

Fig. 13 Photograph of avatar and garment in an HDR landscape of a field, personal photograph by author, December 13, 2023.



QUEERING USE, VALUE AND TIME THROUGH THE DIGITIZATION OF AN EARLY EDWARDIAN PAPER PATTERN

By Millie Yates
MA Fashion Student

February 24, 2025

**Toronto
Metropolitan
University**

INTRODUCTION

Pattern-making is an undeniably important practice, though it is less celebrated than its glamorous counterpart: fashion design (Moore 1; Akkam). Much can be gleaned about fashion history from the study of paper patterns (Emery 2), yet their ephemeral nature renders them difficult to display, and to the untrained eye, it is challenging to conceptualize their unrealized potential as physical garments. So how might their potential as fashion objects be fulfilled without damaging them further? I contend that through tracing patterns using 3D digital design tools, new possibilities of engagement with ephemeral archive items emerge.



Fig. 1 Photograph of Ladies' Home Journal paper pattern envelope, personal photograph by author, November 29, 2023.

To investigate 3D digital design software's potential to enliven paper patterns, I developed a digital re-creation of an early Edwardian pattern from the Fashion Research Collection (FRC) using Mida and Kim's guide for object-based analysis (40-58). The term "re-creation" can be defined as "the action or process of creating again or in a new way" and is employed deliberately throughout this research to accurately describe my process (Davidson 337). In tandem with this practice-led approach, a case is made for the digitization of paper pattern ephemera. 3D re-animations queer traditional uses of 2D paper patterns, opening up new avenues of engagement with delicate archive items. The boom of the digital fashion industry signifies an unexpected valuation of digital objects, indicating that 3D digital modeling holds the potential to attract new audiences to museums and archives alike. Finally, 3D re-creations offer the opportunity to animate and re-envision fragile objects of historical significance, allowing them to transcend their temporal nature as ephemera and enmesh the past in both the present and the future.

QUEERING USE

While much has been written on the role of the designer, the role of the pattern maker in fashion history has spilled less ink (O'Neill 22). The history of paper pattern making traces back as far as the 15th century (Emery 5), where the proliferation of sumptuary laws necessitated strict regulations on cut and style (Moore 13). Early patterns lacked measurements and diagrams, rendering them incomprehensible to modern day tailors and a "high level of competence was required" to follow their notations (14). Towards the 19th century, the boom of the publishing industry made the transmission of paper patterns to Western home sewers possible, and women's periodicals acted as "important conduits for relaying information to seamstresses" (17). The pattern I've selected to study (an early Edwardian day dress distributed by the Ladies' Home Journal) is indicative of this shift (see fig. 1).

The lack of notches, measurements and instructions on home sewing patterns during this time assumed skill on the part of the home-sewer, as "the cultural necessity of sewing that was inherent in nineteenth-century life meant that many women would have had robust prior knowledge", and this was evident upon examination of the nearly unmarked pattern (19). Very limited notations are provided on the surface of the pattern pieces; among them are notches and drill-holes of varying sizes (see fig. 2).

A brief legend is provided on the backside of the pattern envelope, offering the home sewer a glimmer of insight for deciphering its construction (see fig. 3). This pattern includes a brief 8-sentence paragraph of instructions, with little to no information on cutting, sewing and finishing techniques. The popularity of home sewing was so rampant in the late nineteenth century that pattern companies churned out hundreds of new styles each year (Emery 69). The patterns (such as this one by the Ladies Home Journal) were durable enough to be utilized a handful of times by the skilled sewer, but as "the fashion industry capitalizes on its own ephemerality as its rhythm requires that of perpetual renewal" (Pecorari 14) they were not intended to last forever. When designed in order to be used, "use seems to have a temporal quality" (Ahmed 24). The patterns ceased to be useful in their intended sense once their material form was realized and even less so once fashion had evolved.

