Sustainable Cultural Futures

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'Digitalisation of Culture' | Case Study 1

AI and the Reformulation of Cultural Labour
Three Perspectives

June 2024

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Welcome to
Sustainable Cultural Futures

Led by King's College London (UK) and Doshisha University (Japan), **Sustainable Cultural Futures: COVID-19 and Resetting Cultural Policy (SCF)** takes a mid-to long-term perspective to reconsider pre-pandemic assumptions, explore new frontiers for cultural policy studies and build a more sustainable future for the arts and culture. To achieve this, we focus on three themes: 1) Cultural value and public engagement; 2) Culture work; and 3) Digitalisation of culture. The research activities in the UK are supported by the Economic and Social Research Council via its Fund for International Collaboration [Grant Ref: ES/W011891/1]. Those in Japan are funded by the Japan Society for the Promotion of Science [Grant No. JPJSJRP 20211707].

This report is an output of our Theme 3 research.

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1. Introduction

Generative AI significantly challenges conventional understandings of creativity. Once considered strictly human, creativity has become dissociated from cultural labour, causing unprecedented disruption to the cultural sector. Consequently, we are witnessing the rise of **"creative precarity"**, that is, **"the increasing uncertainty in terms of cultural workers' creative roles, rights and identity, and audience's perception of their creativity and labour."**[2] Given generative AI's capacity to automate labour-intensive creative processes, its introduction has manifested multifaceted implications within the broader cultural landscape. In this report, we highlight three such implications: AI substituting human cultural labour; humanness in cultural labour to be highlighted; and AI assisting human creativity.

2. AI substituting human cultural labour

Certain sectors – music, acting, commercial photography, modelling, graphic design and copywriting – have already witnessed substitution by "synthetic content" or AI outputs.

2.1. Fashion industry and AI modelling

One such example is the fashion industry, where it is known that AI and "digital models" can replace humans for paid work. For instance, Shudu, a digital model,

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[1] Josepha Bertolini (Research Assistant) reviewed English-language sources and drafted this report under the guidance of Hye-Kyung Lee (Principal Investigator, UK) who provided the conceptual framework and key arguments. Takao Terui (the project's critical friend) researched AI discussions in Japan and Nobuko Kawashima (Principal Investigator, Japan) advised on overarching themes of the report.

[2] Lee, H.-K. (2024) Reflecting on cultural labour in the time of AI. *Media, Culture & Society*. Available at: https://journals.sagepub.com/doi/10.1177/01634437241254320 [Accessed 30 May 2024].

has collaborated with major global brands such as Karl Lagerfeld, Ferragamo and more.[3] [4] American brand Levi's has also been reported to use generative AI models.[5] Modelling trade representatives are concerned not only with the loss of job opportunities but also with another consequence of the creation of AI models: that is, the increasing precarity over human models' control over their own creative identity and biometric data:

> We've received an increasing number of calls from models who after receiving body scans found that the rights to their body were being assigned to a company, which meant that they were losing the rights to their own image.[6]

2.2. Film industry and performer replicas

The encroachment of AI within the acting and film industry through the deployment of AI voice and background actors is also of concern. AI voice platforms offer voice cloning, narration and dubbing services for a fraction of the human labour cost. In an interview with ten voice actors, Forbes noted how one voice actor lost the remainder of a project due to a partnership with an AI voice provider and feared being replaced by AI.[7]

Similarly, in a report, Equity UK highlighted the often exploitative nature of acting work in the generative AI era: wherein the lack of fully informed consent regarding AI-related work is rampant, remuneration is poor, government oversight and regulation are not fit-for-purpose, IP rights are easily signed away and the biometric data of performers is thought to be "owned forever" by those capturing it.[8]

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[3] The Diigitals (2024a) *The Diigitals About*. Available at: https://www.thediigitals.com/about [Accessed 17 Apr. 2024].

