterogeneous body of work that included some unexpected approaches[3]. Many films used an abstract visual language of basic geometric shapes, using circles, rectangles and triangles (in a style reminiscent of the films of Oskar Fischinger) with some students limiting the graphic vocabulary even further, in one case using only lines for example. In other cases, that were particularly satisfying to see, students were able to maintain an intelligible visual logic — that maintained abstract relationships — while using live action footage, but with carefully composed frames and intri-

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3 At the time of publishing, the films produced by the students are not available online, but at a future date it will be possible to see them at: https://dm.dei.uc.pt/

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cate editing to accurately connect the images to expressive and rhythmic characteristics of the music. Unexpected solutions included a video that used a dingbats font composed of pictograms to playfully create rhythmic sequences. Students were asked to write a short synopsis for their projects, which allow the inclusion of some of their own reflections in the following descriptions.

Wholly abstract

One of the challenges of working with limitations and systematic approaches to graphic work is to find ways of pushing the system to its limits – and it is often at these point that the projects really reach a higher level both conceptually and formally. A project that was quite satisfying in this regard started with a very simplified system, using only of horizontal and vertical lines to represent the sounds in the music. Within this approach, that perhaps seems unpromising, the student was able to express different musical moments by increasing or decreasing the number of lines, their proximity, their position either from left to right or up and down and the thickness of the stroke. These parameters already provided a lot of possibilities for varying compositions, that the student gave an emotional sense by changing the background colour through palette of harmonising colours that become more saturated as the music becomes more intense. Then, once this basic system is established, approximately half way through the video, a bass distortion sound enters the music and the lines respond by trembling on their axis. This change has all the greater effect because it seems that the power of the sound is disrupting the otherwise incredibly stable grid. Thus, the gesture of breaking the system of lines derives its potential by the consistent way in which the system is first constructed.
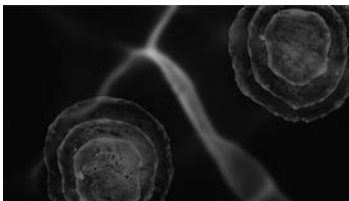

Fig. 2. Richly textured motion graphics

Fig. 3. Still from a video using generative graphics.

Projects that successfully used basic geometric forms to communicate were those that were able to suggest a coherent fit between visual design and sound in terms of the choice of shapes, colours, and organisation on the screen. For example, one project used a centrally positioned single purple disc to mark the bass drum. This form stayed permanently on screen but was augmented at each main beat, while a snare drum was represented by a line of white rect angles that appeared regularly spaced a long the screen until the end of 16 bars of music, then disappeared to start again. The consistency of these elements gave a structure that allowed for other more dynamic shapes to appear that marked more sporadic melodic moments.

Although basic geometric shapes were favoured in those work that used an abstract graphic language, there were some novel responses,

such as that of one student who created amorphous forms that moved in a fluid, flowing style. This work also applied digital textures to the graphics, which created the illusion of more substantial, solid matter. Other students went further still to introduce produce abstract forms with more visual richness, one student included photographs of layered rocks and crystals for example, while another printed shapes with blocks and ink to allow for variations and serendipity.

Generative and interactive

There were some students who went beyond the restrictions of the brief by using generative elements. Instead of directly creating and animating all of the visual assets, these students introduced motion graphics that were automatically modified by the music. Despite this being outside of the realms of the exercise, the results were still interesting, so I will briefly describe them here.

One student used processing to transform sound waves of the chosen music into a densely layered 'misty' landscape that 'pulsed' like a 'breathing organism'. Unsatisfied with the result, the student re-filmed the resulting visuals with their phone so that they took on a grainy, low resolution appearance. The same technique produced softened looking typography that blurred in and out of focus.

In another project, several moving elements that move automatically in time with the music, such as graphs and revolving discs, slowly appear on a grid inside round corned rectangular frames. The resulting composition resembles a dashboard or modular synthesizer system. At a crucial moment in the composition of the song, this rigid structure breaks apart and the Chinese glyphs of the lyrics float dynamically across and around the screen.

Although the music is not represented with manually controlled detail in these two projects, the creative and well considered responses made a valuable contribution to the exercise. In both cases the students sought to represent the general character and composition of the chosen music.

Figurative animation

Although the definitive references of Visual Music all used non-representational imagery, some students decided to make illustrations to represent the sounds. One film that was made for a song entitled 'Let it Go', took on the theme of a journey and so associated the various sounds of the music with elements of landscape: mountains for bass sounds, wind mills, aeroplanes and cactuses for certain other noisy samples, the wheels of a car turning for more constant rhythmic sounds and so on. The refrain of the music was represented by text written on passing road signs as well as large letters drawn in the same style line as the illustrations.

Stop motion animation

A surprising response to the brief was a film composed of looped stop motion animations, which were associated with specific samples in an instrumental hip-hop track, so that just as each sample repeated several times, so did the clips. In an attempt to avoid the monotony of this

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repetition, the student at times dived the screen into two, four, eight or 16 segments so that the same clip could be multiplied or combined with others. Sometimes a short clip was repeated at first and then allowed to run in a longer version – a loop of a splash in a glass of water worked well with this approach; at first the water only splashed up and down, but later it in the film it spilled over to create a growing dark puddle around itself. In another project, the student used a long corridor with several doors to repeat human figures. Hands moved in and out of the doors clapping in patterns that reflected percussive elements of the music.

Live action

One student used a similar idea, but took it even further by making himself the graphic element in the visual score. Using carefully composed overhead or wide shots that included large areas of space such as the gardens and driveway in front of his apartment building, or a path across a patch of wasteland, he was able to create horizontal, diagonal or vertical lines that provided a structure to position himself, suggesting a kind of performative sheet music. Jump cuts were then combined with fast or reverse motion to accompany the changes in the music.

The fixed framing of these shots allowed for small details and chance changes to become material that he could use in creating an interpretation of the music. For example, shutters opening and closing could be repeated in time with percussion elements, a speeded up passing car accompanied a striking musical sample, and a cat that enters the street was masked off and composited in such away that it appeared to be observing the human spinning at impossible speed.

In another nice detail, the student carefully added the titles to signposts found in the location where the video was shot, so that the information appears to be part of the actual environment.

Mixed techniques and typographic solutions

Perhaps surprisingly, only one student opted for a purely typographic approach. In this video, the student decided on a clever solution, which was to use a dingbats fonts as the only graphic elements so that they could be easily repeated and combined in different compositions. Suitable icons were attributed to appropriate sounds; the open and closed post box icons represented the kick drum and snare for example, while a series of bells, low on the screen, corresponded to a repetitive bass line.

In some cases, students opted to combine various graphic approaches. These films were not perhaps as conceptually complete as others, but the mixed approach provided opportunities for juxtaposition that proved

fruitful in some cases. One student represented the lyrics of the song in typography, but replaced some of the words with images that had the same meaning: footsteps for the word "passage", a magnifying glass for "clue", and boxing gloves for "combat". The

Fig. 4. Motion graphics and found footage were well integrated in this film.

film also included geometric shapes to represent sounds and the interplay between these shapes and the typography allowed for a lot of exploration of composition. Combined media worked best when the different elements were carefully integrated, as seen in one film that layered motion graphics based on circular shapes and movements over archive footage of details of rotating vinyl. In some cases, the record labels themselves had geometric circular designs, bring the two layers even closer together.

5.Conclusion

In all of the films, the challenge of finely combining sound and image through the timing of animation, motion graphics and editing required an attention to detail that is sometimes lacking in student work at this level. The requirement of synchronizing the motion with the music was well understood and explored by the students and led to inventive and varied solutions. In contrast with the free flowing, loose drawings of the workshop activity at the beginning of the project, the precise films created by the students reflected the intensity that they had put into honing their videos. It can also be noted that the challenging nature of the brief encouraged the students to revisit canonical examples of Visual Music and search for inspiration in contemporary audio-visual work in a way that we would hope was both educational and inspirational.

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Exploring the Layout Design of Tribhumigatha: Analyzing the Uniqueness of Thai Heritage Manuscript

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Abstract

This study aims to understand the unique characteristics of the Triphumigatha, a significant Thai manuscript, by examining its layout design. While previous research has primarily focused on studying the pictorial content of these manuscripts from an art history perspective, providing valuable insights into their iconography and cultural symbolism, it is important to recognize that Thai manuscripts serve not only as works of art but also as functional objects with the purpose of conveying meaning and information. By adopting a graphic design lens, this study explores how the visual elements within Thai manuscripts were strategically utilized to enhance communication, readability, and the overall user experience. By considering these complementary perspectives, we can enrich our understanding of the visual communication and aesthetic elements present in Thai manuscripts. Additionally, the study can provide insights into the ways in which design can serve as a tool for communicating and preserving cultural heritage.

1. Introduction

This section first provides a brief history of Thai manuscripts and the importance of Tribhumigatha. The next section describes the significance of this story and includes a literature review. Section 3 presents the graphical analysis of the illustrations in this Thai manuscript. Finally, the conclusion discusses the unique design thinking involved in creating Thai manuscripts and the cultural values and beliefs that influenced their creation.

1.1. Thai Manuscripts and the Influence of Tribhumigatha

Thai manuscripts, also known as Samut Thai, have played a significant role in preserving and conveying knowledge, stories, and Buddhist philosophy throughout Thai history. These manuscripts were made using a plant called 'Khoi' (Streblus asper Lour., Siamese rough bush) to create paper, and they were constructed by folding a single large sheet in a concertina fashion, without any binding. The shape and material of these manuscripts have had a profound influence on the graphic design thinking process, which continues to be evident in contemporary design practices. However, Thai manuscripts were often produced during a period when explicit dating of manuscripts was not widely practiced or standardized. As the cultural foundation of Thai society, rooted in Buddhism, places

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importance on oral traditions and the written documentation of religious and royal events from the past [1]. The primary focus was on the content and transmission of knowledge. Additionally, many Thai manuscripts were created through the process of copying and replication, where the emphasis was on accurately reproducing the content rather than indicating the date of each individual copy.

One of the most important literary works in Thai society is Tribhumigatha, also known as the "Three Worlds" or "Tribhumi." It originated from Buddhist cosmology and represents the existence of three realms within the universe: the realm of formlessness, the realm of form, and the realm of desire. Authored by King Lithai of Sukhothai (1347-1376 A.D.), Tribhumigatha is Thailand's earliest literature and has had a lasting impact on Thai society.

Tribhumigatha serves as a major source of inspiration for Thai artists and poets, influencing their creation of books, pictures, and sculptures. The metaphors derived from Tribhumigatha in the Thai language are rich and contribute to the appreciation of Thai art. Monks throughout history have utilized Thai manuscripts, including Tribhumigatha, to study Buddhism, cosmology, and various other subjects. It holds a fundamental place in Thai education, both in the past and the present.

Within Thai culture, Tribhumigatha is highly valued as it offers a framework for comprehending the nature of existence and the path towards enlightenment. It represents a worldview that emphasizes the impermanence and interconnectedness of all things, encouraging individuals to strive for spiritual growth and a deeper understanding of the universe. The combination of Thai manuscripts and Tribhumigatha reflects the fusion of artistic expression and profound philosophical concepts that have shaped Thai visual culture over the centuries.

1.2. Purpose of the research

The objective of this study is to analyze a representative sample of Thai manuscripts in order to identify and examine key design elements and principles that contribute to their unique artistic and cultural significance. By undertaking this analysis, the research aims to deepen our understanding of the artistic techniques and cultural influences present in Thai manuscripts, providing valuable insights into their creation and historical context.

2. Literature Review

There are several publications related to Thai Manuscripts, specifically illustrated manuscripts [2-4]. The story of Thribhumigatha is the most popular in the Thai context, as it reflects the influence of Buddhism in Thai society. A number of scholars [5] have investigated the influences of Thribhumigatha in Thai society. According to Choti [6], a Thai National Artist, he studied the depiction of Tribhumi that appears in Thai architecture. The concept of Thribhumigatha is also reflected in Thai art and architecture, with numerous temples and structures showcasing intricate depictions of the three realms. These representations serve as reminders of the importance of cultivating inner peace and enlightenment, reflect-

ing the profoundly spiritual nature of Thai culture. One of the reference books, "Tribhumi Illustration Book Ayutthaya-Thonburi" [7-8], contains facsimiles of the illustrations accompanied by historical facts. Another earlier work [9] provides a paragraph of Buddhist cosmology context together with textual explanations of the events depicted in each illustration. After comprehensive background information on illustrated histories of the time, Ginsburg [10] examines the illustrations in the manuscript from the point of view of the British Museum's curator, discussing each in its religious and historical context, as well as its illustration style. Other studies in art focus to investigate the physical appearance of the illustrations according to Thribhumigatha, as illustrated in the Thai Manuscript, specifically in Hellenic Scenes. [11]

In addition to studying various aspects of the Thai Manuscript Tribhumigatha, it is essential to conduct research focused solely on the illustrative qualities of its representations. This is because there is a lack of awareness among the general public regarding the design quality of the manuscript. This paper aims to address this gap by analyzes how the artisans depict the complex spheres of Tribhumi through easily understandable illustrations represented on a two-dimensional pictorial plane. It also examines the relationship between the graphical elements present in the illustrated pages. By recognizing the artistic skills of past artisans and harnessing the ability of illustrations to facilitate understanding and curiosity, we hope to ignite a renewed interest and appreciation for this important cultural heritage.

3. Research design and approach

This research focuses on the graphical analysis of illustrations based on considerations in Image Design [12]. Through bibliographical research, this paper visually examined the illustrations to understand how the images are rendered. In this paper, we have identified the essential elements and components that make up the illustrations, and analyzed how the images are graphically created using visual representation techniques. The data for this analysis was obtained from "Tribhumi Illustration Book Ayutthaya-Thonburi," which consists of four volumes of Thai manuscripts collected by the Department of Fine Arts, Thailand. This data is considered the most complete version, making it a fair sampling of the Tribhumigatha Manuscript.
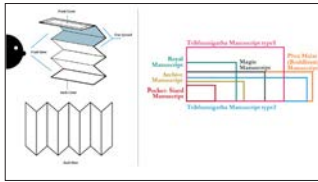
4. Graphical Analysis of Tribhumigatha Manuscript

In this detailed analysis of layout design, a thorough examination is conducted on the features of the Thai manuscript's page, focusing on the role of media in determining the design format, including vertically laid-out structural elements and composition. The graphic elements and spatial arrangement are explored using the theory of Tribhumigatha as a guiding framework. This part also discusses the structure and symbolism that invite the user into the immersive world of Tribhumi.

