How does costume illustration sketching mediate between visual development concept art and the practical construction of film costumes?

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Abstract: Sketching is a vital form of communication across creative industries. As an essential part of the filmmaking process, costume illustration functions as a mediating design practice where sketching translates concept art into wearable garments. Historically rooted in hand-drawn fashion illustration, contemporary costume sketching has evolved into a globalised digital practice that bridges artistic vision and physical construction. Through this lens of design mediation and embodied expertise, the study draws on industry interviews and reflective practice to examine the costume illustrator's changing role as translator between the digital concept and physical costume. Costume sketching solves practical challenges based on knowledge of tangible garment construction, however, the hierarchical dominance of visual development departments within film production presents increasing challenges to translating fantastical concept art into wearable clothes. While visual development artists often prioritise aesthetic and narrative spectacle, costume illustrators reinterpret these designs through tacit, material knowledge of fabrics, fit, and movement.

Keywords: film; costume; sketching; costume illustration

1. Introduction

Sketching is a universal language of design thinking and communication across creative disciplines (Cross, 2006). Within the film industry, sketching remains a vital component of the design process, underpinning visualisation practices across production design, storyboarding, concept art, and costume design (Block, 2019).

Costume illustration is a specialised form of professional design sketching practice in the film industry. Historically rooted in hand-drawn fashion and character sketches, contemporary costume illustration now encompasses digital rendering techniques that integrate visual spectacle with material feasibility (Landis, 2012).

Drawing on interviews with costume professionals and practitioner insights, this paper investigates this translation sketching process by examining the costume illustrator's role as a mediator between digital concept and physical construction.

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This study asks: How does costume illustration sketching mediate between visual development concept art and the practical construction of film costumes? By doing so, this paper contributes to sketching research by showing that costume illustration is not merely a representational stage within film production, but a form of mediating sketch practice through which digital concept art is translated into materially feasible, body-aware costume designs.

1.1 Sketching as design mediation

Design research widely recognises sketching as a central practice of visual thinking and mediation. Schön (2016) describes the act of drawing as a form of 'reflection-in-action'; a dialogue between designer and emerging design-form through which new insights are generated. Similarly, Cross (2006) identifies sketching as a 'designerly way of knowing', a process capable of externalising tacit knowledge and supporting the translation of abstract ideas into material outcomes. In film design, sketches operate as what Wille (2015) terms 'design incarnations', mediating between the conceptual and material stages of production. Wille's model (ibid.): design idea, design suggestion, visualisation, artefact, illustrates how sketches can both communicate and transform ideas as they develop and circulate among creative departments.

1.2 Tacit and embodied knowledge in design practice

Polanyi's (1966) concept of tacit knowledge describes the implicit, experiential understanding that practitioners develop through sustained engagement with materials and tools. Ingold (2013) extends this idea by arguing that making is a form of thinking; knowledge emerges through the bodily encounter with materials, gestures, and constraints. Within costume design, such embodied knowledge includes understanding fabric behaviour, movement needs, proportion, garment construction, history and fit.

Costume design is also inherently human-centred; requiring attention to human needs, abilities, and bodily experience (Norman, 2013). In the context of costume for film, this means designing and sketching costumes whilst considering user experience of actor movement, comfort, and the diverse proportions of performers.

These theoretical frameworks are relevant to costume illustration because illustrators frequently draw on tacit material knowledge of fabric properties, garment construction and fit when translating digital concept art into feasible designs for a performer via embodied sketching.

1.3 Historical development of costume illustration

Historically, film costume illustration has evolved from fashion-inspired analogue renderings to character-driven visualisations that communicate performance, movement, and emotion (Landis, 2012). Landis (ibid.) documents this trajectory, tracing how early twentieth-century designers employed illustrators to visualise garments before fabrication. These early sketches were expressive yet rooted in tailoring knowledge, serving as both design artefacts and technical communication tools (ibid.). Malinen (2017) further identifies costume drawing as a form of thinking through drawing; a cognitive and communicative practice through which designers negotiate ideas with directors, actors, cutters, and production

teams. Costume illustrations thus have long operated as boundary objects (Henderson, 1991) within collaborative filmmaking, simultaneously aesthetic and instructional.