Closely connected to an object's use is its value, yet how might value be judged in the case of a digital re-creation of an ephemeral archive object? If value is ascribed to an object based on desirability (S. Harris 682), digital fashion is undeniably valuable. Evidence of an appetite for digital fashion objects is plentiful: digital design firm The Fabricant sold an iridescent virtual dress for close to \$9500 USD in 2019 (Särmäkari 86), global spending on virtual goods reached \$110 billion in 2021 with digital fashion accounting for nearly 30% of sales ("Fashion's Metaverse Reality Check"), and in the first three quarters of 2023, popular gaming platform Roblox sold 1.6 billion digital fashion goods (Lee). The value of digital fashion is closely associated with its novelty. Though virtual fashion goods cannot be worn, consumers assign value to digital fashion for conspicuous, social and epistemic reasons (Venturini and Columbano 13), confirming that value is a broad concept found in all manners of things (S. Harris 681), both material and immaterial. The demand for digital fashion products is indicative of a shift in values; one that equates the value of the virtual with reality (Park 2646). While digital fashion's commercial desirability is evident, in the case of the archive I argue that valuation does not hinge on desirability, but largely on interest. As such, fashion historians should be investigating digital fashion's potential to enliven interest (and thus, value) in ephemeral archive items.



Fig. 5 Photograph of the reverse of the pattern envelope, personal photograph by author, November 29, 2023.

The digital replication of objects can be an anxiety-inducing topic for museums and archives (Cameron and Kennerdine 4). The idea that “real” objects and works of art are under threat, exacerbated by theories of mechanical reproduction and simulation...has had a persuasive effect on the way museum collections and digital objects have been viewed, used and assigned meaning” (4). Yet the goal of 3D digital re-creations should not be to lessen the value of the physical object, but instead to augment its possibilities of engagement with visitors (Hazan 136). Virtual objects can disseminate the contents of archives to “under-served populations”, broadening the reach of physical objects (141). Other possible advantages include bypassing “limitations of physical display, reduc[ing] wear and tear on garments, and lower[ing] the cost of exhibitions” promoting a less destructive and more inclusive approach to the display of archive objects (Villarreal 41). While digital photographs may empty “material features of their value, ‘flattening’ the experience of the objects” (Franceschini 83), 3D digital re-creations endeavor to do the opposite by transforming the flat pattern into an interactive, novel object. An archive visitor unskilled in fashion design and pattern-making may have difficulty visualizing or understanding the role paper patterns play in the construction of material garments. The fact that there had been minimal interest from FRC visitors in the Edwardian Ladies Home Journal patterns speaks to this truth. 3D renderings illuminate the outcome of the 2D pattern in a visually engaging, accessible and novel manner, promoting visitor interest and thus a greater valuation of the paper pattern within the archive.