The Page : Unfolding Story of the Universe

The Tribhumigatha Manuscript serves as an intricate portal that unfolds the

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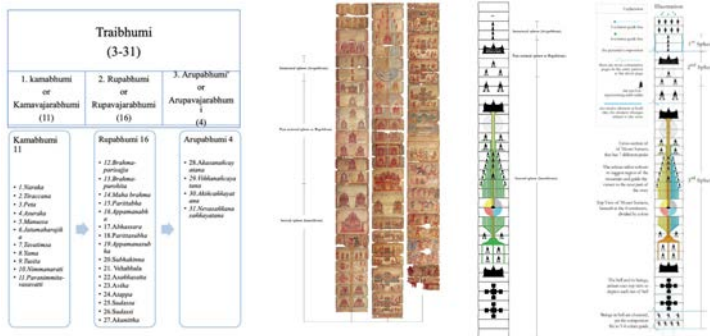
story of the universe through a fusion of text and illustrations. It explores diverse realms, inhabitants, and teachings found in Buddhist literature. These manuscripts are carefully designed without spines, allowing the story to flow freely across pages and presenting a complex picture of the Buddhist universe. The Thai Manuscript is known for its vertical and horizontal reading formats. (Fig.1.) Tribhumigatha, in particular, utilizes the front side of the manuscript to vertically depict the cosmic content with multiple tiers, while the back side is reserved for horizontal illustrations, featuring maps and Buddha birth tales.

The dimensions of the Tribhumigatha manuscript vary. However, [13] categorizes the size of the Tribhumigatha Manuscript into two types: 12.00 cm x 63.00 cm and 28.00 cm x 51.00 cm. The latter type is relatively large compared to other types of Thai manuscripts. The number of pages also varies from 88 to 112 pages. The Tribhumigatha Manuscript contains both text and illustrations. This research found that the ratio of text is only 4.5% compared to the overall illustration2. The text integrates into the illustrations in script handwriting on the blank space left over from the illustration or, in some cases, written vertically as there is no space. This is considered not normal way of Thai writing, which reads from left to right horizontally. It can be assumed that in most cases, these texts are written after the illustration is finished and not given much consideration when designing the layout. On many pages, lines are drawn from the illustration to the text, or the text is fitted in a small space between the illustrations, resembling more of a note than pre-arranged text. Therefore, the illustration plays an important role in telling the story. The structure and contents of Tribhumigatha are displayed in Fig. 2, showcasing its 31 tiers distributed among the three realms. The illustrations intricately depict the inhabitants of each realm, including humans, celestial beings, and trees, while also highlighting geographical features.

Fig. 1. (Left) The Tribhumigatha manuscript appears on the front view of the manuscript and is read vertically. (Right) The size of the Tribhumigatha manuscript compared to other manuscripts is relatively large as it consists of detailed illustrations about the complex Buddhist universe.

Fig. 2. (Left) The accompanying table displays the structure and contents of Tribhumigatha, featuring a total of 31 tiers distributed among the three realms. (Middle) The actual Tribhumigatha Manuscript. (The 3 rows of Manuscript in the picture are actually consecutive pages). (Right) elements and composition analysis of Tribhumigatha Manuscripts, showing various graphical technique.

2 The ratio is determined by dividing the manuscript into sections using a grid block and calculating the percentage.

A remarkable feature of Thai manuscripts is the continuation of illustrations from one page to another, creating a seamless narrative flow. Some pages may even feature a single spread illustration that spans both pages, emphasizing significant scenes, such as the heavens and its beings. The illustrations gradually unfold the story, culminating in a comprehensive depiction of the complex Buddhist universe. The most interesting part is that elements that cross the page's boundaries appear in the main part of the manuscript that describes Mount Sumeru, the center of the universe. This structure aligns with the theory of Thai arts and architecture [14]. Ultimately, as a whole picture, the illustrations on each page continue to unfold the story and connect as a whole at the end, giving a complete picture of the complex Buddhist universe.

Despite the absence of a spine, Thai manuscripts maintain a coherent design through the use of creasing lines as conceptual dividers. Ornamentation along the rim decorates the pages and symbolically relates to the story, it also helps grouping part of the story as the same part of story is decorated by same pattern. However, manuscripts from the Rattanakosin era deviate from this pattern in sections describing hell, where a horizontal orientation and bar ornaments divide each tier of hell, signaling the transition to the next realm.

Elements and Its Composition Technique

Giving the Dhamma (Buddha's Doctrine) to others is considered the highest gift in Buddhism. The copying of texts and their distribution and worship was regarded as a meritorious activity because it preserved the doctrine of the Buddha. It brought religious merit to the sponsor, since fine calligraphy and decoration by skilled artisans promoted and glorified the faith. This explains why the same group of Thai manuscript share a similar layout and design pattern.
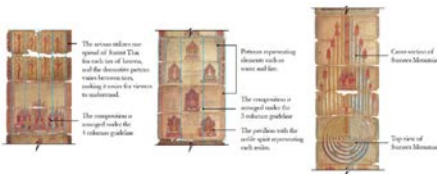

Fig. 3. Elements and Its Composition Technique of Tribhumigatha Manuscript.

The manuscript begins with the top tier of the three worlds, the realm of formlessness, where the body form cannot be seen. Artisan use an illustration of a pavilion with nothing inside to represent the noble spirit that exists in this tier. Typically, there are no natural elements suggesting scenery such as trees, rocks, or mountains around the pavilion, which differs from Thai wall paintings. One reason is that the pavilion is used symbolically to represent the realm, rather than as an architectural element. Another reason is that in mural painting, artisans have to present many scenes in one wall panel, so they use natural elements like trees to separate the scenes. However, in the Tribhumigatha manuscript, elements are separated on each page and arranged according to their hierarchy, eliminating the need to use natural elements as borders. The use of a pavilion to represent the realm helps artisans simplify the explanation of the complex picture of the universe. The characters appearing in the pavilion represent the inhabitants of each realm. Most of the celestial beings' gestures are in a custom form related to Thai classical dance, while the lower tiers, such as hell, express more natural gestures. This research drew guide lines on the Tribhumigatha manuscript, it can be observed that the overall

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layout is quite aligned with a three- and four-column grid along the entire length of 17-25 meters.3 Another technique artisan used to make the universe picture easier to understand is the use of color. The same color represents the same region, and when the user flips to the next page, this color continuity suggests to the user to stay on track. Patterns representing elements such as water, fire, wind, earth, etc., are used throughout the manuscript. Without much explanation, viewers can understand the setting and situation through these patterns. These patterns also appear as decorative ornaments, which serve not only as decoration but also have meaning related to the story. All elements in the manuscript appear in a two-dimensional flat perspective, sometimes as a front view, top view, or cross-section. The mixed use of different dimensions is meant to present a clearer picture of the universe.

## Spatial Arrangement : Unveiling the Depths of the Universe

The artisan in the past depicted the information of Tribhumi in a graphical approach by making use of the consecutive page feature of Thai manuscript. From top to bottom, the realms of the three worlds with all their details are narrated in a mountain-like shape. The second sphere, which is the most important part of the story, uses techniques such as color scheme, cross section, and bar-chart-like illustrations to explain the complexities of Mount Sumeru. This mountain has different peaks of varying heights and circumferences, as well as inhabited celestial beings. In order to provide a clearer picture of the structure of Mount Sumeru, the artisan uses a top-view that is projected directly from the cross-section of the side view. This top-view resembles a pie-chart combined with a map that explains the directions, terrain, and areas of each space. In this part, the layout is centered and the elements are placed along a diagonal line, following an astrological chart accepted from India4. The combination of the side view and the top view gives the audience a three-dimensional vision of the world of Tribhumi.(Fig.4. Left) It is fascinating to see this part of the manuscript at a 90-degree angle, as the conceptual three-dimensional world of Tribhumi becomes recognizable. The elements in the manuscript are also drawn as flat two-dimensional objects, but there is a hidden conceptual perspective. For example, the tetrahedron pavilion (Fig.4. Right) that appears throughout the pages is realistically drawn from the front side, logically, the left and right gables cannot be seen. However, the artisan uses a twisted perspective to depict both the left and right gables facing the viewer in order to express the depth of the architecture. The artisan used the above techniques to effectively create a representation of the three-dimensional sphere of the universe, even though all the elements are drawn in two dimensions.

The background of the Tribhumigatha Manuscript is usually left blank, without any color or other elements. This differs from other types of manu-

3 The length varies depending on the size and number of pages of the manuscript.

4 The astrological chart, which was accepted from India (India borrowed this idea from the Roman Empire), consists of twelve blocks starting from Aries to Pisces. This concept is similar to the astrological concept found in Ptolemy's treatise called Almagest. This grid system can also be found in other civilizations such as Greek, Indian, and Chinese.

Fig. 4 (Left) The 90-degree Thibhumigatha Manuscript versus the 3D image. (Right) The Tetrahedron pavilion and the twisted perspective appear in the manuscript.
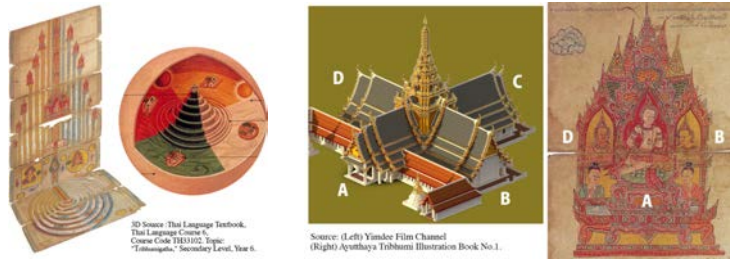
scripts that include background colors or scenery. The artisan creatively utilizes space in Thai manuscript, a large space is intentionally left in the upper zone, giving the impression that this tier is floating in the air. The layout composition of the first and second spheres has a simple layout yet rich in details, emphasizing luxury, then gradually becoming clustered in the subsequent pages and most clustered in the tier of hell representing chaos.

Structure and Symbolism : the Buddhism Balance

The manuscript's main structure is a three- and four-column guide, which showcases symmetrical balance from the center. This guide-based structure further emphasizes the meticulous arrangement of elements and reinforces the theme of balance and harmony within Buddhism.

The Tribhumigatha Manuscript features a front panel illustration that epitomizes the theme of structure and symbolism, particularly highlighting the delicate balance inherent in Buddhism. The illustration showcases three spheres meticulously aligned symmetrically from the center, representing the profound concept of the universe with Mount Sumeru positioned at its epicenter. This arrangement serves as a visual metaphor for the central tenet of Buddhism, known as the "the middle path", which emphasizes finding equilibrium in all aspects of life. Consequently, the overall layout of the manuscript reflects this balancing concept, despite its expansive spread throughout the length of the Thai manuscript. Notably, the diagram of Mount Sumeru nearly occupies the middle section of the manuscript's length, with the triangle shape underscoring the significance of balance within Buddhist teachings. The layout in the front panel, which shows the structure of the Tribhumi world[5], can be seen as a pyramid shape, as the elements are arranged symmetrically, starting small at the top and expanding larger at the base. An intriguing juxtaposition emerges when observing the depiction of the bottom part. As the illustration gets more and more clustered towards the lower level, there is a variation in the level of detail as well. Hell, at the bottom part of the manuscript, has more elements yet less detail in contrast to the top part of the manuscript. It can be assumed that the artisan represents the hell creatures via rough strokes. This deliberate contrast serves to accentuate the thematic balance found within Buddhism. The pyramid structure also carries profound symbolism, alluding to the connection

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5 Conversely, the back panel adopts a more dynamic layout, introducing an element of contrast and diversity to the manuscript.

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Fig. 5. The comparison of graphic layout and illustration on the top-tier page (left) and the depiction of hell (right).

between humanity and the cosmos. Drawing inspiration from Plato's Theory of Forms[15], the representation of a mountain serves as a shared form that symbolizes the harmonious interplay between the realistic and idealistic realms. The Dhamma, an integral part of the Tribhumigatha, comprises a framework for ethical conduct designed to foster peace and tranquility among individuals. Central to this framework are the principles of karma and rebirth, which serve as fundamental tools for guiding individuals towards virtuous living. The belief in the law of karma and rebirth motivates individuals to engage in benevolent actions as they strive to attain positive outcomes and be reborn in auspicious realms such as heaven. Conversely, the fear of unfavorable consequences and rebirth in realms of suffering, such as hell, deters individuals from engaging in wrongful acts. Moreover, Buddhism places great emphasis on ethical and moral teachings, encouraging individuals to understand and practice them diligently in order to foster personal growth and attain higher levels of enlightenment. Throughout Thai Manuscript, a plethora of symbols and icons can be discerned, including bar patterns representing stories, pavilions symbolizing divine inheritance, and depictions of elemental forces such as fire, wind, and water. These visual cues enrich the overall experience and add layers of symbolism to the manuscript. These profound philosophical principles find expression in the intricate layout of the Tribhumigatha manuscript, showcasing the profound influence of Buddhism on Thai culture and its rich symbolism.

4. Conclusion

Due to its unique feature of being connected without a spine, "The Tribhumigatha" is a Thai manuscript that highlights a distinctive characteristic and technique. It effectively generates a seamless narrative flow while occasionally incorporating impactful, large spread illustrations. These illustrations gradually unveil the story, culminating in a comprehensive depiction of the intricate Buddhist universe. Within the Tribhumigatha manuscripts, artisans employ diverse techniques to improve the understanding of the depicted universe. One such technique involves the strategic use of color as a guide, assisting users in navigating through each section. Additionally, illustrations serve as symbolic representations, simplifying the explanation of the intricate universe. The manuscript's overall layout adheres to a structured three- and four-column design, ensuring a cohesive arrangement. These techniques enable viewers to grasp the setting and context without the requirement for extensive explanations. The artisan also skillfully captures the three-dimen-

sional essence of the universe, despite representing all elements in a two-dimensional format. They achieve this through the use of various techniques. Firstly, a top-view projection and cross-section of the side view are employed to illustrate the complex terrain of the world. Additionally, a twisted perspective is utilized to portray the depth and architectural intricacies. These techniques allow the artisan to effectively convey a sense of depth and dimension within the manuscript. All in all, the Tribhumigatha Manuscript embodies the influence of Buddhism on Thai culture. Its main structure highlights symmetrical balance and meticulous arrangement of elements. This structure reinforces the theme of balance and harmony within Buddhism. Moreover, the manuscript showcases intricate symbolism, providing a profound representation of Buddhist principles. Studying these manuscripts provides insights into the role of design in preserving and communicating cultural heritage. The current study has examined only the front side of the manuscript. In order to gain deeper insight into the illustration technique in Thai manuscripts, further research might investigate the features and techniques of the illustrations on the back side and their narration technique.