[4] The Diigitals (2024b) *The Diigitals Portfolio.* Available at: https://www.thediigitals.com/portfolio [Accessed 17 Apr. 2024].

[5] The Guardian (2023) 'Computer-generated inclusivity: fashion turns to 'diverse' AI models', 3 Apr. Available at: https://www.theguardian.com/fashion/2023/apr/03/ai-virtual-models-fashion-brands [Accessed 16 Apr. 2024].

[6] Ziff, quoted in *The Guardian* (2023).

[7] Forbes (2023) ''Keep Your Paws Off My Voice': Voice Actors Worry Generative AI Will Steal Their Livelihoods', 9 Oct. Available at: https://www.forbes.com/sites/rashishrivastava/2023/10/09/keep-your-paws-off-my-voice-voice-actors-worry-generative-ai-will-steal-their-livelihoods/?sh=c9133e07b275 [Accessed 17 Apr. 2024].

[8] Equity (2022) *Stop AI Stealing the Show.* London, Equity.

The report also underscores the existential fears that creatives are experiencing:

> 65% of actors and 93% of musicians felt AI posed a threat to future employment opportunities.[9]

Similar AI-related dynamics are occurring elsewhere within the global film industry. In Japan, world-renowned director Takashi Miike takes a radical approach by increasingly substituting human performers. To make "the best film with AI," Miike launched a new production company, AI-Acts, where casting calls are for AI character generation rather than traditional acting work.[10]

In the US, reports of background actors having their bodies scanned whilst on sets came to a head within the 2023 actor strikes that disrupted Hollywood.[11] Amongst other AI-related conditions, the Screen Actors Guild-American Federation of Television and Radio Artists struck an agreement with the Alliance of Motion Picture and Television Producers requiring "clear and conspicuous" consent,[12] separate performance and consent agreements and daily rate payment when a clone replaces their human counterpart.[13] Although such collective bargaining has furthered some rights for some cultural producers, the need for robust union representation signals a critical change in the nature of cultural production in the film industry, the apparent lack of basic AI-related protections and a broader urgency for AI regulation.

2.3. Animation, illustration and graphic design

Extending beyond the film industry is the prevalence of image-based models like Midjourney and DALL-E that can produce high-quality images in various artistic

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[9] Ibid.

[10] AI-Acts (2024). *AI Movie Projects.* Available at: https://ai-acts.com/miike-ai-movie-project/ [Accessed 14 May 2024].

[11] NPR (2023) 'Movie extras worry they'll be replaced by AI. Hollywood is already doing body scans', 2 Aug. Available at: https://www.npr.org/2023/08/02/1190605685/movie-extras-worry-theyll-be-replaced-by-ai-hollywood-is-already-doing-body-scan [Accessed 18 Apr. 2024].

[12] SAG-AFTRA (2023) *TV-Theatrical Contracts - Summary Agreement.* Available at: https://www.sagaftra.org/files/sa_documents/TV-Theatrical_23_Summary_Agreement_Final.pdf [Accessed 17 Apr. 2024], p 1.

[13] SAG-AFTRA (2023).

styles – offering a low-cost, quick alternative to illustrators, graphic designers and more. One illustrator recounted how he was contacted by an advertising company only because their "in house AI technician was too busy" and they were compelled to "find an artist."[14] As such,

> artists who make a living off a particular style or genre of illustration may also be more susceptible to their work being replaced by AI.[15]

Indeed, the rise of AI prompting work such as "AI content creator" roles is quickening, signalling a potential threat to existing creative practitioners.[16] According to research conducted by the Animation Guild of 300 executives, managers and representatives from six entertainment industries,

> three-fourths (75%) of survey respondents indicated GenAI tools, software, and/or models had supported the elimination, reduction, or consolidation of jobs in their business division.[17]

3. Humanness in cultural labour to be highlighted

With increasing creative precarity, artists may be pressured to innovate and artistically realign. This might be encompassed through changing creative styles, switching genres or exploiting AI's and humans' inherent weaknesses and differences.