1.4 Digital transformation and distributed practice

The digital turn has profoundly reshaped costume sketching (Manninen, 2023). Digital tools have expanded sketching's role within production design, allowing artists to generate highly realistic, detailed and integrated visualisations that feed into digital pipelines (Balla, 2020). Balla (ibid.) notes that digital sketching for film enables rapid iteration and photorealistic visualisation, supporting communication across globally distributed production teams. However, this technological shift has also blurred disciplinary boundaries (ibid.). As concept artists within visual development departments gain dominance in film production hierarchies, costume illustration often becomes reactive; tasked with adapting digital designs conceived outside the material logic of garment construction (Kalmakurki, 2024).

1.5 Cross-disciplinary boundaries and knowledge gaps

Despite overlapping sketching methods, concept artists and costume illustrators possess distinct forms of expertise.

- Concept artists, typically located within visual development departments in film, prioritise world-building, narrative tone, and digital spectacle.
- Costume illustrators operate within the costume department, and collaborate closely with designers, supervisors, and makers to ensure designs are realised in a buildable and performative way for varying body types.

This disciplinary divide creates a need for translation; a mediating stage in which costume illustrators reinterpret concept art through their own and the costume designers' tacit and embodied knowledge of materials, construction, and movement. Yet, as the literature reveals, this mediation is largely undocumented. Existing research explores costume design and digital concept art separately but rarely considers the role of the costume illustrator as a design-collaborator who converts digital imagery into physical possibility. Addressing this gap, this paper situates costume-illustration sketching as a form of design mediation that embodies both visual interpretation and material problem-solving within contemporary film production.

2. Methodology

This study used a combination of qualitative thematic analysis (Braun and Clarke, 2022) of industry expert interviews, combined with empirical evidence generated from reflective costume illustration practice (Frayling, 1993), to explore the changing role of sketching in film.

2.1 Interview data collection

A series of semi-structured interviews were conducted with four industry experts (Kvale and Brinkmann, 2009). Experts were recruited using purposive sampling (Palinkas et al., 2015). The interviews included costume professionals with considerable experience working across major film and digital productions.

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Table 1. Participants experience details

Participant job role	**Experience**
Costume Supervisor	Over 25 years' experience working as a Costume Supervisor for high-budget feature films
Specialist Costume Cutter/ Garment Technology Researcher	A trans-disciplinary artist, designer and researcher working across clothing, costume and wearable technology. Experience as a specialist cutter and maker on a number of high budget feature films
Junior Costume Cutter	Over 5 years' experience working as a part of costume departments for theatre and film. Experience working as a maker on high budget feature films
Digital Costume Designer/Researcher	Researcher and practitioner with experience adapting analogue costume skills into the production of digital characters in game development

While the full transcripts covered a wide range of topics within costume practice, this paper focuses specifically on excerpts that discuss the translation of visual-development concept art into buildable costumes.

This study was conducted in accordance with established ethical research guidelines and institutional requirements. All interview participants were provided with a clear, accessible information sheet outlining the study's aims, research context, methods, potential benefits, and any foreseeable risks. Before taking part, each participant gave informed consent. Participation was entirely voluntary, with the right to withdraw at any stage without penalty or the need to give a reason. Participants were informed how their contributions would be recorded, stored, analysed, and used. All quotes were anonymised for this paper.

2.2 Reflective practice

As a practising costume illustrator, the author contributed a reflexive dimension to the study. Reflective notes (Frayling, 1993) about professional projects were analysed alongside interview data and industry case example (Yin, 2018), to identify overlaps between personal experience and industry discourse. This insider perspective allowed the study to examine costume illustration not as a detached object of analysis but as a situated practice of mediation, embedded in collaborative workflows and production hierarchies. This auto-ethnographic (Ellis, Adams & Bochner, 2011) strand

complemented the interview data, providing embodied and experiential evidence of design translation in action.