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Broken Telephone: A Tale of Two AIs in the Loop

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Abstract

The fast-paced development in the field of AI-generated images has triggered a comprehensive discussion in the art. To contribute to the question of whether AI can creatively produce "meaningful" art, we present a case study that reduces the human contribution to the production process while focusing on cooperation between two AI systems. We accomplish this goal by continuously feeding the output of an image-generating AI system into another AI system that generates verbal explanations based on images and vice-versa. Our approach is based on various artistic forms of playing with instruction manuals and is inspired by the popular game "broken telephone", which demonstrates the difficulties of human communication. When playing the game only with AI systems, the influence of the human creators who provide only starting conditions steadily decays. By inspecting the results of this process, we derive qualitative insights into how "creative" AI systems are.

1. Introduction

The capabilities of Artificial intelligence (AI) algorithms have significantly improved over the last years, leading to a new set of tools for creating visual content. Systems such as *Stable Diffusion, Midjourney* or *Dall-e* can generate (depending on perspective, more or less qualitative) images based on so-called "prompts" (short textual descriptions of desired image contents). At least since a work partially generated by the tool *Midjourney* has been awarded at the Colorado state fair's annual art competition [16], artists, researchers, practitioners, and philosophers have publicly discussed the question of whether such AI-generated images can (or should) be called "art" at all [19]. While it was claimed that such systems make craft and skill redundant, some argue that this form of critique can target any supporting tool from pencils to Photoshop, and others oppose framing the discussion as misleading at all. Since such discussions are somewhat philosophical, we rather address: *can AI systems be truly creative?*

Conceptual artists continued this artistic examination in the 1960s. In his *Wall Drawings* (1968 to 2007), Sol LeWitt made a separation between artist and performer from the very beginning. His instruc-

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tions are very detailed, but at the same time, they leave a lot of room for interpretation: "The artist must allow various interpretations of his plan. [...] The draftsman's contributions are unforeseen by the artist" [11, p. 169].

Generally, creativity can be defined as the "capacity to produce things that are original and valuable" [10], or new and surprising [3]. While it is consensus that humans are capable of being creative, there is no agreement concerning the creativity of AI systems [8]. Instead of tackling the question of whether AI can creatively produce art from an argumentative or algorithmic perspective, we conducted a case study. We argue that (1) the detachment from artist and tool is nothing novel, and (2) existing AI systems that generate images primarily draw their "inspiration" from the provided textual descriptions. Consequently, a potentially creative nature of AI systems can only be unpacked when the influence of the "human in the loop" is removed. Since it is always humans who provide starting conditions for generative systems, we cannot fully remove their contribution. However, our approach minimizes the human influence in the production process by taking the analogy of the "broken telephone" game, which is initially used to demonstrate the difficulties of human communication (see Fig. 1 for an example).

Fig. 1. A series of AI-AI collaborations starting with the prompt "a man standing on the top of a ladder on top of a building". After providing the prompt as a starting condition, AI systems take over and alter the image over 18 iterations (i.e., continuously explaining image contents to itself and producing new images from the last description).

Here, a verbal message is secretly exchanged from one human to another in a larger group. Over a sufficient range of such pairwise exchanges, the message typically alters, and the influence of the original message steadily decays. We modified the game in a way that, after a human provided some starting conditions, it is only played by AI systems: the output of an image-generating AI (*Stable Diffusion*) is fed into another AI system that generates textual descriptions from an image (*Clip Interrogator*). This description is then again fed into the image-generating AI system, and the process is repeated continuously. Over time (and just as in the original "broken telephone" game), the influence of the human who has provided the starting conditions steadily decreases (and would vanish in infinity). By inspecting and discussing the results of this process, we are able to derive some qualitative insights into how "creative" state-of-the-art AI image generation tools are.

Out of Control – Playing with construction manuals

The origin of AI art using "promts" possibly goes back to the avant-garde artists of the early 20th century and the conceptual artists of the 1960s. First steps to detach the artist from the production were made in the 15th century. For instance, Leon Battista Alberti introduces in his treatise on sculpture *De status* (1464) [1] various techniques to measure a statue. This invention made it possible to commission the production of a marble statue utilizing an instruction manual. At the beginning of the 20th century,

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the play with instructions and the separation of conception and execution in art production ushered in a paradigm shift. Avant-garde artists such as Marcel Duchamp or László Moholy-Nagy, for example, delegated the production of artworks through instructions. Marcel Duchamp experimented with written instruction in *Readymade malheureux*, or *Unhappy Readymade* (1919). He wrote a detailed description of the artwork in a letter to his sister, who carried out the instructions. At the same time, the Hungarian avant-garde artist László Moholy-Nagy was experimenting with verbal instructions. The *telephone pictures series* E1, E2, and E3 (1922–1923) were produced by an enamel factory in Weimar, Germany, following the artist's instructions over the telephone. The artist has only limited control over the production. The output is open and highly dependent on the symbiosis between the artist and the form of production. Play with chance, instructions, and open-ended experimentation are at the heart of these early art practices.

Conceptual artists continued this artistic examination in the 1960s. In his *Wall Drawings* (1968–2007), Sol LeWitt made a separation between artist and performer from the very beginning. His instructions are very detailed, but at the same time, they leave a lot of room for interpretation: "The artist must allow various interpretations of his plan. [...] The draftsman's contributions are unforeseen by the artist" [11, p. 169]. Yoko Ono's *22 Instructions for Paintings* (1962) are more open and challenge people's imagination [7]. In contrast to Sol LeWitt's *Wall Drawings*, the instruction manual was exhibited and not executed. The artwork was therefore created in the minds of the viewers. As shown by these examples, artistic instructions range from detailed descriptions to those consisting of a few words, open for interpretation.

AI Art

Since the emergence of promising AI tools in image processing and creation, a wide-ranging discussion has been sparked about how images and artworks will be created in the future. The idea that humans can create human intelligence or intelligent systems and machines and that such systems can get out of hand, make mistakes, or become malicious is not new. But these were, in particular, concepts that usually fall within the realm of science fiction. With the advent of computer technology, AI was about speeding up computational operations and automation of cognition. For a long time, the question was whether computers could keep up with human intelligence. Since IBM's *Deep Blue* in 1997 and Google's *AlphaGo* in 2016 impressively demonstrated the power of computers, a hype on AI emerged. Since then, AI has determined various application areas, ranging from science, medicine, and the banking sector to art. Furthermore, AI is increasingly important in our cultural lives and behaviors today. Lev Manovich is one of the first who points out the cultural impact of AI. "It is increasingly automating the processes of aesthetic design and aesthetic decision-making" [13]. Manovich refers in his analysis of artificial aesthetics [12] to various Turing-style tests within creative arts: Is AI capable of creating artifacts that are indistinguishable from human-generated

works? And can AI be creative? These questions have already been the
subject of previous research [4, 2, 6]. The fact that AI already passes the
test is no longer the central issue, but that AI passes the test countless
times and that we are no longer aware of that. Ever since the auction
house Christie's put up the first AI-generated artwork for sale, a wide-
ranging discussion about AI art has been sparked. The artwork, *Portrait of
Edmond Belamy* (2018), is based on a data set of 15,000 portraits created
by a generative adversarial network. That means that a generator and
discriminator enter into a dialogue and simulate a Turing-style test. There
comes a question: who or what is an AI Artist? The AI, the French art col-
lective Obvious, or the developer of the open-source software *Robbie Bar-
rat*, who, by the way, was not cited by the collective [5, 9]. But despite the
hype about the new kind of art, the fundamental questions are, perhaps,
mostly not new [17].

2. Case Study: AI Playing "Broken Telephone"

As we are not aware of any work that aimed at minimizing the human
contribution in AI generated art, we entangled two recently published AI
systems to realize the "Broken Telephone" game for AIs. We use *Stable
Diffusion* [15] and *Clip Interrogator* [14]. *Clip Interrogator* is a tool "combin-
ing OpenAI's CLIP and Salesforce's BLIP to optimize text prompts to match
a given image" [14]. *Stable Diffusion*, on the other hand, is a generative
model that produces images based on prompts. We created a script based
on both systems' open Google *Colab* implementations so that the output
of one system is fed into the other and vice-versa. We can define a number
of iterations and start the system either with Stable Diffusion (i.e., we must
provide a prompt as a starting point) or Clip Interrogator (i.e., we provide an
image as a starting point). Then, the system operates automatically over the
number of defined iterations and produces as many images and prompts.

We decided to provide the system with multiple starting points to
find out where the AI collaboration would lead us – in particular, we cre-
ated images based on (1) textual prompts, (2) famous photographs, and
(3) famous paintings (see Fig. 1–4). The investigation's central question is
what happens when the artist is more or less detached from the AI-image
creation. The artist provides the impetus with minimal instructions, and
the AI develops ideas in a dialogue between the text-to-image generator
and the image-to-text generator.

3. Results

Overall, we could derive multiple interesting insights from our experi-
ments. In the following, we discuss our observations along with the
emerging qualitative themes.

Surprise

First, a creative process, in terms of originality and value, is evident in
the output, both in terms of form and content. Concerning the "surprise"
element of creativity, the AI indeed creates certain unpredictable outputs.
This is particularly evident in the image contents, which developed

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independence and novelty. For instance, the "man on the ladder" (see Fig. 1) turns into a figure with a guitar and finally into a bottle of wine. Here, we observe random-ness, arbitrariness, and fruitful form of originality and creativity. This factor mainly stems from the contribution of *Clip Interrogator*, which sometimes tends to include aspects in the image description that seems to be "invisible" for a human observer. For example, it suddenly describes the image content as "man with a guitar" (Fig. 1) or "man with a dog" (Fig. 2), although that is not clearly visible in the previous iteration of the image. This demonstrates that AIs do not perceive images as humans do, which relates to so-called "single pixel attacks" [18]. Such attacks show that changing just one pixel in an image can fool AI to make erroneous classifications. However, re-garding the surprise element of creativity, such irrational inconsistencies can be seen as a feature rather than a bug.

Fig. 2. Collaboration starting with *Clip Interrogator*, using the photograph *Lunch atop a Skyscraper* (1932).

Coherence

Over multiple iterations, the image series shows proximity to established styles, such as cubism, surrealism (Fig. 1, 2, and 4), or sci-fi aesthetics (Fig. 3). This is because the output of AI tools is based on a dataset of existing images. It seems that in these data sets, known pictorial works are domi-nant. The question arises if AI tools can develop an independent visual style. The decisive factor is the first image, which triggers the develop-ment of an aesthetic in the dialogue between the tools. The output of the exchange itself is visually consistent. In some series of images, we see a constant development; in other series, a permanent change of aesthetics

(colored-monochrome, detailed-reduced, etc.) is evident. Interest-ingly, we see similar developments in situations with entirely different starting conditions. For example, both the "man on the ladder" (Fig. 1) and Michelangelo's *The Creation of Adam* (Fig. 4) gradually trans-form into a surrealistic painting of a figure playing guitar.

Fig. 3. Another exam-ple where we started with a picture of the crash of the Hinden-burg (1937).

Abstraction

In all series, we see a gradual reduction of details. Even though some main themes preserve over a limited number of iterations – for example, people on top of a building (Fig. 2) or two persons holding/shaking hands (Fig. 4) – other details vanish. In most series, we could observe a switch from the original theme to a particular style, and from that moment on, most links to the starting conditions are gone. Another interesting aspect

is given by looking at the series itself. While most individual images appear "artistic" in isolation, the subsequent arrangement shows their interchangeability, suggesting that AI creations are (apart from the irrational inconsistencies described before) not necessarily novel but just more of the same.

AI Biases

Also, we could see AI systems replicating social biases. A catchy example is given in Fig. 4, where *Clip Interrogator* describes the rightmost image of the middle row as a "man holding a knife". The following image in the series suddenly shows a "black man with a knife," enforcing a bias that weapons are associated with particular racial groups. This example is even more worrisome considering that nearly all other persons created by the tools were white. Another bias is the tendency to gradually integrate works of the well-established "masters". The descriptions frequently interpret images as works "in the style of Salvador Dalí" or other (mostly male) artists. Given their dominance in the overall data sets, the question arises how such AI systems could better include the works of less prominent artists or minorities. Overall, these observations would need to be explored through further case studies.

Fig. 4. AIs playing "broken telephone" based on a picture detail of Michelangelo's fresco painting *The Creation of Adam* (1512).

4. Discussion and Conclusion

In summary, our experiment shows that AI (1) can satisfy the surprise aspect of creativity, but such potentially "irrational" contributions result from errors rather than high performance, (2) is specifically dependent on the underlying data set, which is manifested through a recreation of established aesthetics. Although the interplay between image generation and interpretation is idiosyncratic and indeterminate, the interplay of these tools gives the impression of a more substantial degree of creativity and originality; at the same time, AI does not detach itself from the data set, even if the dialogue turns into an infinite circle.

As often discussed within the context of art and AI generated artifacts, the interaction between the artist and the tool is crucial. Just as with the first conceptual artists in the early 20th century, the concept is at the beginning and center of artistic inquiry. The starting point and what will happen with the output are not up to the AI.

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REALIDADE MISTA: CONCEITOS, CRIAÇÃO DE NOVAS REALIDADES E TRABALHO COLABORATIVO

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Abstract

This article aims to provide readers with a quick historical overview of technology in the context of Mixed Reality (MR), while also highlighting relevant artists discovered during the author's research for the group exhibition "Coação Pictórica" held at Casa dos Crivos in Braga, Portugal in 2021. Drawing from the works of authors such as Deleuze, Baudrillard, and Lévy, who explore the theme of the virtual, this article delves into pieces that reflect on the idea of living in a simulation, referencing Nick Bostrom's influential work. The analysis of artworks showcased in the exhibition ultimately raises awareness of the MR spectrum, where diverse fields of knowledge converge to create these unique pieces, considering their public-facing aspect and experimentation with technology, alongside existing literature on the topic. Looking ahead, the future of art is set to embrace new paradigms that emphasize sensorial aspects beyond just the visual, expanding into areas such as hearing, touch, and smell, by utilizing technologies such as MR to blend the real world with virtual environments. However, there remain challenges for cooperation between artists, engineers, and programmers to create new realities that allow artists to expand the physical world.