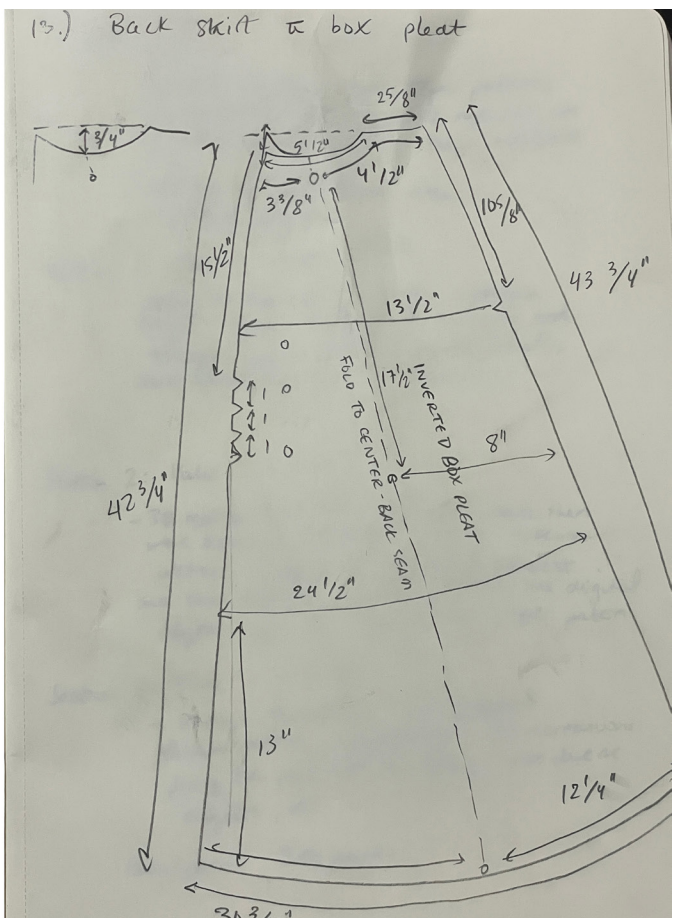
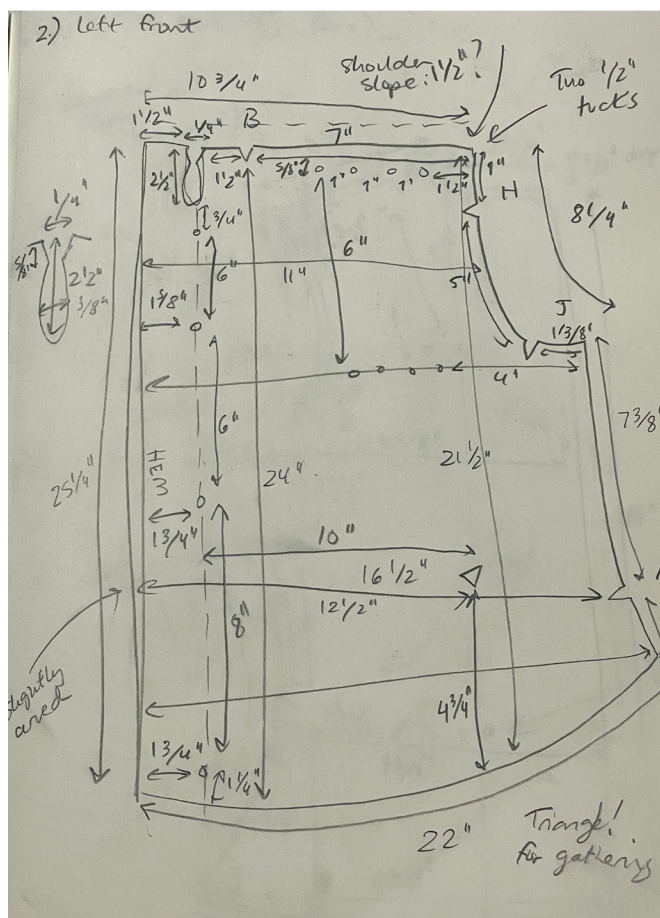
Fig. 6 Photograph of complete set of pattern pieces, personal photograph by author, November 29, 2023.

ENMESHING PAST IN FUTURE

Beyond generating usefulness and value, 3D digital re-creations thwart linear time, propelling ephemeral 2D paper patterns into the realm of fantasy. The term “uchronia” is of significance to this project, as it refers to an “impossible or fictional time” allowing for experimental interpretation of both the past and the future (Vaccari and Evans 18). 3D re-creations embody uchronia, as they reimagine and reinvent historic 2D paper patterns by embedding them in a digital, immaterial future. An obvious advantage is the preservation of fashion history, as the digital file can persist long after the paper pattern has disintegrated. Yet even more intriguing is the possibility 3D re-creations hold to re-envision history.