2.3 Thematic interview analysis

The thematic analysis of interview data followed an inductive method (Braun and Clarke, 2022), focussing on the themes directly relevant to sketching and mediation for costume workflows.
Rather than treating participants' statements as representative of an entire industry, the analysis used them as illustrative cases that expose how costume illustrators operate as mediators between imaginative and material design domains. The results are therefore interpretive and exploratory, aimed at identifying knowledge practices rather than measuring frequency or consensus.

3. Results

The interview data and accompanying practice-based case study revealed how costume illustrators navigate the translation between digital concept art and practical costume construction using sketching.

3.1 Thematic analysis results

Across the dataset, five recurring themes emerged: (1) translation and reinterpretation, (2) aesthetic versus practical constraints, (3) hierarchy and negotiation, (4) embodiment and body realism and (5) digital workflow and global collaboration.

3.1.1 Translation & reinterpretation

Industry experts frequently described having to 'translate' concept artworks into costume designs which could be physically realised by the costume department. Costume experts noted that while concept art provided broad visual direction, it often lacked the construction information required to make a garment physically. One participant said that:

> "Sometimes something wouldn't make sense and they would just say to me, okay, that's your stuff, you can translate it. And then I would say, okay, there's a zipper, etc."

Others described adding seams, fastenings, or simplified forms to enable actor movement, or ensure that costumes could be fabricated on schedule. These translations typically occurred early in pre-production and shaped how the costume workshops interpreted or prioritised functional design details.

3.1.2. Aesthetic vs. Practical constraints

Interviewees consistently highlighted the tension between the visual ambitions of concept art and the practical limitations of materials and movement. One participant commented:

> "Superheroes generally have very big shoulders… that completely restricts movement, and so that's why we end up having suits that have certain parts missing because they can't do that [raises arm]."

Another participant described the challenge of matching complex digital designs to a real-life garment:

> "From a making perspective, having to make everything follow the concept art with all of these tiny design lines was very tough. And keeping the suit sleek with all of the bulky fabrics layering over each other was challenging."

In many cases, costume teams were required to follow the approved concept artwork closely, even when this created issues of fit or flexibility on real body shapes, which are often non-uniform.

3.1.3 Hierarchy and negotiation between departments

Several participants described a hierarchical relationship between visual-development and costume departments, in which the visual development concept art sketching held authority over later design stages. One noted:

> "If you have a line that's moved because of the body shape of the actual human, it will come back as notes as 'you need to move that line back' … They're amazing at doing their designs but they maybe have less of an understanding of various body shapes."

Another participant explained that design revisions could be difficult, as visual development had design editing power throughout production stages:

> "We did have the concept artist changing things with our suit throughout, which did make things difficult."

Despite these constraints, participants also described moments of collaboration and compromise, where the costume department proposed adjustments that balanced the concept artist's intentions with what could be achieved physically.

3.1.4. Designing for diverse body shapes

Many interviewees raised the issue of translating idealised or stylised digital figures into designs for real performers. Some noted a persistent tendency in concept art sketching to represent exaggerated or standardised body types. As one participant expressed:

> "That's never going to happen, because they're comic-book boys… I've never yet had a meeting with a female. And that's why there's that whole, and forgive me for saying, kind of fantasy female body."

Another added:

> "They maybe have less of an understanding of various body shapes. Especially women, if you're short and your legs aren't up to here…"

Such comments emphasised the need for costume illustrators and designers to adapt visual concepts to fit diverse bodies, often making proportional adjustments or modifying silhouettes to suit the casting of the film.

3.1.5 Digital workflows and global collaboration

Participants also described how contemporary production pipelines, which are spread across multiple studios and countries, shape costume visualisation. Concept work is frequently developed in visual-development departments, while costume fabrication occurs elsewhere. One designer explained:

> "The whole [Marvel] process is that concept work is created in LA by the visual development department… and then, depending on who the concept artist is, and dependent on who the designer is determines any leeway you have going forward."

While digital tools enable faster exchange of sketches and approvals, they also increase the number of revisions and feedback layers. Some participants noted a resulting visual uniformity:

> "Things are looking very samey because the same artists are getting tired of drawing the same things."

These comments highlight how distributed, digital workflows influence both the creative autonomy and working pace of film costume professionals.