3.1. AI limitations

Despite generative AI's power, critical doubts remain surrounding its creative processes. Industry commentators note AI's inability to "understand and

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[14] Dofresh, quoted in Hatton, P. (2023) 'AI is replacing artists, and here's the proof', *Creative Bloq*, 6 Oct. Available at: https://www.creativebloq.com/news/ai-is-taking-artists-jobs [Accessed 18 Apr. 2024].

[15] Curry, quoted in Observer. (2023) 'Will A.I. Replace Artists? Some Art Insiders Think So', 21 Jun. Available at: https://observer.com/2023/06/will-a-i-replace-artists-some-art-insiders-think-so/ [Accessed 18 Apr. 2024].

[16] Curious Refuge (2024) *Creative AI Jobs Board | AI Video Jobs, AI Filmmaking Jobs, & AI Agency Projects*. Available at: https://curiousrefuge.com/ai-jobs-board [Accessed 18 Apr. 2024].

[17] Animation Guild (2024) *FUTURE UNSCRIPTED: The Impact of Generative Artificial Intelligence on Entertainment Industry Jobs.* Available at: https://animationguild.org/wp-content/uploads/2024/01/Future-Unscripted-The-Impact-of-Generative-Artificial-Intelligence-on-Entertainment-Industry-Jobs-pages-1.pdf [Accessed 18 Apr. 2024].

synthesize concepts in the same way that humans do."[18] A lead AI researcher concurs: "It's a great tool but not something that can be creative itself. We must be conscious about what's happening in the world and have an opinion to create real art."[19] Other researchers also note:

> current AI lacks identity, feelings, the ability to give meaning to the outcomes it creates, or reflect 'the lived experience of the human.'[20]

Within this context, artists can exploit such critical differences, be this through the use of analogue mediums; an emphasis on corporeality and embodied experiences; a deeper embedding of context; and a rawer articulation of emotion and the human condition.[21] [22] For instance, a prominent Japanese comic author, Nobuyuki Fukumoto, addresses human creators' comparative advantage. He asserts,

> Even if AI can create more exciting stories and the works drawn by manga artists become less entertaining, humans have certain obsessions and quirks. There will always be readers who love those quirks and want to read that manga. Because some readers want to connect with the author and feel a soul-to-soul connection, the profession of manga artist will never disappear, no matter how much AI advances.[23]

The Harvard Gazette has also noted such human relevance:[24]

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[18] Preece, C. and Çelik, H. (2023) 'AI is a powerful tool, but it's not a replacement for human creativity', *World Economic Forum,* 16 Jun Available at: https://www.weforum.org/agenda/2023/06/ai-cannot-replace-human-creativity/ [Accessed 24 Apr. 2024].

[19] Elgammal quoted in, BBC Science Focus. (2023) 'Why AI will ultimately lose the war of creativity with humanity', 4 Jun. Available at: https://www.sciencefocus.com/future-technology/ai-art-creativity-war [Accessed 24 Apr. 2024].

[20] Mazzone, M. and Elgammal, A. (2019); cited by Wingström, R., Hautala, J. and Lundman, R., (2022) Redefining Creativity in the Era of AI? Perspectives of Computer Scientists and New Media Artists. *Creativity Research Journal,* https://doi.org/10.1080/10400419.2022.2107850 [Accessed 24 Apr. 2024], p 6.

[21] Anderson, J., Rainie, L. and Luchsinger, A. (2018) *Artificial Intelligence and the Future of Humans.* Pew Research Center. Available at: https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2018/12/PI_2018.12.10_future-of-ai_FINAL1.pdf [Accessed 13 May 2024].

[22] Lee, H.-K., (2024).

[23] TBS News Dig (2023) 'Nobuyuki Fukumoto's vision for the future of 'AI × manga artists': 'human imperfections are what make us unique' - revealed in an exclusive interview', 29 Dec. Available at: https://newsdig.tbs.co.jp/articles/-/919477?display=1 [Accessed 17 May 2024].