1. Introdução

Este artigo surge como resultado da experiência profissional do autor com Realidade Aumentada (RA) e Realidade Virtual (RV), associada à sua formação académica em Pintura em Artes Plásticas, e ao Mestrado em Ilustração e Animação. Como artista 3D e *concept artist*, o autor incorporou estas ferramentas na sua atividade de galeria, criando ambientes híbridos que fundem a pintura com o virtual. Antes, o seu trabalho estava focado no figurativo e em simulacros que utilizavam referências dos media para transmitir mensagens camufladas. Os simulacros vinham de imagens de canais de televisão, filmes e outros media, as quais o autor manipulava digitalmente antes de os pintar na tela. Com o conhecimento adquirido na formação e na atividade profissional, o autor decidiu experimentar estas tecnologias nas artes plásticas.

A exposição coletiva "Coação Pictórica", realizada em 2021 na Casa dos Crivos em Braga com curadoria de Helena Mendes Pereira, serviu

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como um "laboratório" para investigar a utilização destas tecnologias na produção de obras de arte que incorporam a pintura. A investigação realizada incluiu a pesquisa de referências e a realização de testes práticos que, por sua vez, despertaram o interesse acadêmico e levaram à elaboração deste artigo, com o objetivo de contextualizar teoricamente a Realidade Mista (RM), a Realidade Aumentada (RA) e a Realidade Virtual (RV) dentro das artes plásticas.

Para esse efeito, este encontra-se estruturado da seguinte forma: na Parte II, serão introduzidas as noções de RM, RA e RV, referindo e justificando no processo os artistas que influenciaram e foram pesquisados durante a exposição "Coação Pictórica". Na Parte III, pretende-se refletir um pouco sobre o mundo virtual com base em autores como Deleuze, Baudrillard, Lévy e Bostrom, considerados relevantes para o estudo da criação de mundos virtuais e toda a sua problemática. Na Parte IV, são analisadas as peças produzidas para a exposição "Coação Pictórica", e na Parte V, é abordada a necessidade de destacar o caráter colaborativo destas formas de arte decorrente das dificuldades encontradas na realização das obras. Por fim, nas conclusões, conclui-se que estas três tecnologias — RM, a RA e a RV— apresentam ainda grandes margens de progressão e expansão, tanto no âmbito artístico como tecnológico.

2. RM, RA e RV e a sua ligação com o mundo da arte

Em 1994, Paul Milgram e Fumio Kishino criavam o termo "Realidade Mista", para definir um *continuum virtual* que misturava objetos do mundo real e do mundo virtual [1]. Com esta definição em mente, percebe-se que a RM está situada entre a Realidade Virtual (RV) e a Realidade Aumentada (RA) permitindo a transição, justaposição e intercâmbio entre o material e o imaterial, ultrapassando as limitações do espaço físico e temporal.

É, por isso mesmo, uma "mistura" dos mundos físico e virtual, uma zona onde holografias ou mundos virtuais maiores e mais complexos são adicionados sob o mundo físico.

Apesar de ser assim geralmente definida, por estar em constante mutação, é importante também perceber que ainda não existe um consenso universal que cubra todos os aspetos sobre o que é a RM, tanto na visão dos especialistas quanto na literatura que a aborda. Essa mesma dificuldade é ainda ampliada, por exemplo, pelo fato de grandes empresas como a Microsoft, promoverem o termo RM como uma nova tecnologia em dispositivos como o *HoloLens* ou a plataforma *Windows Mixed Reality*. Uma definição academicamente mais clara e segura encontra-se assim, ainda bastante enublada por lógicas que lhe são externas.

Apesar destas nuances que dificultam a definição da RM, esta pode ser vista sob cinco aspetos que cruzam os mundos físico e virtual: som, movimento, aspeto háptico, gosto/sabor e cheiro. O som pode estar relacionado com o mundo virtual criado; o movimento é um aspeto importante para alinhar realidades físicas e virtuais, por exemplo, manipulando modelos 3D com base na captura de movimento; o aspeto háptico permite que alguém sinta objetos virtuais com as mãos (enquanto os hápticos passivos podem ser usados para aprimorar ambientes virtuais); a simulação

de gosto/sabor pode criar uma textura de comida virtual através da estimulação muscular; e, por fim, o cheiro pode ser usado de forma idêntica à dos cinemas multissensoriais. [2]

Fora esta questão dos sentidos, e atendendo à forma como RA e RV são articuladas, podemos, grosso modo, identificar seis noções de RM:

1. A noção tradicional de *continuum virtual*, onde existe uma mistura de objetos físicos e virtuais exibidos simultaneamente, misturando RA e RV num só dispositivo;

2. A noção em que o termo Realidade Mista (RM) é usado como sinónimo para RA, quando as informações virtuais surgem na interface sobrepostas aos demais sentidos humanos enquanto os utilizadores exploram o mundo físico;

3. A noção que resulta da interação e colaboração entre um utilizador de RA e RV, onde o primeiro tem o seu espaço físico mapeado e reconstituído virtualmente para o segundo numa partilha entre os espaços físico e virtual;

4. A noção que resulta da combinação global entre RA e RV num sistema que engloba partes distintas de ambas – temos como exemplos dessa mesma combinação geral a forma como app Pokémon GO conjuga um mapa virtual (RV) com a captura dos Pokemons (RA), ou as lojas virtuais 360, que nos permitem explorar o espaço RV e interagir com os produtos aí colocados numa lógica de *target* típica de RA;

5. A noção de RM como um alinhamento de ambientes numa sincronização entre um ambiente físico e outro virtual ou no alinhamento de uma representação virtual com o mundo físico, combinando partes físicas e virtuais parcialmente sobrepostas numa interação entre os dois mundos – temos como exemplo disso a tradução de um movimento real num mundo virtual, como acontece com o *Leap Motion*;

6.E, por fim, a noção de RM identificada como uma versão "mais forte" do RA, que se caracteriza por uma compreensão ambiental avançada, ou seja, por uma interação nos dois sentidos, entre objetos virtuais e reais, mediada por hardware e/ou outros dispositivos capazes de fornecer essa funcionalidade – como é exemplo desta interação direta o supramencionado *HoloLens*.

Associada ao surgimento dos *smartphones*, a Realidade Aumentada (RA) — tecnologia responsável pela colocação virtual de objetos em locais reais — além de estar cada vez mais acessível ao público em geral tanto na sua utilização como na sua conceção, tem se revelado ao longo das últimas décadas numa importante ferramenta artística de intervenção [3]. Essa mesma prolificidade artística também é visível com a sua contraparte nas diferentes combinações da Realidade Mista (RM), a Realidade Virtual (RV), que através de interfaces onde são combinadas simulações 3D ou imagens 360º, permite uma conjugação de imersão e interação capazes de transportar sensorialmente os seus utilizadores para diferentes mundos. [4]

Podem ser considerados como os pioneiros destas ferramentas tecnológicas nas Artes Plásticas, artistas como Joseph Farbrook e John Craig

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Freeman [5], mas a mesma indefinição ou volatilidade dos significados e da terminologia que envolve estes assuntos leva-nos a também incluir nesta lista nomes como Myron Krueger, Nicole Stenger, ou mesmo as instalações de *videomapping* de Krzysztof Wodiczko que, na sua sobreposição lumínea do virtual sobre o real, nos remetem para uma das várias formas possíveis de RA e para as suas principais especifidades estilísticas.

Por sua vez, a utilização destes meios tecnológicos nas artes vai invariavelmente juntar-se ao surgimento da Performance e das Instalações no questionamento dos meios tradicionais como a Pintura e a Escultura, problematizando e expandindo não só os formatos artísticos, como os espaços de exibição, coleção ou mesmo formas de interação entre os diferentes agentes do mundo das artes (autores, curadores, galeristas, público). São exemplo dessas mesmas alterações a crescente interação imersiva e interativa entre o público e os artistas performers em projetos artísticos ligados ao virtual ou a intervenção no espaço público para largas audiências utilizando as possibilidades de manipular em tempo real as múltiplas camadas do *videomapping*, em função das reações no momento.

No caso destas tecnologias sobre as quais nos debruçamos — RM, a RA e a RV — acresce ainda a possibilidade de fugir a uma séride de constrangimentos logísticos graças a própria imaterialidade ou portabilidade das obras, capazes de habitar ou contaminar espaços interiores — interagindo com as peças artísticas físicas tornadas em *targets* interativos para dispositivos móveis, como telemóveis e *tablets*— ou expandir além portas, combinando de formas diversas as três valências, alternando entre o ecrã e o projetado, o digital e o material, o virtual e o real.

Por muitas dessas mesmas justaposições não requererem um local ou autorização especifica, tal liberta os artistas dos custos implicados nessas itinerâncias artísticas, convidando e estimulando o aspeto interventivo ou mesmo o diálogo com suportes tradicionais na senda da natureza interativa dessas tecnologias. É exemplo dessa mesma dinâmica a intervenção "Hello, we're from the internet", projeto que ocupou a sala de Jackson Pollock sem a permissão do MoMA. [6]

Este mesmo espírito libertino associado a intervenção artística promovida por tais tecnologias, por sua vez, não deve ser desligada do carácter prematuro ou volátil do próprio momento que passamos. Com efeito, Daniel Birnbaum[3], diretor artístico da Acute Art, refere numa entrevista recente que "provavelmente estamos nos primeiros segundos ou semanas de uma nova era e não sabemos onde isso nos levará. Quando algo novo chega, é evidente que há sempre uma janela de experimentação e também de alguma confusão". [7]

Com esta volatilidade e imprevisibilidade em mente, o autor deste artigo, servindo-se da riqueza na conjugação entre as características supramencionadas — jogos de sobreposição (RA) , capacidade de interação e imersão (RV), e combinação destas duas num produto artístico final

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3 Daniel Birnbaum é o diretor artístico da Acute Art (organização que reúne artistas internacionais para produzir e apresentar obras de RV, RA e RM) Em 2020 organizou em Serralves a exposição "Eletric: A virtual reality exhibition" que conta com artistas como Anish Kapoor, R. H. Quaytman, Nathalie Djurberg & Hans Berg.

(RM) — destaca para este artigo (como o fez na escolha de influencias e definição do caminho artístico, na seu própria participação na exposição "Coação Pictótica") os nomes de Refik Anadol, Victoria Scott, Freya Björg Olafson, Anna Zhilyaeva, o coletivo Adrien M & Claire B, Ed Atkins e Cécile B. Evans:

- Refik Anadol (https://refikanadol.com) explora a inteligência artificial para realizar instalações que reagem ao público (interativas), e, com base nessa reação, vão criando ambientes abstratos, convidando os espetadores a imaginar realidades alternativas e redefinindo as funcionalidades dos elementos arquitetónicos internos e externos (imersivo). Anadol transforma os espaços através de projeções que mesclam o espaço real físico com as criações alcançadas pelo algoritmo de aprendizagem computacional.

- Victoria Scott (https://victoriascott.org/) é uma artista visual que trabalha entre a escultura física e a média digital, criando materiais e instalações digitais a partir de objetos e espaços imaginários. Incorpora a RV como forma de imersão num mundo irreal, povoado por esculturas atmosféricas que auxiliam na visualização e compreensão do trauma ou da intimidade por via da plasticidade digital de campos de energia à base de cores e sons virtuais.

- Freya Björg Olafson (https://www.freyaolafson.com) trabalha com vídeo, áudio, animação, captura de movimento, pintura e performance. O seu trabalho está relacionado com a identidade e o corpo, procurando reunir no mesmo espaço a RA, a RV e a performance num diálogo entre o movimento e materialidade desta última (*input*), traduzida virtualmente pelas demais através de sensores (*feed*).

- Anna Zhilyaeva (https://www.annadreambrush.com/) realiza pinturas através da RV, unindo uma técnica tridimensional idêntica à pintura a óleo à performance, estendendo a imersividade da tecnologia não só à artista, mas também ao público através da exibição dos trabalhos em vídeos RM.

- Adrien M & Claire B (https://www.am-cb.net/) é uma empresa criativa fundada em 2004 por Claire Bardainne e Adrien Mondot. As suas criações são performances e exposições que associam realidade e virtualidade. Os seus trabalhos reúnem a RA — animações sobrepostas ao espaço físico — e performance, propiciando um cenário de interação entre o público e o conteúdo projetado em espetáculos cénicos com um alto carácter imersivo (como acontece com a performance "Hakanaï").

- Ed Atkins (https://www.serpentinegalleries.org/whats-on/ed-atkins-0/), um artista que baseia grande parte do seu trabalho em bancos imagens e avatares computacionalmente gerados (CGI), animados a partir da captura de movimento e utilizados em vídeos juntamente com uma sonoplastia dramática ou comercial — em muito desses vídeos esses mesmo avatares reproduzem solilóquios líricos dirigidos diretamente ao espectador, criando o efeito de perturbação, mal-estar ou inquietude particulares, popularmente associados ou caracterizados como *uncanny valley*.

- Cécile B. Evans (https://cecilebevans.com/) que numa combinação multifacetada de técnicas artísticas tradicionais e digitais, examina o im-

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pacto da cultura digital na condição humana, procurando no seu trabalho demonstrar a progressiva simbiose e impossibilidade de destrinça entre as tecnologias digitais e a realidade física no quotidiano.

3. Realidade Mista como criadora de novas realidades

Tendo como ponto de partida a entrevista dada por Cécile B. Evans, "... The Virtual is Real" [8], onde esta considera a realidade produzida pelas novas tecnologias discutidas até aqui como indistinguíveis da realidade física, avancemos para uma breve análise acerca de diferentes conceções sobre formas de relacionar o virtual e o real em autores como Deleuze, Baudrillard e Lévy.

Para Deleuze a virtualidade encontra similaridades com o possível, sendo o local onde todos os conceitos se movem com relação entre eles, repetindo-se, mas potencializando diferentes combinações a cada nova repetição. Para este autor, o "virtual, ao contrário, não se opõe ao real; ele possui uma plena realidade por si mesmo". O virtual é então uma realidade à espera de ser atualizada, ou seja, um real em potência [9].

Já em Baudrillard, o virtual potencializa um hiper-real, um "real" mais real que o real, responsável por esvaziar o primeiro ao tornar a distinção entre ambos impossível [10].

Por oposição ao esvaziamento ou empobrecimento do real, em Lévy, o virtual surge associado à forma hipertextual como comunicamos, sendo antes entendido como criador de novos sentidos [11]. Para este autor, apesar de não ter presença material, o virtual tem uma existência definida, e o computador vai surgir aqui como movimento de pensamento coletivo [12].