3.2 Case study example: The Acolyte (Headland, 2024)

A comparative industry case study which included the author's own costume illustration work illustrated the translation sketching process described by participants. In The Acolyte (Headland, 2024), a piece of concept art depicting alien patrons in a bar provided initial colour palettes and character moods but only partial costume information, as seen in figure 1, figures were shown from the waist up.

Figure 1. Concept art produced by visual development department for background 'alien characters' in The Acolyte (Headland, 2024)

The author's task was to extend these concept ideas into complete, buildable costume illustrations for background characters, guided by the costume designer's needs.

Figure 2. Authors costume illustration sketches for background 'alien characters' in The Acolyte (Headland, 2024)

The resulting figure 2 costume illustration sketches maintained the palette and tone of the original concept art whilst adapting silhouettes for quick fabrication. Available materials were incorporated into the sketching process, and simplified construction methods were depicted to ensure efficiency for background character construction. Additional texture and surface variation was also added, to enhance visual richness on screen.

The direct comparison of original concept art in figure 1 demonstrates how the concept image's abstract design cues were developed into concrete costume solutions in subsequent figure 2 costume illustration sketches, balancing aesthetic intent with fabrication constraints. The costume illustrations served as a bridge between the visual-development image and the costume workshop's practical needs, embodying the translation sketching process described in this study.