[24] Harvard Gazette (2023) 'Is art generated by artificial intelligence real art?', 15 Aug. Available at: https://news.harvard.edu/gazette/story/2023/08/is-art-generated-by-artificial-intelligence-real-art/ [Accessed 24 Apr. 2024].

> A high proportion of films shown at this year's festival were made using recognizably analogue techniques... We do seem to want to see evidence of the human hand.[25]

> When you hear those compositions by AI, they lack surprise, emotion, and even silence. I love dramatism in music, and for me, emotion in music is important, and AI is not there yet.[26]

Arguably, the physicality and human context of artistic works, especially present in live performing arts, offer opportunities for creative exploration and artistic innovation that are unavailable to generative AI. In particular, the live performing arts warrant deeper consideration, so that their value may be newly articulated in the generative AI era.

3.1. Current anti-AI bias

Recent research into audience perception of AI art also appears to stress the significance of the "human factor." Multiple papers on human-made vs. AI-generated artworks' evaluations point to an anti-AI bias amongst audiences. For example, one study found:

> not only is AI-art liked less, but it is also viewed as less worthy and less profound, which may have interesting implications for the ways in which people will consume AI-art in the future.[27]

It also underscored "how people tend to perceive art as reflecting a human-specific experience" and that although we accept that machines can generate art, this is tempered by anthropocentric beliefs.[28] Research by Deloitte also mirrors anti-AI bias in media trends:

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[25] Lingford, quoted in *Harvard Gazette* (2023).

[26] Terry, quoted in *Harvard Gazette* (2023).

[27] Bellaiche, L., Shahi, R., Turpin, M.H., Ragnhildstveit, A., Sprockett, S., Barr, N., Christensen, A. and Seli, P., (2023) Humans versus AI: whether and why we prefer human-created compared to AI-created artwork. *Cognitive Research* 8, 42. Available at: https://doi.org/10.1186/s41235-023-00499-6 [Accessed 22 Apr. 2024].

[28] Ibid.

70% of our respondents say they would rather watch a TV show or movie written by a human than one written by generative AI.[29]

Interestingly, another study found that people perceived robot-generated art more favourably if they observed a robotic arm painting.[30] Such findings – coupled with AI's creative shortcomings – point to the potential significance of humanness, human experience and embodiment as being at the heart of creative and artistic innovation in the generative AI era, especially as current real-world response to AI reflects anti-AI observations.

Controversies and criticisms are emerging over the use of generative AI in replicating human artists' work. For instance, after severe online backlash, the Japan Coast Guard ceased publishing a recent pamphlet featuring an AI-generated cover illustration.[31] When a tech company in Japan launched an AI service ("mimic") aimed at imitating the styles and characteristics of illustrators, it received a vociferous response from both fans and professional illustrators.[32] Adjacently, content platforms such as Pixiv and DLsite, which host comics, illustrations and video games – including amateur-made content, have responded to anti-AI demands by offering new "hide AI-generated content" functions in their search engines.[33] [34]

Similarly, the cult fashion brand Selkie, came under fire for utilising generative AI in the design process for a new seasonal line.[35] Recently, the BBC

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[29] Deloitte (2024) *An introduction to Deloitte's 2024 Digital Media Trends.* Deloitte Insights. Available at: https://www2.deloitte.com/content/dam/insights/articles/us176942_tmt_digital-media-trends-2024/DI_Digital-media-trends-2024.pdf [Accessed 1 May 2024].

[30] Chamberlain, R., Mullin, C., Scheerlinck, B., & Wagemans, J. (2017) *Putting the art in artificial: Aesthetic responses to computer-generated art.* Goldsmith's University. Available at: https://research.gold.ac.uk/id/eprint/20443/1/ComputerGeneratedArt.pdf [Accessed 22 Apr. 2024].