Num quarto plano, temos ainda a teorização proposta por autores como Nick Bostrom, onde o mundo físico é colocado em causa pela sua compreensão científica, por esta permitir a formulação da hipótese de estarmos a viver numa simulação criada por civilizações pós-humanas, incapazes de nos apercebermos dessa mesma condição [13].

A questão é então, de que forma a sobreposição, interatividade, imersão e mesclagem das tecnologias RV, a RM e RA vêm contribuir para a discussão sobre este binómio, real / virtual? Será que contribuem para tornar o virtual numa potência do real? Em algo que o esvazia? Num criador de novos sentidos? Ou em algo que descortina uma nova condição da vida humana até aqui desconhecida?

Podemos desde logo afiançar que todas estas possibilidades, no que concerne a problemática da "realidade", desde as mais otimistas até às mais catastrofistas, se encontram neste preciso momento no cerne de um intensa e prolífica exploração destas tecnologias — RV, RM e RA — com vista a uma série de experiências mais ou menos estéticas — reaproximando arte, ciência e tecnologia — e nos mais variados suportes possíveis e imagináveis — em jogos, sites, arte interativa ou instalações, em representações, simulações e emulações, em mobilidades híbridas para computação ubíqua, perfeitamente integradas e cada vez mais difíceis de desassociar do nosso quotidiano.

Um dos termos chave para perceber como o mundo virtual digital se tem entrosado com os demais está aliás na palavra "aumentada" — na

justaposição ou colocação de objetos virtuais criados e projetados por um computador num ambiente físico como um processo de "adição" ou "ampliação" do nosso próprio mundo [14].

É precisamente aqui, no ponto de encontro entre o virtual digital (RV) e a possibilidade de o "aumentar" (RA), ou na forma como essas duas dimensões podem ser fundidas no mundo real/ físico em tempo real, que entra a Realidade Mista, capaz de orquestrar uma atmosfera quase mágica ou de literalmente dar a percecionar (com foco, apesar de tudo na visão) novos mundos com um grau de complexidade sem precedentes. Um arquiteto passa a poder "entrar" dentro do seu projeto assim como cirurgião pode "ver" dentro do corpo de um paciente antes de este se apresentar, as crianças podem "ver" animais de terras exóticas e "brincar" com estes no seu espaço físico real, e as pessoas podem "brincar" umas com as outras enquanto usam personagens virtuais ou criaturas que "aparecem" no seu ambiente real [15].

O papel da Realidade Mista surge aqui com um papel algo idêntico ao dos Atlas e das Enciclopédias no século XVIII, mas já sem a otimismo antropocentrista iluminista, assombrados que estamos por outros fenómenos mais negativos no que concerne à tecnologia, e que nos ameaçam, pelo contrário, com a "obsolescência do homem" [16].

Surge também com a vantagem de não se tratar apenas de uma questão de controlo e de saber que permitem o domínio do homem sobre a natureza, mas da possibilidade de potenciar como nunca antes uma "experiência total", simultaneamente individual, porque passível de adaptar ou personalizar na sua interação em favor das escolhas de cada utilizador, e coletiva, porque despida do peso material e apta a uma rápida disseminação digital.

A RM, ao contrário do que não conseguiram à época os grandes mapas do saber, ameaça ser capaz de fazer aquilo que imaginara Jorge luís Borges no mapa do império à escala no seu conto "Sobre o Rigor da Ciência", parecendo tornar-se no mais recente sintoma de um novo período e geração artísticos, responsáveis pela potenciação de diálogos interativos entre artistas e espetadores numa arte multifacetada e híbrida, onde a liberdade é sentida em toda a sua ambiguidade: ora como esvaziamento, indiferenciação ou cedência aos automatismos hipnóticos da máquina e das massas, ora como vitalidade criadora sem limites, barroco tecnológico, ou surrealismo digital.

4. Caso de estudo

Na exposição coletiva "Coação Pictórica" realizada na Casa dos Crivos em Braga durante 2021, o autor deste artigo pode realizar: dois trabalhos que exploravam a RA como exploração artística e interagindo com as pinturas que realizou; uma obra onde explorou a RM; e outra que consistia na projeção de um ambiente totalmente virtual.

Numa das paredes estavam então colocadas duas telas de 40x40cm que funcionavam como *targets*, reagindo uma aplicação de RA (construída a partir do *Buforia*), instalável em *tablets* ou *smartphones*, onde o público podia ver sobreposto sob o espaço da tela um vídeo sonorizado que "continuava" em *loop* o *plus de realité* pintado. As pinturas funcionavam, na

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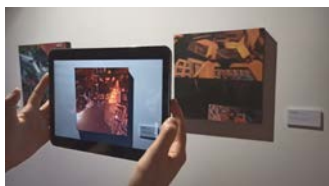
prática, como a reproduções de um *frame* de um de dois vídeos realizados em 3D (*motion graphics*). Sempre que o obturador do dispositivo (*tablet /smartphone*) fosse para aí apontado com a aplicação ligada, acionava automaticamente um vídeo iniciado a partir do *frame* pintado numa continuidade entre o representado na tela e o vídeo sobreposto através da aplicação (app), tal como podemos ver na Figure 1.

No terceiro trabalho, já no espectro de RM (Figure 2), a interação do virtual com o real era mediada através de uma projeção. Neste, surgia uma figura humana pintada na tela rodeada por um ambiente vídeo-projetado. Essa projeção estava dividida em quatro momentos animados diferentes — alguns dos quais reciclados a partir do trabalho de RA anterior (Figure 1) que de certa forma interagiam com a figura pintada.

Os autores referenciados na terceira parte, "Realidade Mista como criadora de novas realidades" foram em grande parte responsáveis pela temática das animações 3D, quer na temática do mundo paralelo, quer na procura de uma certa consistência na repetição formal dos elementos — nos *loops* hipnóticos, na noção de portais ou vórtices capazes de abrir o espaço físico ocupado pelas telas, alargando literalmente aquilo que é possível ver a partir destas, tornando-as assim mais "janelas" ou "portas" do que nunca.

Já a projeção de um ambiente totalmente virtual encontrava-se no meio dos outros dois trabalhos, estabelecendo uma espécie de ponte visual entre as obras. Nesse vídeo inteiramente realizado em 3D (Figure 3) vemos estátuas humanas constituídas por metais entrelaçados e particularmente iluminadas no lado esquerdo do peito. Esta obra, tal como as demais, também se encontra em *loop*, mas ao contrário das primeiras possuí legendas para um texto sem som, revestindo-se assim de um carácter mais narrativo.

Estes trabalhos constituem-se na senda dos trabalhos de RM supracitados, na hibridez com que juntam a pintura (objetos físicos) e os vídeos 3D (objetos virtuais). Para o autor das obras, estes ainda se encontram aquém das possibilidades de interação, dadas as suas limitações como programador, e por não possuir nenhum dispositivo tecnológico que lhe oferecesse uma interface capaz de estender esse diálogo entre as peças e o público.

Apesar disso, vale a pensa realçar que todos os ambientes virtuais foram realizados pelo autor e resultaram, tanto da sua aprendizagem académica, como do trabalho realizado em empresas que trabalham com 3D, RA, RV; e realçar também o sucesso na criação de um ambiente imersivo graças ao lado hipnótico da associação de *loop*s visuais e sonoros ao lado fantasmático provocado pelas projeções dos ecrãs num ambiente de meia luz.

Dado o carácter individual do trabalho e do processo para lá chegar, também não ficou evidenciado as potencialidades colaborativas deste tra-

Figure 1- Project 01 & Project 02, Pintura e RA, 40x40cm cada, acrílico sobre tela.

Figure 2 – "Aisha", Pintura e RM, 81x144cm, acrílico sobre tela.

Figure 3– "Non-material", projeção vídeo.

balho quer pela falta de assistência técnica — capaz de melhor estabelecer a ponte entre a pintura e a programação — quer por limitações do espaço positivo — não existindo dispositivos da própria galeria disponíveis para este tipo de intervenções.

5. Artistas e trabalho colaborativo

Não importa o quão rápido ou longe uma tecnologia avança, esta tem sempre um alto potencial como meio de expressão artística quando dominada pelos intentos de um determinado autor — caso, contudo, nem sempre verificável.

As possibilidades podem ir desde a tecnologia mais trivial ou popular até às mais especializadas e restritas em todo o mundo. É aliás, não raras vezes, a própria complexidade que envolve a potenciação de novas formas de expressão oferecidas por essas mesmas combinações tecnológicas emergentes (como as que envolvem computadores, sensores, novos materiais físicos e conhecimentos técnicos em programação, robótica, eletrônica ou física), aquilo que as torna tão atraentes.

Esses mesmos desafios holísticos são também responsáveis não só por muitos problemas ou limitações técnicas para os artistas— ameaçados pelas várias obsolescências próprias da evolução tecnológica ou comprometidos na sua honesta expressão artística por limitações técnicas — mas também pelos desafios que apresentam para as formas de trabalho mais solitárias — forçando, na melhor das hipóteses, o diálogo e na pior, a submissão aos novos especialistas tecnológicos.

É por isso mesmo necessário que esse processo colaborativo entre arte e engenharia seja acompanhado, na indústria ou na academia, pela criação de ferramentas e estratégias de comunicar ou projetar que auxiliem no estreitar dessa mesma cooperação [18]. Estas devem ter, antes de tudo, definido que, se aquilo que é almejado é algo com vista a expressão artística, é então a forma como esse produto final chega ao público que realmente importa e não um mero virtuosismo técnico "pelo bem da tecnologia".

A boa colaboração deverá ter também em conta as diferentes valências ou culturas técnicas tendencialmente promovidas por cada um dos profissionais envolvidos, dependente que esta está, por uma lado, de uma certa proficiência técnica do artista — que deve ser capaz de reconhecer, apreciar e compreender a tecnologia em questão, no sentido de a tornar num ferramenta expressiva — e por outro, de um conhecimento estético do engenheiro ou programador — que o habilite a sair fora do objetivo que visa a correta funcionalidade, fazendo-o despertar também para uma veia mais experimental [19].

Nesta colaboração entre o técnico e o artista, não cabem apenas parcerias esporádicas para um determinado projeto, mas também a junção de equipas multidisciplinares em ateliers, grupos de artistas, ou mesmo ao nível do mercado das tecnologias. Isto significa que temos, num primeiro nível, uma comunicação menos flexível e tendencialmente mais unidirecional, onde os engenheiros/programadores produzem as ferramentas necessárias para a criação e distribuição artísticas (softwares de desenho, modelação ou escultura), idealmente com o auxilio ou profundo conhe-

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cimento sobre do público alvo desses mesmos produtos — os artistas; e, num segundo nível, o cenário final de parceria, onde os primeiro agem como intermediários divididos por tarefas de design e/ou desenvolvimento distribuídas por diferentes departamentos sob a direção de um artista treinado para realizar todas as atividades criativas e técnicas, como já acontece com os realizadores cinematográficos, ou em outras grandes produções audiovisuais como exposições ou videojogos [18].

Debruçando-mo nos mais sobre este segundo nível de complexidade, importa fazer a destrinça entre as estratégias usadas nos videojogos ou na indústria cinematográfica, ligadas à experiência do utilizador em RV, daquela que é necessária para a interação e imersão implicadas nas experiências RM. Ainda que em constante mutação, a forma como os resultados finais são produzidos pelas tecnologias RV, mais especificamente, a ideia de imersão, é muito diferente da diversidade e complexidade que envolve a RM em termos de precisão e resiliência de rastreamento, bem como características preceptivas mais subtis e limites do dispositivo de exibição (campo de visão, resolução, etc.).

Por essa mesma razão, é sobretudo o segundo nível de comunicação omnidirecional entre técnicos e artistas que mais interessa neste momento. Urge, por isso mesmo, criar um enquadramento teórico capaz de definir e classificar a interação e os diferentes graus ou naturezas de imersão mediante diferentes espaços ou dispositivos de exibição, e para que tal aconteça, a natureza colaborativa entre profissionais necessita de novos métodos — como acontece, por exemplo, com a utilização de algoritmos e da Inteligência Artificial (IA) para medir, avaliar ou testar parâmetros e resultados— e de mais espaço para experimentação — para o risco de produzir resultados que escapam tanto aos programadores como aos artistas [19].

6. Considerações finais

A RM bem como a RA e a RV possuem largas margens de progressão quer no universo artístico quer tecnológico. Como referido por Daniel Birnbaum, estamos numa fase inicial e embrionária onde as possibilidades destas tecnologias carecem ainda de aprofundamento teórico e técnico por parte dos artistas. A RM, produto do entrelaçar das outras duas e dos demais suportes estéticos, oferece a possibilidade de novas formas e produtos artísticos totais, capaz de expandir os mundos físico e virtual, conferindo mais possibilidades e maior liberdade em termos de tempo e espaço aos artistas e aos novos públicos, quer em termos expositivos, interativos ou imersivos.

Confrontado com as experiências realizadas na exposição "Coação Pictórica", ficaram patentes para o autor deste artigo, as múltiplas possibilidades oferecidas pela hibridização introduzida pelas tecnologias de RM, mesmo que parcialmente, quando combinadas com meios tradicionais, como é o caso da pintura de oficina. Ficaram também evidentes as limitações e valências que estas novas técnicas e práticas com software e hardware podem apresentar para o artista, ficando a vontade de em futuras experiências procurar um trabalho mais colaborativo, afim de testar

novas soluções e problemas neste processo.

Com esta mesma experiência ficou também visível a necessidade de estender a reflexão sobre as novas potencialidades tecnológicas além dos artistas e dos técnicos, fazendo-a incidir sobre o papel de outros agentes artísticos — como o são os museus, galerias e instituições ligadas as "industrias artísticas" — no sentido de uma maior adaptabilidade aos médium virtuais e a uma maior predisposição para prosseguir com os processos de digitalização dos espólios, e a renovação dos métodos de exposição e difusão.

É por estarem estritamente ligadas ao rápido desenvolvimento tecnológico e a todas as potencialidades inauditas que este promete, que as tecnologias RM, RA e RV, se afiguram tão fascinantes, independentemente dos múltiplos desafios e ameaças que lhes surjam associados. Se invenções como o caleidoscópio, a lanterna mágica, ou o cinetoscópico nos trouxeram o cinematógrafo, o cinema e a cultura de massas, que próximas grandes invenções e mudanças não anunciaram já todas estas embrionárias tecnologias?

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(entre)folhas: Publicações de Artistas
Um encontro para tornar público experiências artísticas

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Abstract

Artist Publication is a form of artistic expression that combines elements of editorial pieces in a work created by an artist or collective with the aim of disseminating their ideas. It is the privileged space of visual poetics, in which word and image are related, through their materiality, spatiality and temporality.