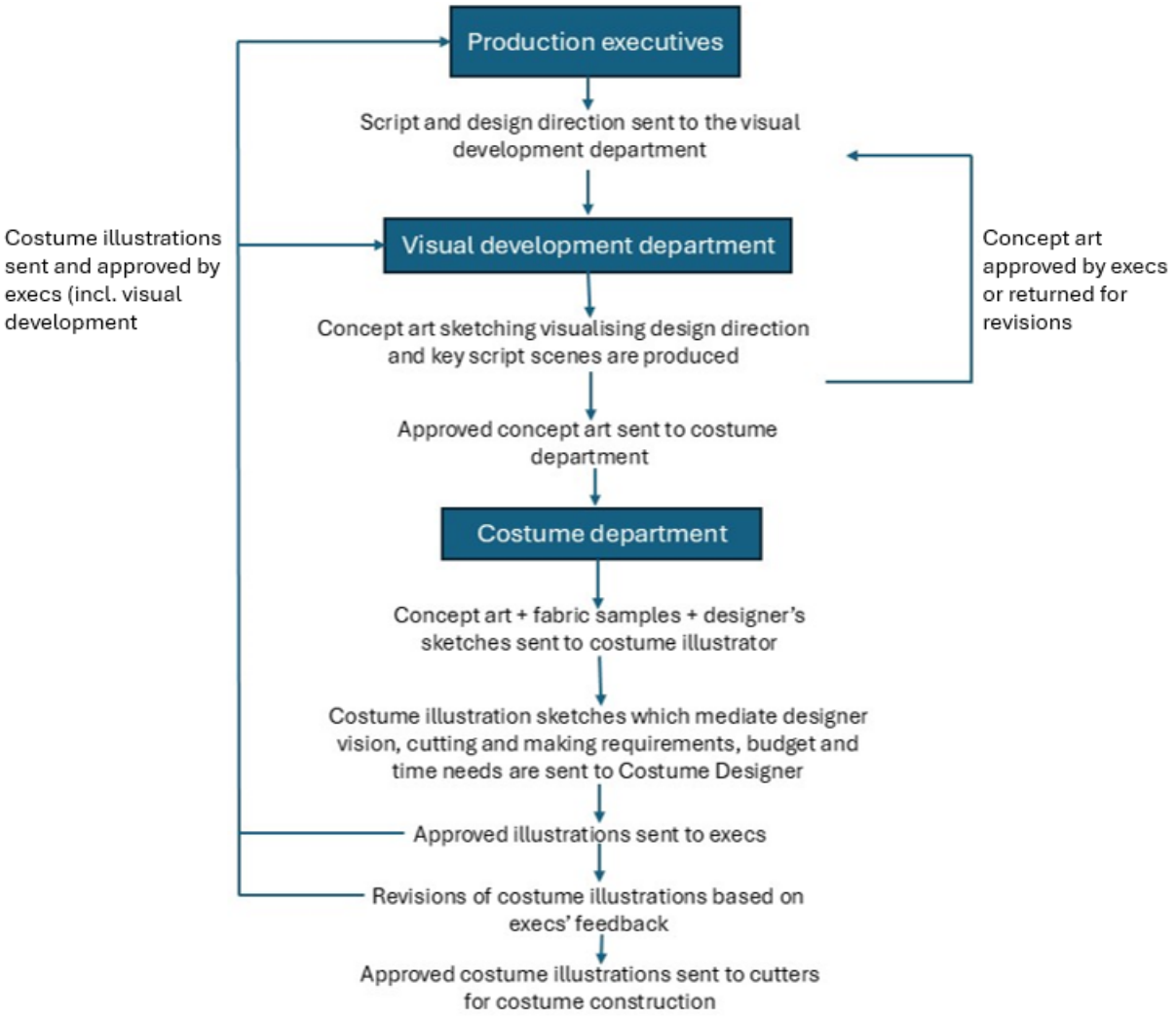

Figure 3. Hierarchy and workflow diagram for costume design in case study example

Figure 3 visualises the workflow exemplified in this case study, showing that visual development departments are higher up the industrial hierarchy than costume departments.

4. Discussion

Key findings from this study are:

- Costume illustration sketching is a form of design mediation in film.
- Costume illustrators sketch using tacit and embodied knowledge.
- In the era of digital film, visual development departments have considerable authorship of costume designs.
- Costume illustrators sketch using material thinking.

4.1 Costume illustration as design mediation

The findings demonstrated that costume illustration sketching operates as a form of design mediation between the imaginative and material stages of film production. Schön (2016)

describes design sketching as reflection-in-action; a conversation between designer and emerging artefact. Costume illustrators embody this dynamic, redrawing concept art not as passive renderers but as reflective interpreters who engage critically with material, silhouette, and fabrication constraints.

Similarly, Cross (2007) frames sketches as intermediary representations that make design thinking visible. In the costume department, these intermediary sketches allow abstract, digital images to be negotiated into practical instructions for cutters, dyers, and makers. Costume illustrators occupy the transitional sketching stage between visualisation and artefact, transforming speculative digital imagery into detailed, buildable costume plans. The case example from The Acolyte (Headland, 2024) exemplified this mediating bridge-role. The author's illustration extended partial concept imagery into full-body designs which could be fabricated rapidly, using available fabrics and simplified construction logics. The drawing functioned as a visual bridge between the concept artist's atmospheric intention and the costume workshop's material execution and practical constraints, translating creative vision into functional design.

4.2. Tacit and embodied knowledge

A second key finding concerns the tacit and embodied knowledge underpinning costume-illustration sketching practice. Polanyi (1966) describes tacit knowledge as an implicit awareness embedded in skilled action. For costume illustrators, this knowledge emerges through experience with fabric, fit, garment construction and movement. Participants' comments about adjusting concept art to suit body shapes or movement limitations reveal design decisions rooted in bodily intuition rather than formal instruction.

Costume illustrators demonstrate embodied sketching when they modify digital concept art by sensing how cloth will drape or where seams must lie for comfort or practical construction.

This embodied expertise is also critical in addressing the unrealistic body representations common in visual-development artwork. The interviewees' accounts of adapting 'fantasy female bodies', or exaggerated superhero proportions reveal how costume illustrators reintroduce physical realism into costume design using human centred design principles (Norman, 2013). Through their sketches, they reconcile the digital body with the living, performing body of the actor; an interpretive act grounded in embodied understanding. As Salomaa (2018) argues in relation to digital character design, the absence of costume-specific knowledge in digital pipelines can result in costumes that are visually striking but functionally implausible.

4.3. Hierarchies and negotiation between departments within digital pipelines

This study's findings also exposed how digital production hierarchies shape the costume mediation process. Visual-development departments, often geographically distant and organisationally senior, produce concept art that establishes the aesthetic identity of a project. Costume teams then operate within this pre-defined visual framework. The interview data showed that feedback loops frequently flow in one direction (concept art to costume), limiting opportunities for reciprocal dialogue.