[31] Yomiuri Shimbun (2024) 'Illustration of an anime-style woman smiling by the sea created with generative AI faces 'copyright infringement' criticism; Coast Guard Halts distribution of pamphlet', 2 Apr. Available at: https://www.yomiuri.co.jp/national/20240402-OYT1T50125/ [Accessed 14 May 2024].

[32] Jiji.com (2022) 'Is AI the enemy of illustrators? flood of criticism, thoughts from the developer side', 13 Sep. Available at: https://www.jiji.com/jc/v8?id=202209illustration-team [Accessed 14 May, 2024].

[33] Pixiv (n.d.) *What are display settings for AI-generated work?* Available at: https://www.pixiv.help/hc/en-us/articles/11866167926809-What-are-display-settings-for-AI-generated-work [Accessed 14 May 2024].

[34] Eisys (2022) *Regarding the Establishment of New Categories for 'AI-Generated Works' and 'Partial Use of AI'.* Available at: https://info.eisys.co.jp/dlsite/bb3b0b976520e0fd?locale=default [Accessed 14 May 2024].

[35] Tech Crunch (2024) 'Selkie founder defends use of AI in new dress collection amid backlash', 19 Jan. Available at: https://techcrunch.com/2024/01/19/selkie-founder-defends-ai-collection-kimberley-gordon-valentines-day/ [Accessed 21 May 2024].

experimented with generative AI in marketing the latest *Doctor Who* instalment, with the decision resulting in formal complaints to the broadcaster and a ceasing of AI marketing use for the programme.[36] [37] Award-winning production company A24, also received similar criticism for using generative AI promotional materials for its film *Civil War* (2024).[38]

One scenario, however, is that anti-AI bias may diminish with broader and increasing deployment of generative AI and people's positive experience of AI-made cultural content.[39] Furthermore, the anthropomorphising of technology may "increase societal engagement and likely decrease hostility toward future manifestations of artistic AI."[40] Thus, the extent to which cultural practitioners can rely on their distinct humanity still remains uncertain.

4. AI assisting human cultural labour

As generative AI will not disappear, artists and cultural workers may need to learn how to co-exist with it, for example, by adopting it as a creative tool. Indeed, one recent study already points to "the progressive inclusion of the affordances of ML [machine learning] in the toolkit available to fine and media artists."[41]

4.1. Augmenting creativity

Aiming to benefit from such affordances, some creative practitioners are

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[36] Hendrickson, J. (2024) 'BBC Promises Not to Use AI for 'Doctor Who' Marketing Again', *PCMag*, 26 Mar Available at: https://uk.pcmag.com/ai/151582/bbc-promises-not-to-use-ai-for-doctor-who-marketing-again [Accessed 21 May 2024].

[37] BBC (2024) *Doctor Who exploring generative AI in Doctor Who promotion, March 2024 | Contact the BBC*. Available at: https://www.bbc.co.uk/contact/complaint/doctor-who-0 [Accessed 21 May 2024].

[38] Whiddington, R. (2024). 'A24 Catches Heat Over A.I. Posters for Its New Film 'Civil War'', *Artnet*, 18 Apr. Available at: https://news.artnet.com/art-world/a24-civil-war-ai-posters-2472425 [Accessed 21 May 2024].

[39] Wu, Y., Mou, Y., Li, Z. and Xu, K. (2020) Investigating American and Chinese Subjects' explicit and implicit perceptions of AI-Generated artistic work. *Computers in Human Behavior*. 104 Elsevier BV. Available at: https://doi.org/10.1016/j.chb.2019.106186 [Accessed 22 Apr. 2024].

[40] Chamberlain et al. (2017), p 34.