I began this project by first examining its historical context, though pinpointing a date for the pattern from the Ladies' Home Journal required some investigation. The box of paper patterns in the FRC's archive contained stylistically similar patterns with dates ranging from 1890-1910. The pattern I selected is labeled as a size 40, and commercially-made patterns were sold as individual sizes beginning in 1871 (Moore 20). The pattern is listed as "No. 4380", but numbers can be red herrings for dating historic patterns, as pattern companies frequently recycled style numbers (Emery 2). An important clue is found on the reverse of the pattern's envelope where it is clearly written "The Ladies' Home Journal Patterns are made exclusively by The Home Pattern Co." (see fig. 5). Condé Nast founded The Home Pattern Co. in 1905 in an arrangement for distribution with the Ladies' Home Journal (Emery 72). Thus, it can be deduced that this pattern was purchased no earlier than 1905, however the possibility of it being a reprint of a popular style remains. The stylistic details of the pattern include a nine-gore skirt, a slim sleeve with fullness at the shoulder, a fitted waist, and a wide box pleat at the skirt's centre-back. The cut of the skirt may be a telltale clue of its era: in the 1890s skirts were "close fitting at the waist and hips...going to a wide hem-line, and had more fullness at the back than had recently been worn" (Gernsheim 79). Indeed, the pattern under examination fits snugly around the hips like many skirt patterns of the era (K. Harris 103). The details of its bodice are also indicative of its age—by 1895, blouses had added fullness at the front, and the tucks and gathers of this pattern reflect the "pigeon" silhouette that persisted well into the early 1900s (K. Harris 105). By careful comparison to late-Victorian and early Edwardian photographs (K. Harris 107-133; Gernsheim 81-100), advertisements (Stevenson 35-39), and Delineator fashion plates (K. Harris 145), I estimate that this pattern depicts a garment from between 1899-1905.

Fig. 7 Photograph of the author's pattern sketch, personal photograph by author, November 29, 2023.