Within this system, the costume illustrator's sketch becomes a site of negotiation. These drawings visually argue for adjustments necessary to achieve movement, fit, or material

coherence. In doing so, they challenge the dominance of digital imagery by embedding the logic of construction into the visual language of costume design. Although these mediations are rarely visible in the final film, they are essential to aligning artistic intent with performative function.

This negotiation also reflects a broader disciplinary boundary between visual development sketching practice (concerned with digital spectacle) and costume sketching practice (concerned with material embodiment and character). The costume illustrator operates precisely at this boundary, translating across the epistemic divide between image-based and material-based ways of knowing via sketching.

4.4. Material thinking in a digital context

The growing digitisation of sketching practices in film has expanded global collaboration but also introduced new pressures of speed, revision, and stylistic uniformity. As participants observed; 'things are looking very samey because the same artists are getting tired of drawing the same things'. This points to a tension between digital homogeneity and the material diversity valued in costume practice.

Despite these constraints, digital sketching can still function as material thinking (Ingold, 2013), a process through which designers explore the properties of materials conceptually before fabrication. The author's Acolyte (Headland, 2024) illustrations demonstrated how digital tools can support this; while the drawings were executed digitally, they also encode decisions about fabric texture, drape, and layering that are inseparable from material understanding. In this way, digital costume illustration sketching becomes both a technological and tactile practice, merging visual communication with embodied construction knowledge.

5. Conclusion – reframing the costume illustrator

This study has shown that costume-illustration sketching plays a crucial mediating role in translating visual development concept art into buildable film costumes. Through interviews with industry practitioners and a practice-based case example, it has revealed how costume illustrators bring tacit, embodied, and human-centred knowledge to a pipeline that is increasingly shaped by digital visualisation and aesthetic spectacle. Their sketches do not simply visualise garments; they negotiate between imaginative intent and material reality, ensuring that designs remain wearable, performative, and achievable within production constraints.

The interviews revealed recurring challenges in this translation process; concept art that prioritises spectacle over wearability, stylised digital bodies that diverge from real performers, and hierarchical structures that privilege visual development artwork over costume

professionals' knowledge. Costume illustrators respond to these conditions through interpretive redrawing, negotiation with multiple departments, and the insertion of construction logic that is often absent from initial designs. The practice-based case example from The Acolyte (Headland, 2024) further demonstrated how costume illustration functions as a bridge between atmospheric concept imagery and the practical demands of costume workshops, reinforcing the mediating nature of sketching within this collaborative environment.

Viewed through frameworks of design mediation (Schön, 2016) (Cross, 2006) (Wille, 2015), tacit and embodied knowledge (Polanyi, 1966), and human-centred design (Norman, 2013), costume illustration emerges as a sketching practice that translates between digital imagination and material reality.

This study contributes to design-research discussions of mediation, tacit knowledge in sketching practice, and digital-to-material translation within collaborative film design. This research also demonstrates that costume illustrators provide essential counterbalance to digital homogeneity, as they consider the physical body of the performer within design processes that often privilege stylised digital bodies and introduce materiality through tacit knowledge. For film production, this study suggests that closer collaboration between visual development and costume departments, particularly at early design stages, could reduce inefficiencies, improve costume feasibility, and support more inclusive, realistic representations of diverse bodies. As productions rely more heavily on digital design, acknowledging and integrating costume
illustrators' embodied expertise will be vital to ensuring that visual concepts remain grounded in what can be performed and experienced on the human body. More broadly, this research invites scholars and industry practitioners to reconsider how digital design processes intersect with material making.

6. Limitations and further study

The scope of this study is bounded by its qualitative and practice-based nature. The interview sample is small and context-specific, focusing on practitioners within Western film and digital video-game production pipelines. The reflective component introduces subjectivity; however, this is acknowledged as an integral aspect of practice-based research rather than a methodological flaw. Future work could broaden the inquiry through comparative case studies or direct observation of design-translation workflows through ethnographic studies.

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