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Contemporary Jewellery x AI <> Crafts =?

ABSTRACT

As artificial intelligence becomes increasingly integrated into contemporary jewellery practices, questions arise around materiality, wearability, and the evolving roles of artists and algorithms, among others. While many academic publications on AI and jewellery explore AI as a tool to enhance efficiency when designing and manufacturing jewellery for broad consumer appeal and commercial markets, this lecture addresses its broader implications for artistic, contemporary jewellery practices. Drawing from my postdoctoral research and interviews with artists Silvia Weidenbach, Yarina Dai, Mala Siamptani, Jonathan Mathew Boyd, and Patrícia Domingues, the talk investigates how working with AI in contemporary jewellery impacts authorship, creative languages, and the role and significance of crafts. This presentation aims to contribute to critical debates on the future of crafts in a post-digital age by exploring key themes, including the material translation of digital imagery, curatorial decision-making, and ethical and educational considerations.

Keywords: contemporary jewellery; AI; crafts; digital adornment

CONTEXT AND OBJECTIVES

In recent years, contemporary jewellery artists have begun experimenting with AI. Working with AI in artistic practice is extensively discussed across domains (see Voigts et al., 2024; Audry, 2021; Zylinska, 2020) and within specific fields (e.g., Tucci, 2024; Leach, 2021; Luce, 2019). While numerous studies on AI and art provide in-depth explorations, integrating AI in contemporary jewellery raises domain-specific questions.

Moreover, the ongoing debate around “the digital” and “crafts” is further complicated through AI, stirring discussions about the roles of the artist and algorithm and urging speculation on the future of crafts. Perspectives vary, considering AI as a tool (Svenungsson, 2024), co-creator (Uricchio & Cizek, 2023), or more-than-human collaborator (Jääskeläinen, 2025; Chilet et al., 2025).

Of the few publications that explore AI and jewellery, most focus on enhancing efficiency when designing and manufacturing jewellery for broad consumer appeal and commercial markets (e.g., Magee, 2024; Zhang, 2024). Directed towards corporate goals, these studies often fall short of understanding how AI impacts contemporary jewellery.

My lecture addresses this gap by examining contemporary jewellery practices working with AI, focusing on the opportunities and challenges presented, the role and significance of crafts, and what AI may mean for contemporary jewellery’s future.

METHODS

Based on my postdoctoral research conducted since 2020 at PXL-MAD School of Arts and the University of Hasselt in Belgium, I have developed a questionnaire for contemporary jewellery artists Silvia Weidenbach, Yarina Dai, Mala Siamptani, Jonathan Mathew Boyd, and Patrícia Domingues. By collecting their insights, I aim to explore the intersection of contemporary jewellery, crafts, and AI.

Silvia Weidenbach

Infinite Loop (2022, Fig. 1) is a collaboration between Silvia Weidenbach and digital artist Jon Emmony, alongside the Staatliche Antikensammlungen (Munich), the Germanisches Nationalmuseum (Nuremberg), and the Alice and Louis Koch Collection in the Swiss National Museum (Zurich). The project explores AI's role in art practice and curation by training an AI on images of historical rings from the past 3,000 years. The different outputs include a video, a hologram, 3D prints, and a physical ring (see Fendt et al., 2023).

Weidenbach (personal communication, March 31, 2025) started working with AI out of curiosity, interest, and many questions. What once seemed possible only in imagination suddenly became real. For her, AI is a tool that stirs both excitement and anxiety. Reflecting on the meaning of crafts, she stresses the importance of quality and virtuosity, aesthetics, skills, content, and pushing beyond standards, whether as a craftsperson or a coder. A central question for her is what constitutes a "final outcome" and whether an image must be materialised or can exist as a hologram, prompting reflection on the meaning of materiality. The project led Weidenbach and Emmony to return to "the roots" and engage in "unearthing," sculpting the physical ring through CNC milling.



Figure 1. Silvia Weidenbach and Jon Emmony, Infinite Loop (2022)

Yarina Dai

Yarina Dai (personal communication, March 31, 2025) creates speculative scenarios for future wearable biotech, exploring alternative aesthetics, forms, and narratives of technological intervention (Fig. 2). Her AI-generated visualisations serve as blueprints, conceptual provocations, and storytelling elements for her jewellery, positioning AI as an extension of crafts that facilitates translating ideas into tangible forms and experimenting with complexity and scale.