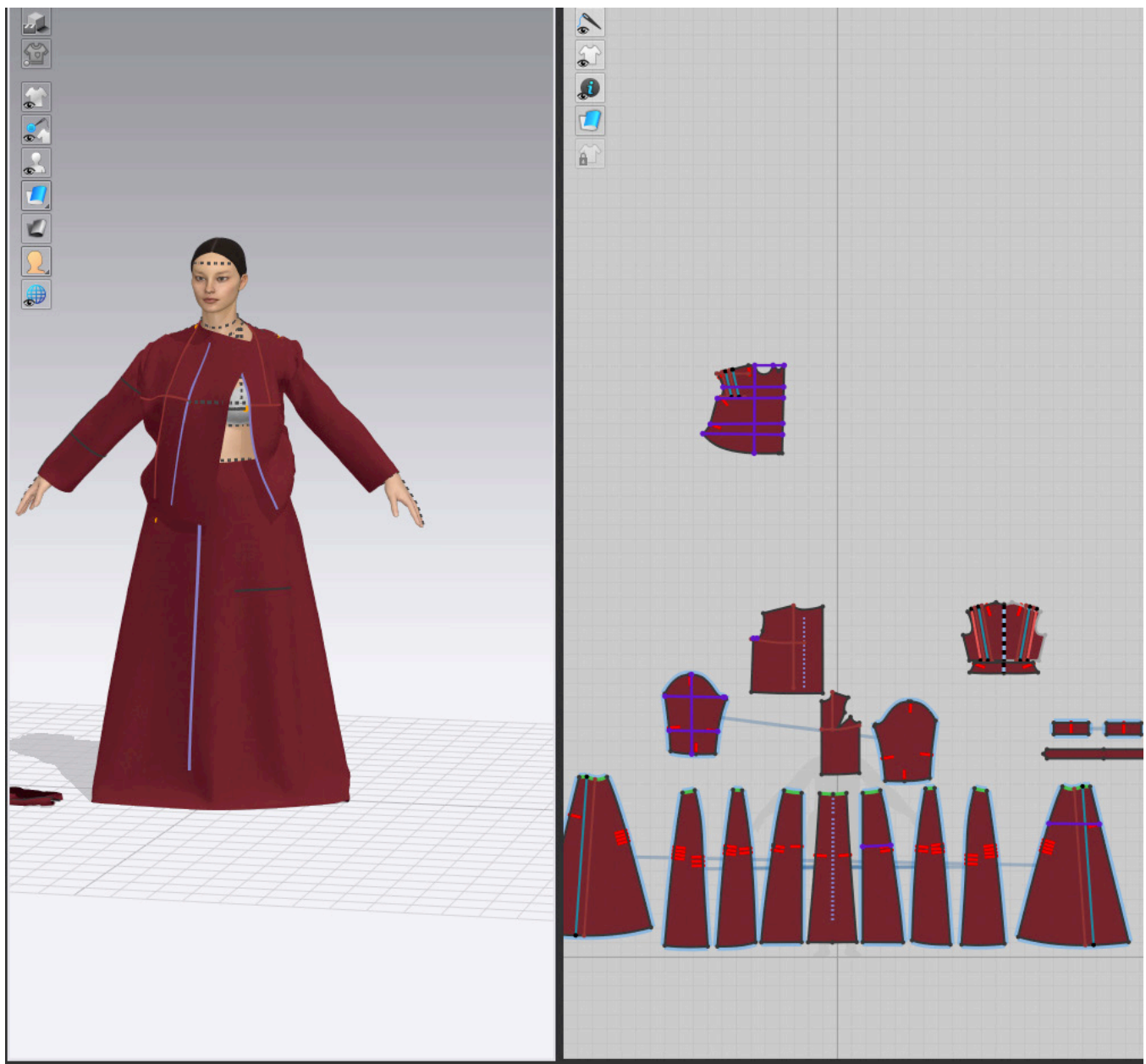
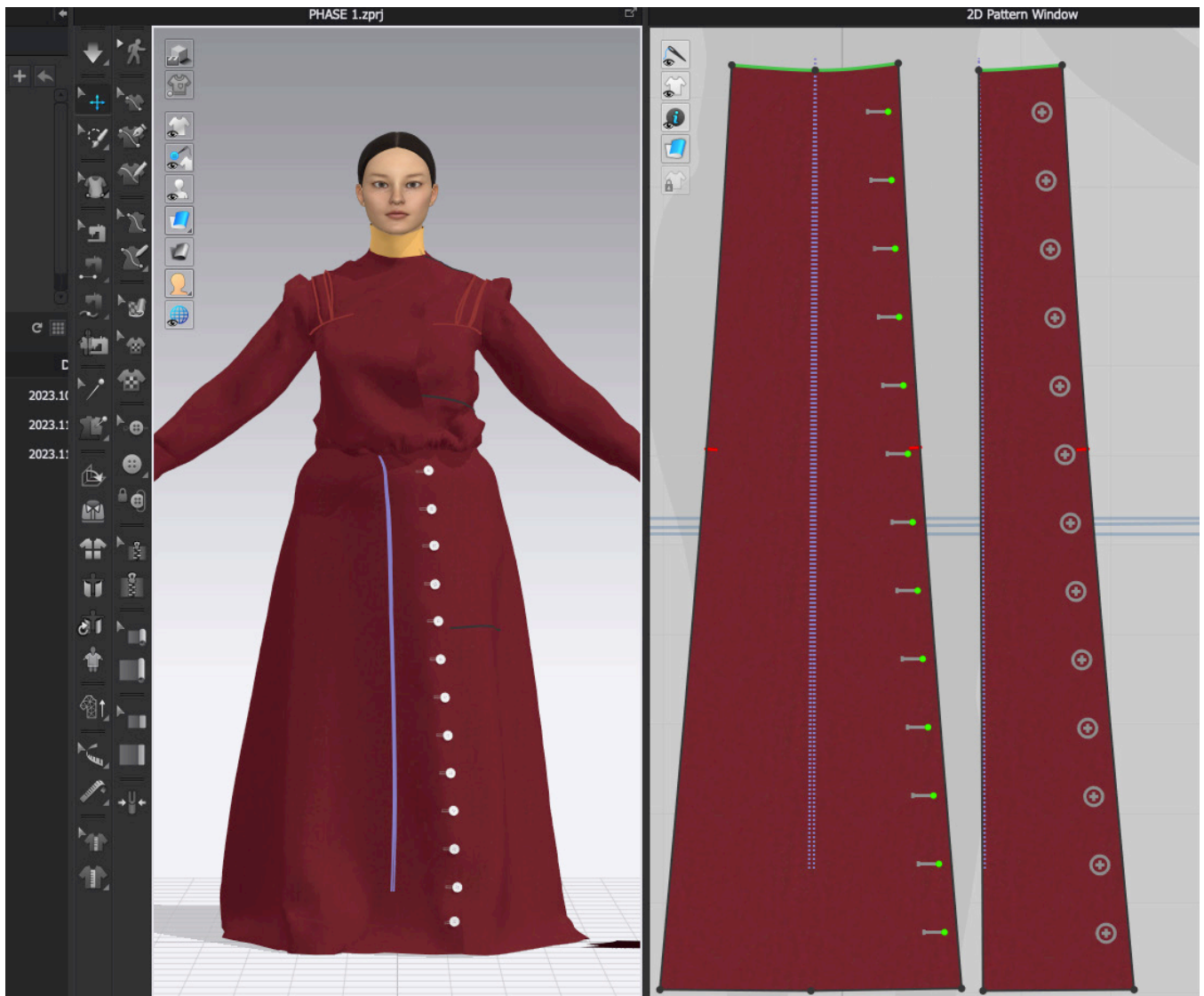
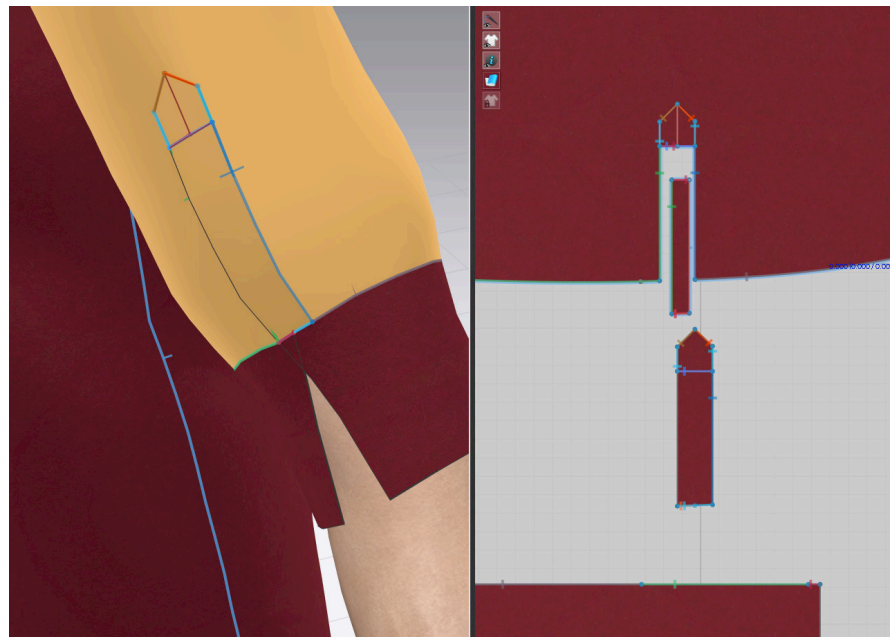