This article presents the result of the meeting (entre)folhas: Publicações de Artista [(between)leaves: Artist Publications], organized by the author in partnership with the Degree in Visual Arts of the School of Architecture, Art and Design of the University of Minho (EAADUM/LAV), in which this platform was one of the ways to make students' artistic experience public, bringing artists and audience closer together, through three distinct moments: Exhibition, Experimental and Sharing.

Along the meeting, students, artists and the public were able to attend multiple presentations on the theme, had the opportunity to interact with the artistic objects on display, experiment with different printing techniques to produce a collective artist publication and relate to other artists and the audience during the publications fair that was promoted.

In addition to encouraging future artists to use this platform more, the meeting also sought to involve the theme of sustainability during the practices of production, distribution and consumption of artists' publications, with the aim of reflecting on how this format can contribute to ecological awareness and to the democratization of art.

1. Introdução

Contexto.

O encontro *(entre)folhas: Publicações de Artista* é um evento idealizado e organizado pela artista-investigadora Najla Leroy[2] em parceria com a Licenciatura em Artes Visuais da Escola de Arquitetura, Arte e Design da Universidade do Minho (EAADUM/LAV) na qual a autora é professora assistente das unidades curriculares de Tecnologias I e III.

Este evento parte de dentro da investigação doutoral em curso, que reflete e investiga temas como Processo criativo, Fazer artístico, Livro de

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Artista e Técnicas de impressão. Propor encontros sobre o Livro de Artista pretende criar um espaço de interação e reflexão com o público geral e especialista, disseminando e promovendo conhecimento além de validar a própria pesquisa.

Durante o desenvolvimento de projetos no campo expandido das técnicas de impressão no curso de Artes Visuais, foi possível observar o interesse e a curiosidade dos alunos perante este tema, pois o fazer artístico da publicação de artista é provocador e suscita o surgimento de novas ideias, reforçando assim a necessidade de proporcionar momentos e encontros com essa abordagem, e também por acreditar que a publicação de artista é uma outra forma de dar vazão e visibilidade ao trabalho dos futuros-artistas ingressantes no mercado.

Publicação de Artista.

O livro é o objeto que, juntamente com a sociedade, evoluiu para acompanhá-la. Sua forma mais antiga ainda perdura, mesmo com o assombroso e veloz avanço tecnológico. E foi graças ao avanço tecnológico que tanto a forma do livro, quanto a sua relação com o meio artístico foi-se reformulando ao longo do tempo, o livro deixa de ser apenas um contentor de texto e/ou imagem e emerge como um elemento formal, tornando-se um espaço experimental para a criatividade artística. [1]

Com maior disponibilidade dos meios de impressão os artistas passaram a ter mais controle sobre a produção do livro, o que contribuiu para que os movimentos de vanguarda do pós-1945 da arte utilizassem a publicação de arte como uma forma alternativa e independente, capaz de existir fora das estruturas das galerias e dos museus. Após a metade do século XX, os artistas começaram a fazer dos livros um aspecto principal da sua atividade e as publicações de artista começaram a proliferar nos anos 1960 e 70 no clima predominante de ativismo social e político. "A característica distintiva é a visão do artista de uma obra que ultrapassa as restrições dos objectos preciosos. A visão torna-se um livro capaz de passar para o mundo com o mínimo de obstáculos entre a concepção e a produção, a produção e a distribuição. É essa a natureza do múltiplo democrático - a pronta disponibilidade da visão de um artista independente em forma de livro." [2]

Muitos artistas e investigadores procuravam definir e reconhecer o livro de artista no contexto da arte contemporânea, para muitos além de sua intencionalidade conceptual, o livro de artista tem que ter sido idealizado por um artista com o intuito de ser um objeto de arte [3].

Numa definição fugaz diria-se que o livro de artista é uma obra de arte que combina elementos do livro e da arte numa obra e que são criados geralmente em edições limitadas ou como peças únicas, focados na experiência tátil e visual da obra. Já a publicação ou edição de artista é mais abrangente por ser uma forma de expressão artística que combina elementos do livro, da revista, do panfleto, do jornal, numa obra de arte. Geralmente são impressas em grandes quantidades e podem ser vendidas ou distribuídas em eventos culturais, feiras, lojas de arte e livrarias. Estão mais focadas na disseminação de ideias e conceitos do que na experiência

tátil da obra e podem ser criadas por um artista ou um grupo de artistas para apresentar e disseminar suas ideias e projetos.

Tanto o livro de artista, como a publicação de artista é um espaço privilegiado para a poética visual, em que palavras e imagens se relacionam, através de sua materialidade, espacialidade e temporalidade. Mas não só, assim como os autores que consideram "as publicações de artistas como plataformas para tornar pública determinadas experiências estéticas" [4] também acreditamos que a publicação de artista é um espaço experimental, com potencial pedagógico, onde os alunos, através do seu manusear, fazer e partilhar desenvolvem não só competências conceptuais, como passam a refletir sobre as relações exteriores ao campo das artes como produção, publicação, venda, distribuição e circulação.

Por isso o encontro (entre)folhas: Publicações de Artista concentra-se em abordar este objeto complexo a partir da sua organização em três momentos: um momento de compreensão sobre o que é uma publicação de artista, através do contato com o trabalho de artistas que fazem publicações; um momento experimental de fazer artístico coletivo numa oficina de técnicas de impressão, procurando trabalhar o tema proposto da ecologia e da sustentabilidade; e um momento de partilha, numa feira de arte impressa, que possibilitou o contato entre artistas com diferentes tempos de atuação no mercado.

2. Encontro (entre)folhas: Publicações de Artista

Histórico

A primeira edição deste encontro, aconteceu em dezembro de 2019, no Instituto de Design, no Campus de Couros da UMinho, em Guimarães, e tinha como título: *(entre)tecer - Potencialidades do Livro de Artista*.

Foi um momento de formação artística através da abordagem ao objeto criativo "Livro de Artista", analisando-o sob várias e distintas perspectivas: enquanto objeto, enquanto imagem, enquanto palavra, enquanto prática e/ou processo artístico.

Este evento contou com dois momentos, o primeiro dia dedicado a palestras que tinham o propósito de enquadrar o "Livro de Artista" no contexto artístico e histórico, problematizando-o criticamente, e no segundo dia, uma oficina prática em que os participantes foram convidados a "Ver, Ler e Fazer o Livro de Artista" conduzida pela artista Najla Leroy.

A repercussão desse primeiro encontro foi positiva entre os participantes como também para a investigação em curso pois suscitou reflexões importantes que ampliaram o campo da pesquisa. Diante disso surgiu a vontade por parte dos envolvidos de que o encontro fosse recorrente, porém a pandemia de Covid-19 impediu que o encontro fosse realizado entre os anos 2020 e 2022.

Edição 2023

Em 2023 o encontro voltou a acontecer agora com o título *(entre)folhas: Publicações de Artistas*, alterado com o intuito de ser mais abrangente em seu campo artístico e ressaltar temas atuais relacionados à sustentabili-

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dade e ecologia. Ocorreu em Guimarães, em março de 2023 e contou com três momentos distintos: *Momento Expositivo*, *Momento Experimental* e *Momento de Partilha*. O encontro destinou-se aos alunos da EAADUM/LAV, mas também esteve aberto ao público em geral.

No primeiro dia, no Momento Expositivo, os participantes assistiram às apresentações de artistas convidados, fazedores de publicações e livros de artistas, que expuseram sua experiência e projetos relevantes, e também dos alunos da Licenciatura em Artes Visuais que apresentaram livros de artistas desenvolvidos no curso.

No segundo dia, no Momento Experimental, os participantes foram convidados a atuar na oficina prática "Experimenta Publicar!" que foi conduzida pela artista Najla Leroy, e tinha como tema central a ecologia e a sustentabilidade na produção de uma publicação artística coletiva através da impressão com diversas técnicas (carimbos, stencil, monotipia e fotocópia) e da produção gráfica final (edição, reprodução, montagem e encadernação).

No terceiro dia, no Momento de Partilha, houve uma Feira de Publicações aberta a todos os artistas que desejavam expor e comercializar publicações de artista e a todo o público que fosse visitar e conhecer o evento.

Eixo Temático

A pandemia de Covid-19 foi um momento de paragem que nos levou a perceber que precisamos agir com urgência pois nosso futuro é cada vez mais incerto. Recuperar a noção de que fazemos parte da natureza e de que precisamos dela é o primeiro passo para uma transformação. Disseminar a conscientização ecológica e envolver com causas ambientais é fundamental para a manutenção de um futuro sustentável. Por isso, além de abordar sobre Publicações de Artista, o encontro deste ano também tem o propósito de refletir sobre a urgência das causas ambientais e estimular o uso desta plataforma como veículo de conscientização ambiental.

Fig. 1. Parte da obra *Monda*, obra *(entre)folhas* da artista Najla Leroy e cartaz do encontro.

As plantas possuem enorme importância para a manutenção da vida na Terra, são elas responsáveis pelas substâncias que constituem o organismo animal, como também representam 90% da biomassa do planeta. A planta é acima de tudo as folhas e capturar o mistério das plantas significa compreender a folha [5]. O nome dado ao encontro deste ano ressalta então este organismo e foi escolhido para fazer uma conexão entre os principais componentes da planta, como também da publicação: *(entre)folhas*.

A identidade visual teve como referência a obra *(entre)folhas* da artista Najla Leroy e a série de trabalhos artísticos, *Monda*, desenvolvidos

em 2022. Não só utilizamos partes destas imagens como ilustração para a identidade visual do encontro, como também as referências bibliográficas utilizadas na investigação pautaram as discussões e aplicamos as experiências em técnicas de impressão sustentáveis partilhadas em oficina sob a orientação da professora doutora Joana Paradinha.

O viés ecológico que permeia esta investigação artística, também esteve presente na grande maioria dos trabalhos artísticos apresentados pelos alunos e artistas durante o Momento Expositivo do Encontro. Desta forma foi possível considerar que as Publicações de Artista são também um espaço ecológico que privilegia a sustentabilidade e objetiva a democratização da arte.

3. Momentos

3.1. Momento Expositivo

Apresentações sobre Publicações de Artistas

Para este momento convidamos os alunos da Licenciatura em Artes Visuais a apresentarem projetos de livros ou publicações de artistas desenvolvidos no curso e artistas fazedores de publicações para exporem suas experiências e projetos relevantes. As apresentações foram curtas, inspiradas no modelo *PechaKucha*, em que cada participante tem no máximo 10 minutos para apresentar um projeto.

Apresentaram presencialmente os alunos José Pedro Cunha e Ana Versos e os artistas Mami Higuchi, Inês Antunes, Evandro Renan e Simão Bolívar. Tivemos também duas apresentações assíncronas em formato de vídeo que foram enviadas previamente pela artista portuguesa Maria João Pacheco e pelo artista brasileiro Matheus Crespo de Campos dos Goytacazes.

Fig. 2. Apresentações sobre Publicações de Artista no Momento Expositivo.

O aluno José Pedro Cunha apresentou o seu livro *"Transportar"*, que aborda o livro e sua principal característica de transportar o leitor para outros mundos. As imagens foram desenvolvidas com a técnica de calcogravura e a capa feita em madeira com o detalhe de uma fechadura para ser mais fidedigno a uma porta. A aluna Ana Versos, apresentou seu projeto *"Desculpa, eu não sei semear as tuas fronteiras"*, um livro ilustrado com imagens de raízes feitas em calcogravura, e faz uma analogia aos sistemas genealógicos, sanguíneos e vegetais. A apresentação desses projetos desenvolvidos pelos alunos no âmbito da Unidade Curricular de Tecnologia III em 2022 foram importantes para que os participantes pudessem compreender como eles são capazes de transportar suas íntimas reflexões durante o processo criativo e de aprendizagem em técnicas de impressão para dentro de um objeto artístico que será manuseado pelo espectador que também irá partilhar deste espaço sensível.

A artista japonesa Mami Higuchi, apresentou o projeto *"Ao som de um Réquiem"*, 2012, relacionado com uma exposição de intercâmbio entre a Associação de Gravura "Água-Forte" em Lisboa e um grupo de gravadores

de Fukushima. A designer gráfico e ilustradora Inês Antunes, apresentou o resultado de seu projeto de Mestrado de Ilustração e Animação, *"Eco-lalia"*, 2020, um álbum ilustrado silencioso feito apenas com a técnica de gravura verde, com embalagens Tetra Pak. O artista Evandro Renan, apresentou seu livro-objeto *"As máscaras de Porcelena"*, 2020, impresso em serigrafia cujas páginas com formatos de máscaras proporcionam a interação entre o mediador de leitura e o espectador. O artista e artesão Simão Bolívar, apresentou o seu livro *"In Verso"*, 2020, com matrizes feitas a partir de etiquetas em relevo, que marcam o verso do papel e ressaltam os versos compostos pelo autor.

Maria João Pacheco, professora de Educação Visual, enviou um vídeo apresentando o seu livro, *"Por favor"*, 2022, que assinala o *"Dia da Terra"* e é um livro desdobrável feito em cartolina, tinta acrílica, marcador, impressão a jato de tinta e carimbos. Matheus Crespo, artista visual e designer gráfico, também enviou um vídeo apresentando o seu livro *"Caminho de Volta"*, 2021, em formato desdobrável, composto por ilustrações que narram a trajetória do personagem Caminhante, foi idealizado, impresso e lançado pelo artista de forma independente.

As apresentações dos artistas convidados proporcionaram aos participantes o contato com projetos relevantes e seus processos criativos únicos e diversos, e aproximou a comunidade escolar de exemplos mais reais do que as que estão nos livros e na internet. As apresentações presenciais e assíncronas repletas de diversidade cultural e temática ampliaram a abrangência do evento evidenciando o caráter sem-fronteiras desse espaço de aquisição de conhecimento que é o Livro e a Publicação de Artista.

Exposições de Publicações de Artistas

A fim de enriquecer o momento expositivo do encontro, estiveram expostas as publicações dos artistas que apresentaram e também publicações de outros alunos da licenciatura, de modo que os participantes pudessem manusear e interagir com os objetos artísticos. As obras expostas também foram fotografadas para registro e consulta posterior. [3]

Fig. 3. Publicações de artistas que estiveram expostas no Momento Expositivo.