According to Dai, working with AI necessitates combining digital literacy and traditional crafts-personship, shifting the maker's role from direct manipulation to curation and decision-making. She highlights challenges like AI's impact on authorship, uniqueness, and value, wondering if AI-generated pieces possess the same emotional depth or cultural significance as handmade jewellery. While AI could erode crafts skills, Dai believes it can preserve and reinterpret techniques: "The survival of crafts depends on how we integrate AI into practice rather than replace traditional methods" with "code, algorithms, and digital interfaces as new forms of material expression".

Contemporary jewellery, according to Dai, can be a critical medium for exploring AI's impact on identity, embodiment, and material culture, fostering discussions about its effects on human interactions and emotions. She argues that AI drives contemporary jewellery to human-machine co-creation, urging artists to explore new creative languages.



Figure 2. Yarina Dai, Bio Ear Wear (2025)

Mala Siamptani

Mala Siamptani (personal communication, April 2, 2025) utilises prompt-based models to streamline her process, enabling her to concentrate on more critical or creative aspects (Fig. 3). She emphasises

the importance of curiosity in exploring technology's capabilities and limitations, stating that using AI is not just practical but a way to question and push boundaries.

Siamptani warns against using AI as a shortcut, which could undermine the essence of craft—embodied skill, material understanding, and the value of slow, deliberate practice. She considers AI an assistant that can aid the making process while maintaining a hands-on, thoughtful approach. However, effective use of AI, she notes, requires deep understanding and intentional guidance. Thereby, she raises ethical and cultural concerns, questioning authorship and ownership of AI-generated knowledge, particularly regarding traditional and community-based crafts. “Without clear answers, AI risks replicating and even deepening forms of extraction and erasure.”

According to Siamptani, jewellery, being deeply connected to relationships, technology, and material culture, is vital in shaping our perceptions of AI and can offer a unique lens for exploring AI's impact on identity and connection. In her view, AI can help forge new bonds between people and with technology, expand what jewellery means, and connect it to broader anthropological, social, and technological questions.

While tools may become capable of learning and generating independently, Siamptani emphasises it is still the maker and wearer who infuse meaning into a piece. Ultimately, she asserts that we retain the agency to shape tools and decide their use. “AI doesn't define the future of jewellery; we do.” A future that, she suggests, depends on our ability to integrate AI into crafts culture to deepen our engagement with materiality, skill, and tradition, not bypass them.

As an educator, she advocates for teaching new makers to engage with AI safely, ethically, and critically, not merely focusing on mastering tools but understanding their impact. “We need to stay curious, open, and questioning”.



Figure 3. Mala Siamptani, AI imagery of digital vessel that extends and echoes her physical pieces (2025)

Jonathan Mathew Boyd

Jonathan Mathew Boyd's (personal communication, December 11, 2024) work, *Presemic Utterances and Undulations* (2023, Fig. 4), explores the need for an emergent, poetic approach to comprehend and engage with the numerous narratives produced by LLMs (Radical Matter, 2024). Boyd merges human and machine interactions through hand fabrication, collage, and generative AI with custom datasets. Inspired by investigating the probabilistic nature of algorithms and the inherent absence of risk in working with them, he aims to create new imaginaries through AI.

Language, in its various forms, plays a crucial role in Boyd's practice. Through AI, his text-based works are transformed into asemic poetry, oscillating between sense and nonsense, and seeking not readability but the emergence of meaning. He focuses on the materiality of language and the aliveness in things, questioning, 'What is intelligence?' and 'What is a body?' Contemplating how to approach AI with 'jewellery thinking', Boyd believes that jewellery—sensuous, carnal, and emotive—can provide a grounding knowledge system for AI, which often feels dislocated and disconnected.