Fig. 8. Photograph of the author's digital process work, personal photograph by author, December 3, 2023.

For an ephemeral object nearly 130 years old, the paper pattern was in remarkable condition (see fig. 6). Despite some water marks, its notations and edges remain crisp. This made it possible to gently measure and then sketch all fifteen pattern pieces (see fig. 7). Next, I slowly translated my data into 2D digital pattern pieces (see fig. 8). Using 3D simulation tools, I virtually sewed together the completed panels (see fig. 9 and 10) and simulated the garment on an avatar I hacked to depict an early-Edwardian size 40 (see fig. 11). Just as the highly-skilled late 19th-early 20th century sewer would have tailored her pattern to suit her size, several rounds of small adjustments were needed to rig the garment on the avatar (see fig. 12). Researching popular fabrics and colours for early Edwardian day dresses led me to choose a simple cotton voile in navy (see fig. 12) (Harris 103). I evaluated the fit of the 3D rendering by comparing it to the fashion illustration on the front of the pattern envelope. I tweaked details accordingly, moving from the 2D pattern drafting window to the 3D rendering window and back again in a process that mimicked toiling (O'Neill 32).

RIGHT: Fig. 9 Photograph of placket construction in 2D and 3D, personal photograph by author, December 8, 2023.

BELOW: Fig. 10 Photograph of button sewing, personal photograph by author, December 9, 2023.