[3] Estiveram expostos as seguintes Publicações de Artistas: Transportar - José Pedro Gomes Cunha, 2022; *Desculpa* - Ana Versos, 2022; *Por favor* - Maria João Pacheco, 2022; *Ao som de um Réquiem* - coleção de gravuras de vários artistas, 2012; *Ecolalia* - Inês Antunes, 2018/20; *As máscaras de Porcelena*, 2018, Evandro Renan; *In Verso* - Simão Bolívar, 2023; *Sem título* - Mami Higuchi, 2018 - Livro de artista parte da série "Coleccionar" do projeto, como arquivo da coleção, encadernado sob a forma de um livro. As combinações de cores e variações da natureza foram recolhidas e reproduzidas em placas de calcogravuras; *O meu laço Rosa* - Pedro Costa, 2022 - Livro de artista com poemas e gravuras autorais, que falam sobre questões relacionadas ao cancro da mama; *Entre Lugares* - Tanya Rosewood, 2022 - Livro de artista ilustrado com gravuras, que abordam a jornada de um viajante, sob a temática medieval e fantasiosa; *Descaminhos*, Margarida Lopes, 2022 - Livro de artista que aborda a dualidade entre a construção e desconstrução através de caminhos; *Saudação Lunar* - Najla Leroy, 2022 - Publicação de artista desdobrável poético e ilustrado com a sequência da Yoga da saudação à Lua.

3.2. Momento Experimental

Oficina criativa "Experimenta Publicar!"

A oficina prática foi conduzida pela artista Najla Leroy e estiveram presentes alunos da licenciatura: Lara Silva, Lara Campos, Mónica Lucas, Catarino Bere, e também participantes externos: Catarina Pinto, designer gráfico e ilustradora, Sofia Sousa, socióloga, Anabela Santos, jornalista, Josimeire Micheski, artista, e Simone Almeida, designer gráfico, proporcionando mais diversidade e riqueza na abordagem prática. Para a oficina que teve como tema central *"Ecologia"* os participantes trouxeram elementos naturais como folhas, flores, raízes, algas, etc e também desenhos, textos ou frases com que desejassem trabalhar.

Fig. 4. Oficina criativa - Momento Experimental.

Fig. 5. Publicação de Artista *"Folhas Travessas"* desenvolvida durante o Momento Experimental.

Na primeira parte da oficina todos os participantes experimentaram as diversas técnicas de impressão: carimbos, stencil, monotipia e fotocópia para a produção de imagens. Na segunda parte finalizaram as composições que iriam ocupar duplas páginas da publicação e prepararam uma matriz para a reprodução. Cada participante montou e costurou uma publicação final que teve como título *"Folhas Travessas"*.

Além das imagens criadas através de impressão e colagem, a publicação também possui um texto de apresentação escritos pela jornalista Anabela Santos e pela socióloga Sofia Sousa:

> *"Folhas Travessas" é o resultado de uma viagem comum. Uma travessia que une vários mundos, experiências e vontades. Nestas folhas, que (a) travessa o tempo e o espaço, estão um conjunto de histórias distópicas que se unem em prol de uma utopia: a utopia da arte.*
> *Nesta aventura pulsante, saiu-nos das mãos esta "Folha Travessa" que do Brasil a Timor-Leste, do Norte a Sul de Portugal, nos ativou os sentidos e fixou uma geografia de afetos.*

Trabalhar na oficina de técnicas de impressão para a produção de uma obra coletiva permitiu a troca de ideias e conhecimento e ressaltou a principal característica da Publicação de Artista: ser um espaço experimental. Trabalhar o tema da ecologia durante esta prática ampliou as referências dos participantes e os estimulou a pensar como aplicar em seus projetos condutas mais sustentáveis.

3.3. Momento de Partilha

Feira de Publicações

O encontro *(entre)folhas: Publicações de Artista*, encerrou com um momen-

Fig. 6. Feira de Publicações no Momento de Partilha

to importante que conectou os artistas e a comunidade em geral: a feira de publicações, que esteve aberta a todos os artistas interessados em expor, trocar e comercializar produções gráficas e publicações de artista, e também a todo o público que visitasse o evento.

Participaram da feira alunos da licenciatura, artistas da cidade de Guimarães e artistas internacionais. Todos os expositores da Feira de Publicações do (entre)folhas tiveram a seu dispor uma mesa e puderam colocar os trabalhos nas paredes da galeria, configurando-se como uma grande exposição coletiva.

Este momento festivo e descontraído dedicou à Publicação de Artista um espaço de celebração reafirmando seu caráter coletivo, que em seu ver, fazer e interagir permite trocas e partilhas que enriquecem os saberes daqueles que as consomem e as desenvolvem.

4. Conclusão

O encontro *(entre)folhas: Publicações de Artista* possibilitou aos participantes compreender melhor o que é a Publicação de Artista, tanto como uma plataforma para tornar pública as experiências artísticas como também um objeto conceptual e experimental, além de despertar nos alunos e artistas uma vontade de buscar compreendê-lo melhor, seja através da interação ou do seu fazer, aplicando-o em suas práticas artísticas.

A organização deste evento, apesar de ainda tímida e contida no espaço da Universidade do Minho, pretende ser recorrente nos próximos anos, visto que todos os participantes demonstraram interesse e alegaram uma carência deste tipo de evento tanto no âmbito acadêmico quanto na cidade de Guimarães.

Para a investigação doutoral em curso, promover este encontro possibilita refletir sobre os aspectos exteriores ao fazer da Publicação de Artista, como sua distribuição e consumo, e também sobre a disseminação de conhecimento através dela.

Ficamos satisfeitos com o resultado do encontro, principalmente em seu aspecto ecológico, pois além de optar por alternativas sustentáveis durante todo o evento, tivemos espaço para refletir sobre as causas ambientais. Concluindo, podemos então afirmar que a Publicação de Artista, além de tudo, é uma plataforma democrática de conscientização ambiental.

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Entre Arte e Ilustração: um ensaio sobre gritar e criar juntos

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[Arte e Cultura Visual/Art and Visual Culture]

Abstract

At the same time that contemporary life drags us towards individuality, it is important for us to investigate affective interpersonal relationships, as the creative processes in contemporary artistic activities can configure ways of acting in reflective co-authorship, providing expressive approaches. Thus, between art and illustration, we present the interactions of two teacher-artists (acting in a graduate program at a Brazilian university) who acted with creative empathy by triggering "invisible bonds" in favor of a creative and critical dialogue. For that, they used drawing and photography in digital manipulations. The verbal-visual methodology was based on "screams" from the history of art, so that they could create their own expressions.

1. Introdução

Estamos perante temas e questões que merecem dedicação, atenção e cuidado especiais enquanto se referem ao contexto atual, cada vez mais indissociável do binômio: vida e morte. O desafio do confrontamento com temas caros, exige vivências, atitudes e modos de pensar e atuar cada vez mais responsáveis. E foi, no convívio laboral, que dois professores-artistas visuais e pesquisadores, deflagraram particular interesse pelo exercício criativo em atividades artísticas coletivas, as quais poderiam configurar modos de agir em coautoria reflexiva.

Por isso, o objetivo desta reflexão será apresentar, pela produção de poéticas visuais, o resultado dos "laços invisíveis" que uniram e fortificaram relacionamentos interpessoais autorais, os quais se deram a partir da convivência empática. Foi possível, a construção de visualidades tendo como fio condutor a referência "O Grito", identificado em intenso processo de escuta amorosa e de diálogo crítico – de modo remoto ou presencial.

E. Stein [1] afirma que quando duas pessoas se olham, estando "frente a frente um eu e outro eu", [...] "o outro eu é um tu". Esse ganho de consciência é possível, mas exige o reconhecimento do outro e a possibilidade de construção de unidade, de partilha da vida comum. Assim, ela afirma que o amor torna-se ato social.

Esse conceito, adotado neste ensaio, surge como resposta às carências do tempo presente. Autores que discutem o processo criativo, como

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Ostrower (1987), Mihaly (1990) e Salles (2004), iluminam a compreensão acerca de ações artísticas mediadas por intervenções mútuas – percebidas tanto na construção simbólica quanto na definição visual das obras.

Ao tensionar as possibilidades de produção artística e textual compartilhadas, optou-se por uma proposta metodológica que não se prende a nenhuma demarcação teórica, tomada num sentido demasiadamente restritivo. Ao contrário, busca-se fundamento, nos autores que discutem a criação artística, argumento tão determinante para a compreensão sobre processo e pensamento crítico.

O objetivo maior seria a disseminação de práticas proativas, em duplo procedimento metodológico, a saber: primeiro, identificar as angústias momentâneas vividas em comum por meio de imagens que fazem circular o signo GRITO que, a partir de referências artísticas, recorrer ao grito expressionista de E. Munch (1893-95); ao grito ficcional de A. Hitchcock em Psicose (1960); ao grito revelado pela fotografia de Nick Ut (1972); segundo, apresentar novos gritos vivenciados pelos autores, materializados em produções compartilhadas *in process*. A experiência do criar juntos expressa pensamentos críticos estabelecidos de forma cruzada. A criatividade paritária nutriu as soluções visuais, traduzidas em poéticas contemporâneas.

Nesse sentido, a problemática proposta, versa em torno da seguinte questão: é possível estabelecer ações artísticas mediadas por intervenções mútuas e, a partir delas, dialogar com um discurso sensível e racional inerente ao processo criativo? Dito de outro modo, em que medida é possível que a produção artística individual dos autores, estabeleça a expressão visual e reflexiva, consequente da interpretação de algumas obras emblemáticas, as quais designam o signo "grito"? A hipótese que se aventa, parte do pressuposto de que é possível exercer de maneira contigua o diálogo crítico preservando, contudo, a identidade ou assinatura individual da produção autoral dos professores-artistas-pesquisadores. A partir de animadas trocas conceituais, identifica-se um eixo comum que parte do "grito" como uma das possibilidades discursivas da nossa época, a exemplo dos já citados gritos de Munch, Hitchcock e Nick Ut, que nos nutriram de inspiração.

Assim, espera-se que o ato paritário do criar, expresso de forma cruzada, contribua para que novos gritos surjam e se façam ouvir ecoando os sentimentos do existir humano, sistematizado pelas proposições teóricas e, principalmente, evidenciando semioses possíveis.

2. Gritos reverberados

Ao longo do tempo, percebeu-se diferentes maneiras de manifestar os sentimentos e as aflições humanas pelo viés artístico. Foram muitas, as obras produzidas em diferentes gêneros e, em diferentes materialidades e suportes que poderiam ser citadas aqui, sobre essas temáticas tão viscerais e subjetivas. A literatura, a poesia, a música, o teatro, a dança, as artes visuais, a fotografia, a ilustração, o cinema, o vídeo, a animação, a arte digital, dentre tantas, são modalidades de linguagem em que o medo, a raiva, a solidão, a repulsa, o ódio, a morte etc. foram sendo entretecidas por diferentes pensamentos – traduzindo significados e sentidos.

Fig. 1. Edward Munch. *O grito*, pintura, 1893-95; Alfred Hitchcock. *Psicose*, filme, 1960; Nick Ut. *A garota do napalm*, fotografia, 1972.

Nesse emaranhado de produção do universo artístico, há um alargamento dos imaginários em que o "grito" foi visualizado. Gritar torna-se signo de resistência que media os sentimentos e funciona como escape para alívio de tensões. O grito, por um aspecto, permite o extravasar dos danos ou dos sofrimentos causados a nós ou a outrem e, apesar de ser uma atitude radical e censurada, pode ser um ato de alívio para o sentimento pernicioso que silencia, isola, perturba o ser e o pensar. Por outro lado, o grito pode irromper do transbordamento de uma reação à euforia, ser uma expressão positiva que dá conta de revelar atitudes de estrema felicidade.

Entretanto, as primordiais referências da experiência criativa, produtiva e crítica vivida de modo compartilhado, devidamente pinçadas da história das imagens, reafirmaram-se três emblemáticas visualidades circulantes no imaginário coletivo: os gritos, de Munch, Hitchcock e Nick Ut.

O grito do pintor norueguês E. Munch (1893-95) é instigante e provavelmente uma das obras mais divulgadas, além de possuir inúmeras versões: óleo, têmpera, lápis, pastel, litogravuras. É composta de um ponto de fuga a esquerda da tela, da qual irradiam linhas diagonais que formam uma ponte com seu corrimão, proteção da passarela em que se percebe duas identidades corpóreas ao fundo e, um outro, no primeiro plano o qual apoia a cabeça deformada ou tapa os ouvidos, com ambas as mãos. Seus olhos estão arregalados e dois pontos indicam o nariz.

Da linha do horizonte, nota-se as camadas grossas de tintas alaranjadas do céu em contraste com a massa compacta de cor azul escuro dos movimentos das águas. Sugere haver ao longe, a mirada dos barcos e, a silhueta de uma montanha. Tudo no quadro grita: as pinceladas marcantes que denunciam as tensões e as vibrações das cores e seus contrastes tonais, a forma humanoide e esquelética, e a boca aberta da personagem. Transparece uma forte inspiração expressionista de uma pretensa natureza e a ruptura com a percepção do real, afinal: "A arte é o oposto da natureza. Uma obra de arte só pode provir do interior do homem". [2]

> Eu andava pela rua com dois amigos - e o sol se pôs. O céu, de repente, tornou-se sangue - e eu senti como se fosse um sopro de tristeza. Eu parei - inclinado contra a grade morto de cansaço. Sobre o fiorde negro azulado e a cidade assentaram nuvens de exalante sangue em pingos. Meus amigos continuaram caminhando e eu fui deixado com medo e com uma ferida aberta em meu peito. Um grande grito veio através da Natureza. [3]

A força comunicativa inaudível do grito sufocante da imagem reverbera o som emitido, primeiro nos movimentos ondulares, depois no sujeito que grita e com o qual nos identificamos.

Enquanto isso, na emblemática cena do assassinato de Marion, ficcionalmente idealizado por A. Hitchcock, em Psicose (1960), a personagem protagoniza, diante da íntima emboscada, expressões de

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surpresa, fragilidade, desespero e pânico. A tão bem concebida cena audiovisual sugere vários gritos: a elasticidade máxima dos lábios denota o momento trágico; as linhas de expressão da face, esticadas ao limite dos contornos laterais do rosto, assim como em Munch, fazem ecoar – entre clamor e silêncio – o desespero; o gesto repetitivo da mão anônima que pratica os golpes de faca compõe alucinação e rumor; o sangue, em preto e branco, que respinga no ambiente e escorre pelo corpo da mulher tão genialmente reivindica a intensidade do vermelho-sangue; os movimentos corporais, aos poucos, percebem a desmaterialização de sua energia vital; a quadrícula inocente e isenta dos azulejos tenta, de algum modo, restabelecer o equilíbrio da cena – mas a sucessão dos golpes e a consequente vertigem da câmera, não permitem o retorno ao silêncio; por fim, os líquidos – a translucidez da água e a opacidade do sangue se encontram nas volumetrias do corpo que se esvanece. Todos os elementos da cena dimensionam o suspense.