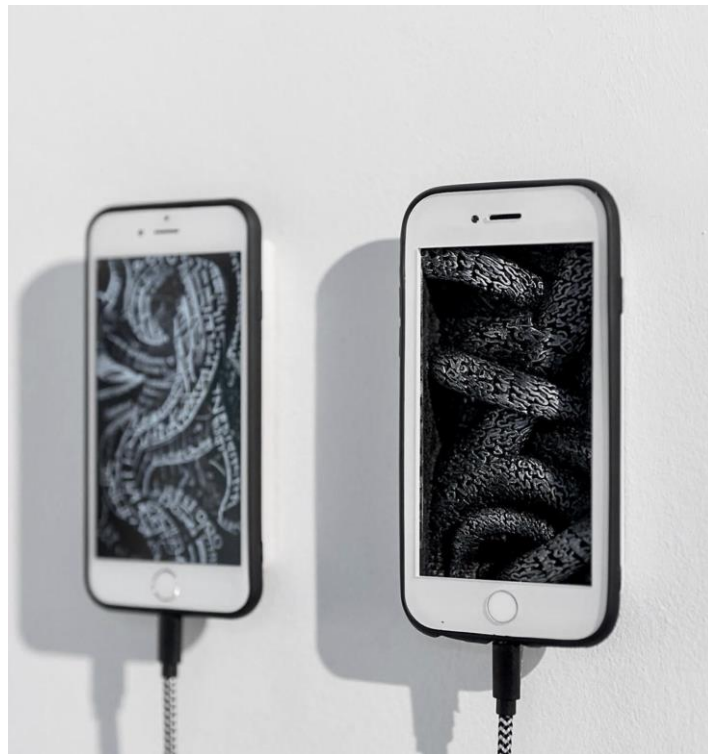


Figure 4. Jonathan Mathew Boyd, *Presemic Utterances and Undulations* (2023)

Patrícia Domingues

Patrícia Domingues is interested in making the material aspects of technology tangible, emphasising its reliance on mineral and geological resources. She argues that the seamless nature of technologies can create a perception of them as immaterial forces. Her work urges reflection on the increasing consumption of the mineral world required to maintain contemporary technologies (Domingues, 2023).

Semiconductor Devices (2024, Fig. 5) consist of small stone-like objects made from silicon and Portuguese lithium; mineral components often found in batteries and computer circuits. "I was drawn

to this material because it astonishes me that silicon (Si)—the second most abundant element on Earth after oxygen—has enabled the emergence of our digital lives.” (Domingues, 2025)

By drilling, fragmenting, and reconstructing these materials into brooches, she brings to the fore the hidden reality of digital and electronic equipment (Domingues, 2023). Employing traditional gemstone techniques like sawing and faceting, she examines jewellery as a medium capable of acknowledging humanity’s extractive needs (Domingues, 2025). Combining monocrystalline silicon with these forms, she investigates the intersection of two systems of value: technological innovation and traditional jewellery. (Domingues, 2025)



Figure 5. Patricia Domingues, Semiconductor Device N.4 (2023)

FIRST RESULTS AND DISCUSSION

This text introduces contemporary jewellery artists who are working with AI and provides a brief overview of insights gathered from our conversations. Preliminary findings highlight the various ways in which these artists engage with AI, impacting their practices and the broader field of contemporary jewellery and crafts. Across the diverse practices, the motivations for working with AI appear multifaceted and often overlap. The artists not only reflect on how AI influences crafts and jewellery but also critically interrogate AI itself. A key theme in the interviews is physicality, as these artists research the materialisation of AI-generated work or critically engage with the materialities inherent in AI technologies. Additionally, there is a shared concern regarding the evolving role of the craftsperson, with an increasing focus on guidance, decision-making, and curation. Finally, the artists address broader issues related to ethics, education, and the nature of artistic output.