AVERAGE MEASURES FOR FASHIONABLE MANTLES IN THE WHOLESALE TRADE

	S.W.		W.		O.S.		X.O.S.	
Breast	32	34	36	38	40	42	44	46
Hips	36	38	40	42	45	47	49	50
Length	40	41	42	43	44	45	45	45
Back Sleeve	6½	6½	7	7½	7½	7½	7½	8
Forearm Length	16½	17	17½	18	18	18	18	18

Fig. 11 Bridgland's Table. 19 Nov. 2019. A Brief History of Sizing Systems, Medium, <https://medium.com/sizing-systems-aee6bd066834>. Accessed December 3, 2023.

Through researching, measuring, drafting and digital rendering, this project offered me the unique opportunity to propel an object frozen in time into a virtual future. A similar collaboration between digital designer and fashion archive was explored by designers Andrew Kumpresanin and Belinda Chan. They launched the Virtual Fashion Archive in 2019 in partnership with the Fashion Institute of Technology (FIT) as a means of exploring historic garments "in the way that they were intended—being worn and in motion—but also to examine and contextualize them in new spectacular ways" ("Fashion Beyond Physicality"). Similar to this project's aims, by re-creating objects in the FIT archive using digital design tools, they endeavored to create new means of engagement with museum and archive visitors ("Fashion Beyond Physicality"). They re-created five garments, ranging from a 1945 Claire McCardell day dress to a 2015 Comme des Garçons cape. The success of their digital archive points to the appetite for more immersive museum settings, 3D design's potential to convincingly re-create historic dress, and the possibility of further experimentation through the use of diverse avatars, dynamic motion and varied digital landscapes (see fig. 13 for an example I created). This fusion of history and fantasy is evident in the ways Kumpresanin and Chan have digitally mounted these fashion objects using glossy, black avatars with no discernable human features. The fantastical, modular nature of digital fashion objects and their capacity to recontextualize fashion history merits attention. While a 2D paper pattern is unlikely to spark imagination in the eyes of an archive or museum visitor, Kumpresanin and Chan's project speaks to the endlessly mutable and engaging opportunities 3D digital re-creations offer. They can be torn, tugged, re-coloured, and even turned inside-out. Here, I experimented with rendering the paper pattern in a plaid print with contrasting buttons and in an early Edwardian-inspired print I designed (see fig. 14). The element of fantasy can be pushed even further; archives and museums could offer visitors the opportunity to mount digital garments on their own avatars, allowing them the opportunity to "try on" historic dress; a privilege that delicate archive items cannot afford to offer. 3D re-creations hold the capacity to blur the boundaries between past and possible future, and when used in an imaginative way promote a more inclusive and immersive view of fashion history.



Fig. 12 Photograph of front and back render of final garment, personal photograph by author, December 13 , 2023.



Fig. 14 Photograph of Garment in Varying Prints on Differing Avatars, personal photograph by author, December 13, 2023.

CONCLUSION

3D re-creations hold immense potential to preserve ephemeral objects in the fashion archive. Yet to consider them only for their practical purposes fails to encapsulate their significance as objects that fundamentally challenge conventional views of use, value and time. Building 3D digital re-creations of 2D paper patterns queers their intended use, generating new opportunities for engagement with and study of ephemera. Secondly, the valuation of digital fashion objects in other spheres points to an increasing interest in accessible, engaging, digital novelty—an interest I firmly believe that archives should be investigating for their own purposes. Finally, 3D digital re-creations blur the boundaries between past and future, allowing viewers, designers and archivists alike to recontextualize and reimagine fashion history in ways that promote fantasy, interactivity and accessibility. Through the act of transforming an early Edwardian pattern into a mutable, interactive and engaging object I have held a mirror to history: proving the capacity of digital design to enliven historic fashion ephemera.

Link to CLO3D file: <https://style.clo-set.com/embed/5701de-23510443c7ae0313011491ca33/2/c/0?colorway=0&logo=white>

WORKS CITED

Ahmed, Sara. "Using Things." *What's the Use? On the Uses of Use*, Duke University Press, Durham, 2019, pp. 21–67.