> Para Robert J. Yanal,
> Suspense é um sentimento de incerteza ou ansiedade mediante as consequências de determinado fato, mais frequentemente referente à perceptividade da audiência em um trabalho dramático. Não é, porém, uma exclusividade da ficção, pode ocorrer em qualquer situação em que há a possibilidade de um grande evento ou um momento dramático, com a tensão como emoção primária mediante a situação. Em uma definição mais ampla do suspense, tal emoção surge quando alguém está preocupado com sua falta de conhecimento sobre o desenvolvimento de um evento significativo; suspense seria, então, a combinação da antecipação com a lide da incerteza e obscuridade do futuro. [4]

Em Psicose, o trânsito visceral entre visualidade e sonoridade, aos poucos vai abandonando as personagens que protagonizam a cena – aquele que foge e aquela que morre. O ato contínuo que deveria resultar em estático silêncio encontra sua vicissitude no vórtice do ralo da banheira. A fluência da água e a oxidação do sangue tornam o grito um fenômeno sutil. A circularidade da cena se distancia da organicidade dos corpos para se aproximar de uma solução fílmica um tanto metalizada. O grito, então, já encontrará outra dimensão narrativa.

Por sua vez, a contundente fotografia de Nick Ut, feita para a *Associated Press* durante os ataques das forças norte-americanas às remotas aldeias do território vietnamita em 1972, nos oferece a imagem de um grito real – fático.

Ao visualizar a imagem, tomamos de empréstimo o ponto de vista do fotógrafo. É como se fôssemos arremessados para o episódio. Atordoados, admitimos um olhar paralisado e toda cena evolui em nossa direção – sucessivas projeções: em primeiro plano, o grito atônito do menino à esquerda; no ponto central da imagem, a garota nua, desesperada, desprotegida, flagrada em máxima vulnerabilidade; nos outros dois planos intermediários, vemos as demais crianças (que correm sem bem entender o que está acontecendo) e os soldados (que caminham em atitude ao mes-

mo tempo atenta e amedrontada); a estrada que nos traz as personagens é a mesma que nos leva para fundo da paisagem em desmonte – uma linha de horizonte ofuscada pela nuvem atroz de napalm.

Phan Thi Kim Phúc, a garota do napalm, que na época do bombardeio contava apenas nove anos de vida, já adulta afirmou, num depoimento de 2008 gravado para a NPR, sobre as suas memórias e sentimentos

> Ainda tenho muitas cicatrizes em meu corpo e dores fortes na maioria dos dias, mas meu coração está limpo. O napalm é muito poderoso, mas a fé, o perdão e o amor são muito mais poderosos. Não teríamos guerra se todos pudessem aprender a viver com amor verdadeiro, esperança e perdão.[5]

A guerra, assim como a pandemia e tantas tragédias, reverberam gritos. A ficção, assim como a humanidade, consciente de sua finitude, imagina gritos. A arte, assim como as múltiplas crises de nossos tempos, evoca gritos. Impactados, então, com tantos outros, novos gritos decidiram vir ao mundo, também, sob forma de expressão artística, concebida e produzida entre "um eu e um outro"!

2.2. Gritos autorais

No eixo da produção de linguagem, a temática do grito se justifica, uma vez que a experiência expressiva compartilhada permitiu o desenvolvimento de produções artísticas que consideraram, em todo o processo, intervenções criativas. E, como já nos advertiu E. Stein (2005), imaginamos evidenciar as contradições, as incertezas e as angústias do ser humano.

Nossos gritos: uns, femininos, que expressam as entranhas de sentimentos sufocados na garganta; outros, masculinos, que ironicamente banalizam o medo iminente através da visualidade *pop*.

No eixo da consciência de linguagem, buscou-se no exercício crítico a validação do que desejamos chamar de a nossa Arte. Desse modo, as referências artísticas e teóricas anteriormente descritas e anunciadas serviram de nutrição para a leitura das imagens – dispostas à interpretação cruzada. Os professores-artistas-pesquisadores, ao protagonizarem o deslocamento dos seus próprios pontos de vista, inverteram seus papéis, determinando uma quase equação: criação + crítica = pesquisa.

Em semiótica, a linguagem estende-se como campo de análise instruída das imagens produzidas pelo outro que, agora, dispõe-se à configuração de uma consciência metodológica do fenômeno artístico que reconhece a integralidade dos processos de emissão e recepção da obra de arte.

3. A artista grita seu tempo. Um depoimento autoral

> "*Eu olho ao redor e vejo. Vejo e sinto. Sinto que Deus silenciou minha voz. Já não falo. Ouço. Não me resta o choro e o pranto. Sinto-me seca, sozinha com o mito do grito*".

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O som transecular conclama, em nossa era planetária, a urgência de se ouvir os sons atrofiados que denunciam o destino humano. Os gritos abafados se multiplicam. Não significa que são ouvidos. Os gritos sobre os fenômenos vivos e sociais são, por vezes ignorados, ocultados e dissolvidos em meio a tanto barulho.

Figs. 2 e 3. Isabel Orestes Silveira. *Grito o que vejo*; Grito o que sinto. Imagens digitais, 2022-23. (Acervo da Artista)

O grito abafado ecoa fragmentado, como fragmentada está a alma. É no "aqui e agora" *(hic et nunc),* que necessitamos pensar uma relação recíproca que considera o outro, que permite o acolhimento e a leveza do pensamento subjetivo, afetivo, livre e criador.

3.1. O autor realiza um ensaio crítico sobre as imagens

O padrão documental de um retrato, aludindo às convencionais fotografias 3x4, parece ser a plataforma criativa para as imagens do "grito" propostas pela professora-artista-pesquisadora. É, senão, uma plataforma transgressora.

E, opera-se, aqui uma contradição: na entrada, o período de isolamento social nos revelou um cotidiano de contornos silenciosos; na saída, o período de reinserção social nos impeliu à um cotidiano de diálogos. Assim, o grito que durante tanto tempo permaneceu sufocado, transformou-se em expressão – do não audível ao visual!

No processo de constituição das narrativas gritantes, a figura feminina, isolada e protegida de qualquer olhar, garantida pela sucessão de dóceis veladuras coloridas, cede lugar para a variante multiplicação da imagem.

Assim, como as mulheres da *Dança* de Matisse, a artista, digitalmente, pesquisa a deformação figural e a circularidade compositiva.
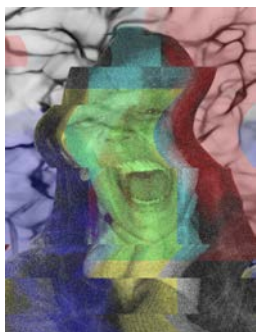
Contraditoriamente, apagam-se as cores!
A face vai perdendo o seu registro oficial para encontrar-se com efeitos alucinantes. As imagens em vórtice, ao tempo que desejam o estado de emancipação, mostram-se cada vez mais concêntricas. E, então, o que se pretendia leve e afetivo incorpora uma inversa dramaticidade. O grito ecoa – e suas reverberações desestabilizam a visualidade.

Fig. 4. Isabel Orestes Silveira. Grito meu tempo, Imagem digital, 2022.(Acervo da Artista)

A vertigem surge como sintoma do mal-estar que permanece. É preciso afastar as mãos da garganta, é preciso gritar! E assim, como na cena da morte em Psicose, o grito-sangue se dispersa como um ralo. As imagens, contudo, são mais corajosas do que as nossas atitudes. As imagens, sim, são mais potentes que os nossos desejos. Com artisticidade, podemos superar os nossos medos e transformar as inseguranças em linguagem.

3.2 Ela grita e eu crio!

O ensaio crítico suscita um processo de aproximação criativa. Assim, em posse da consciência crítica, em presente diálogo criativo com Warhol, me

Figs. 5 e 6. Marcos Rizolli. *O grito sufocado de Isabel*; *Mona Lisa, lá e cá*. Ilustrações digitais, 2023. (Acervo do Artista)

aproprio da imagem de minha parceira criativa para constituir novos laços invisíveis – aqui já, ilustrações do gritar e do criar.

Então, primariamente me apropriei da imagem básica do retrato da artista. Entre os atos da arte e da ilustração, a deliberada condução do processo criativo, em diálogo com Warhol, naturalmente me fez pensar em sua versão da Mona Lisa. Daí, a decisão de juntar as imagens, evidenciando as contraditórias expressões das duas mulheres. Um serena, outra desesperada.

Desse modo, os processos criativos e críticos se mostram absolutamente invertidos – permitindo que o criar juntos se efetive através do gritar juntos! Não necessariamente nesta ordem.

4. O artista grita com Arte. Um depoimento autoral

"Eu olho ao meu redor e prefiro encontrar a Arte. Se o contexto é de insegurança, tento manter meu equilíbrio no eixo da linguagem. Tento me apegar à ironia do cotidiano". Afinal, imagens cotidianas, aquelas de origem dadaísta ou pop, sempre estiveram presentes em minha visualidade expressiva. Para não me isolar, tento, então, um diálogo com a história das imagens pop.

Afortunadamente, Warhol me acolhe e se abre em diálogo. Como um pai: me oferece suas imagens repetidas e banalizadas; me empresta o ideário das autorreferências; me desafia com as figuras de baixos registros; me mostra um outro cotidiano – elogiável e crítico.

Figs. 7 e 8. Marcos Rizolli. *Gritos Pop*; *Retrato sem registro*. Imagens digitais, 2022-23. (Acervo do Artista)

4.1. A autora realiza um ensaio crítico sobre as imagens

No "grito" do professor-artista-pesquisador, a composição insinua uma estética pop, da qual exacerbam algumas características como o binômio produção/consumo de Andy Warhol (1928-1987) e o pensamento sobre a "reprodutividade técnica", o qual apregoava Walter Benjamin. [6]

Se antes, os produtos e imagens divulgados e consumidos pelos meios de comunicação de massa, serviram de inspiração para os artistas da Pop Art, hoje a narrativa do passado se atualiza no presente, uma vez que, se intensifica nas redes sociais, a prática exacerbada da exposição excessiva da imagem como espetáculo.

Assim, o "grito autoral" manifesta a euforia do nosso tempo, por vezes irônico, insinua o grito debochado que desdenha da realidade e funde na imagem a contradição: grito/riso. O padrão repetitivo da imagem, traz no plano pictórico o uso cromático do amarelo, verde, azul e magenta, evocando as relações sujeito/produto, consumo/descarte, anonimato/visibilidade,

Fig. 9. Marcos Rizolli. *Rizolli Diptych*, Imagem digital, 2022. (Acervo do Artista)

público/privado, arte/técnica, ordem/desordem, individualização e autorreferência – características da dinâmica social contemporânea.

O bombardeio de imagens repetidas em mosaico aparenta o desbotamento da cor e ao mesmo

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tempo evidencia a pregnância dos tons escuros. Novamente as dualidades podem ser lidas em oposição: claro e escuro, nitidez e apagamentos, reflexos e opacidades instantâneo e fluído, fragmentação e totalidade, identidade e subjetividade, disciplinar e subversivo.

Tais características reveladas no produto visual podem evidenciar o momento atual da vida, que grita juntamente com o artista, a intensa desconfiança e incertezas quanto ao futuro.

4.2. Ele grita e eu crio!

As imagens repetidas e aproximadas do artista que usa a linguagem Pop, me desafiam a criar formas orgânicas, possíveis graças a simplicidade da ferramenta digital. Com essa possibilidade de criar ilustrações de narrativas, encontro no vórtice, uma forma para diluir a imagem pop.

A presença das cores, contrastes e a forma compactas é substituí-

da pela liquidez, no esforço por expressar o momento atual em que as relações de toda ordem, são fugazes, maleáveis e se esvaem.

Me approprio da composição do artista e a manipulo recortando a imagem colorida. Com a dramaticidade do contraste entre branco e preto dissipo toda ilusão de solidez do pop, que é diluída

Figs. 10 e 11. Isabel Orestes Silveira. *Liquidez*; *Vórtice*. Ilustrações digitais, 2023. (Acervo da Artista)

no vórtice. Assim, a ilustração expressa meu imaginário e grita, através da imagem do outro, toda a fragilidade de laços afetivos e os sofrimentos causados pela ameaça de destruição e degradação da humanidade.

5. Conclusão

Com essa experiência, foi possível a criação expressiva individual, mas também compartilhada, no sentido de que cada autor comentou a produção do outro. A partir da noção de vivências se conservou a identidade pessoal e, também o vínculo da troca que resultou na reflexão e na produção escritural em coautoria.

Os relatos revelaram os modos de gritar a vida intersubjetiva como uma exigência para a constituição do eu. A escrita e reflexão conjunta possibilitou a identificação do "eu e outro" – como se tivéssemos nos apegado à afirmação de que "os acasos acontecem em estranhas coincidências. Eles nos acenam. E nós já sabemos do que se trata: uma nova compreensão de coisas que no fundo sempre existiram em nós".[7]

Então, juntos, vivenciamos "uma experiência ótima"[8] para usar um dos conceitos de Csikszentmihalyi. Ao pensar nosso tempo, ao focar no "agora da vida", ambos os autores puderam, através da produção artística, compreender o que Csikszentmihalyi, alega sobre o estado de atenção e não desvio, para assim vivenciar o *Flow* – estado totalmente absorvido e interessado pelo que se faz.

Foram construídas representações de signos visuais motivadas por interesses específicos, tendo o grito como definição da realidade social.

Nesse sentido, "a obra de arte carrega as marcas singulares do projeto poético que a direciona, mas também faz parte da grande cadeia que é a arte. Assim, o projeto de cada artista insere-se na frisa do tempo da arte, da ciência e da sociedade, em geral".[9]

Por fim, temos a consciência de que permanecemos imbricados num processo de incompletude. Temos, ainda a convicção de que projetamos caminhos que culminaram na produção de obras inacabadas que bem puderam representar a contemporaneidade na qual estamos, ainda que simbolicamente, submersos.

Espera-se, assim, contribuir para que o GRITO continue ecoando na linha do tempo das imagens.

Espera-se, outrossim, colaborar para que o GRITO permaneça vívido na linha do tempo das teorias da arte e da ilustração.

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