REFERENCES

- Audry, S. (2021). *Art in the Age of Machine Learning*. MIT Press.
- Chilet, M., Tironi, M., Nicenboim, I., & Lindley, J. (2025). Designing with Planetary Artificial Intelligence. In A. Poikolainen & Salovaara, A. (Eds.), *More-Than-Human Design in Practice*. (pp. 93 – 104). Routledge.
- Domingues, P. (2023). Reverberations of the Earth: More Complex Notions of Materiality. Retrieved April 9, 2025, from <https://fellowspublished.rietveldacademie.nl/2023/patriciadomingues.html>
- Fendt, A., Emmony, J., Suchy, V., Weidenbach, S., Zech, H. (2023). Where past and future meet: Artificial Intelligence in the art museum. 27th Berlin event of the international EVA series - Electronic Media and Visual Arts. https://www-docs.b-tu.de/fg-architektur-und-visualisierung/public/EVA/EVA_2023_Konferenzband.pdf
- Jääskeläinen, P. (2025). Creative AI as More-Than-Human: Design Practices, Aesthetics and Cultural Imaginaries. In A. Poikolainen & A. Salovaara (Eds.), *More-Than-Human Design in Practice* (pp. 105 - 116). Routledge.
- Leach, N. (2022). *Architecture in the Age of Artificial Intelligence. An Introduction to AI for Architects*. Bloomsbury.
- Luce, L. (2019). *Artificial Intelligence for Fashion. How AI is Revolutionising the Fashion Industry*. Apress.
- Magee, M. (2024). Generative Artificial Intelligence as a tool for jewelry design. *Gems & Gemology*, 60(3), 330–347. <http://dx.doi.org/10.5741/GEMS.60.3.330>
- Patricia Domingues [@patricia.c.c.domingues]. (2025, January 12). *Semiconductor Device 2* [photograph and text]. Instagram. <https://www.instagram.com/p/DEuc6jFIUQh/>.
- Radical Matter. (2024). *When materialism is no longer enough*. <https://www.radicalmatter.art/events/exhibition>
- Stevens, J. (2020). Post Human Craft - A Humble Attempt to Reorient Makers to the Inevitable. *Cubic Journal*, Vol. 3(3), 150 – 165. <https://doi.org/10.31182/cubic.2020.3.029>
- Svenungsson, J. (2024). *Art Intelligence. How Generative AI Relates to Human Art-Making*. Transcript Verlag.
- Tucci, G. (2024). *Aesthetics Imperfections: How AI Is Changing the Landscape of Typography*. Slanted.
- Uricchio, W. and Cizek, K. (2023). Co-creating with AI. *The Minnesota Review*, (100), 118 – 131. <https://doi.org/10.1215/00265667-10320940>
- Voigts, E. (Ed.). (2024). *Artificial Intelligence – Intelligent Art? Human-Machine Interaction and Creative Practice*. Transcript Verlag.
- Zhang, X. (2024). AI-Assisted Jewelry Design: A Perfect Integration of Creativity and Efficiency. *Frontiers in Art Research*, vol. 6(12), 76 – 81, Francis Academic Press. doi: 10.25236/FAR.2024.061211.
- Zylinska, J. (2020). *AI Art – Machine Visions and Warped Dreams*. Open Humanities Press.

ATTACHMENT

Contemporary Jewellery x AI

A questionnaire by Anneleen Swillen within the context of BICCS2025

Main:

- What does “crafts” (as a concept, tradition, practice, process, perspective... or other) mean to you in the context of your work with AI?

Additional:

- How do you work with AI?
 - o What type(s) of AI do you work with? For example, do you use online prompt-based models or train self-learning algorithms, including creating your own datasets?
 - o How do you view AI, and what roles does it play in your work? For example, as a tool, co-creator, assistant, or other?
- Why do you work with AI?
- Which opportunities as well as challenges (artistic, ecological, social, political, ethical...) do you see at the intersection of contemporary jewellery and AI, regarding:
 - o materiality
 - o skills
 - o knowledge (traditional, embodied...)
 - o creativity
 - o authorship
 - o authenticity
 - o value
 - o relations with a human and/or more-than-human body/bodies
 - o ...

Do you believe that AI questions or challenges these aspects, or could it introduce novel approaches, concepts, or methods? How might the increasing use of AI affect how artists engage with materials, forms, techniques, or aesthetics? Do you think AI poses a threat to the survival of crafts knowledge, or can it be used to preserve or strengthen it?

- Can contemporary jewellery contribute to discussions about AI? What can we learn from self-learning technologies for contemporary jewellery? Do you think AI might impact, and broaden, understandings of contemporary jewellery? How?
- How are the roles, meanings, and methodologies of contemporary jewellery being redefined in an age of AI? In a world where our tools can learn from us and continue to evolve independently (Stevens, 2020), how do you think contemporary jewellery might evolve? What does “making” signify when machines are able to create with increasing autonomy?
- Do you have any urgent questions or insights from your research and practice on this subject that you would like to share?