Akkam, Alia. "A Duo of New Exhibitions at Momu Unpack the Role of Twentieth Century Fashion." *ICON*, 27 Nov. 2022, www.iconeye.com/design/exhibition-momu-pattern-cutting-twentieth-century-fashion. Accessed 10 Dec. 2023.

Cameron, Fiona, and Sarah Kenderdine. Introduction. *Theorizing Digital Cultural Heritage: A Critical Discourse*, MIT Press, Cambridge, 2010, pp. 1–15.

Davidson, Hilary. "The Embodied Turn: Making and Remaking Dress as an Academic Practice." *Fashion Theory*, vol. 23, no. 3, May 2019, pp. 329–62. Taylor and Francis, <https://doi.org/10.1080/1362704X.2019.1603859>.

Emery, Joy Spanabel. *A History of the Paper Pattern Industry: The Home Dressmaking Fashion Revolution*. Bloomsbury Academic, 2014.

"Fashion's Metaverse Reality Check." *The Business of Fashion*, 31 Oct. 2023, www.businessoffashion.com/articles/technology/state-of-fashion-technology-report-metaverse-digital-goods. Accessed 11 Dec. 2023.

Gernsheim, Alison. *Victorian and Edwardian Fashion: A Photographic Survey*. Dover Publications, 1981.
Harris, Kristina. *Victorian & Edwardian Fashions for Women, 1840-1919*. Schiffer, 2002.

Harris, Susanna. "From Value to Desirability: The Allure of Worldly Things." *World Archaeology*, vol. 49, no. 5, Oct. 2017, pp. 681–99. Taylor and Francis, <https://doi.org/10.1080/00438243.2017.1413416>.

Hazan, Susan. "A Crisis of Authority: New Lamps for Old." *Theorizing Digital Cultural Heritage: A Critical Discourse*, edited by Fiona Cameron and Sarah Kenderdine, MIT Press, 2010, pp. 136–148.

Lee, Adriana. "Roblox Releases Latest Metaverse Fashion Trends Report." *WWD*, Condé Nast, 9 Nov. 2023, wwd.com/business-news/technology/roblox-metaverse-fashion-trends-report-1235921098/. Accessed 9 Dec. 2023.

Mida, Ingrid, and Alexandra Kim. *The Dress Detective: A Practical Guide to Object-Based Research in Fashion*. Bloomsbury Visual Arts, 2018.

Moore, Jennifer Grayer. *Patternmaking History and Theory*. Bloomsbury Visual Arts, 2021.

O'Neill, Alistair. *Exploding Fashion: Making, Unmaking, and Remaking Twentieth Century Fashion*. Lannoo Publishers, 2021.

Park, Yeonsoo, et al. "The Perceived Value of Digital Fashion Product and Purchase Intention: The Mediating Role of the Flow Experience in Metaverse Platforms." *Asia Pacific Journal of Marketing and Logistics*, vol. 35, no. 11, June 2023, pp. 2645–65. Emerald Insight, <https://doi.org/10.1108/APJML-11-2022-0945>.

Pecorari, Marco. Introduction. *Fashion Remains: Rethinking Ephemera in the Archive*, Bloomsbury Visual Arts, 2021, pp. 1–23.

Särmäkari, Natalia. "Digital 3D Fashion Designers: Cases of Atacac and The Fabricant." *Fashion Theory*, vol. 27, no. 1, Jan. 2023, pp. 85–114. Taylor and Francis, <https://doi.org/10.1080/1362704X.2021.1981657>.

Stevenson, Pauline. *Edwardian Fashion*. Ian Allan Ltd, 1980.
Venturini, Alice, and Martina Columbano. "'Fashioning' the Metaverse: A Qualitative Study on Consumers' Value and Perceptions of Digital Fashion in Virtual Worlds." *Journal of Global Fashion Marketing*, vol. 0, no. 0, 2023, pp. 1–17. Taylor and Francis, <https://doi.org/10.1080/20932685.2023.2234918>.

Villarreal, Nicole. *The Use of 3D Apparel Simulation Software for Digitizing Historic Costume*. 2020. North Carolina State University, Ph.D. ProQuest, <https://www.proquest.com/docview/2478005795/abstract/ABF46BC61EE04771PQ/1>.