[41] Ploin, A., Eynon, R., Hjorth, I. and Osborne, M. (2022) *How Machine Learning Is Changing Artistic Work AI and the Arts.* Oxford Internet Institute. Available at: https://www.oii.ox.ac.uk/wp-content/uploads/2022/03/040222-AI-and-the-Arts_FINAL.pdf [Accessed 24 Apr. 2024], p 76.

onboarding AI to assist with a range of tasks. One creative director notes how the use of AI "has revolutionised our creative process by serving as an efficient brainstorming partner...we're noticing more experimentation and ideation across the board."[42] Also highlighted is AI's capacity to relieve creative block:

> everyone gets creative block at some point...AI is a real asset here, as its ability to generate content can initiate that first spark.[43]

Another creative director demonstrates the space AI provides to explore ideas before selecting and refining them. "We can quickly see if the idea has merit and then confidently develop it until we have the result we want...the investigative and development possibilities are really powerful."[44]

Looking at further examples, in Hollywood screenwriters are using AI to pursue plotlines and enhance character development,[45] with terms for its use in contracted work being defined by the Writers Guild of America.[46] "I'm using it as a brainstorming tool and as a research aide" notes a TV writer.[47] Similarly, Japanese film director, Takashi Miike, uses ChatGPT as a brainstorming and development tool to explore new film concepts.[48]

In the music industry, British artist Imogen Heap has been using generative AI to produce music, "to push us to the next level of our own creativity"[49] and to

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[42] Vatsel, quoted in May, T. (2023) '7 ways creatives are using AI in their art and design workflows,' *Creative Bloq*, 3 Jun. Available at: https://www.creativebloq.com/features/use-ai-in-art-and-design [Accessed 28 Feb. 2024].

[43] Ramage, quoted in May, T. (2023).

[44] Bacon, quoted in May, T. (2023).

[45] NPR (2023) 'Striking Hollywood scribes ponder AI in the writer's room', 18 May. Available at: https://www.npr.org/2023/05/18/1176876301/striking-hollywood-writers-contemplate-ai [Accessed 7 May 2024].

[46] Writers Guild of America (2023). *Summary of the 2023 WGA MBA.* Available at: https://www.wgacontract2023.org/the-campaign/summary-of-the-2023-wga-mba [Accessed 24 Apr. 2024].

[47] Nix, quoted in *NPR* (2023).

[48] Sankei Shimbun (2024) ''Turning conventions upside down': director Takashi Miike launches cutting-edge film production project using AI', 2 Mar. Available at: https://www.sankei.com/article/20240302-CZRG4ANEB5PIFJH75N44DNJCGE/ [Accessed 14 May 2024].

[49] BBC (2020) 'Imogen Heap: How AI is pushing music creativity' 15 Apr. Available at: https://www.bbc.co.uk/news/av/technology-52236563 [Accessed 25 Apr. 2024].

build the voice model “ai.mogen” trained on her vocal style.[50] Whilst fine artist, Sougwen Chung, utilises robotic arms that have been trained on her style to explore themes of embodiment and human-machine collaboration.[51] [52]

In the field of visual effects, the team for the film *Everything Everywhere All at Once* (2022) used RunwayAI to create the famous rock scene in a fraction of the usual time.[53] Japanese counterparts are experiencing similar benefits, with one film director observing that while AI's ability to generate new expressions is unpredictable, its effectiveness in removing unwanted objects from shots has proven to be productive and essential to reducing workloads.[54]

4.2. Interaction with creative processes

How specifically, then, is AI assisting human creativity? Generative AI likely supports both convergent (evaluation, selection and refinement) processes as well as divergent (exploration, experimentation and remote association) processes[55] [56] [57] – ultimately assisting humans in imagining variability (divergence) and refining toward singularity (convergence).[58]

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[50] Willings, S. (2024) ‘Imogen Heap uses her AI voice model, ai.mogen, to create a remix for the first time’, *MusicTech*, 19 Apr. Available at: https://musictech.com/news/music/imogen-heap-ai-voice-model-ai-mogen-karin-ann/ [Accessed 25 Apr. 2024].

[51] Boucher, B. (2023) ‘6 Artists Who Were Using Artificial Intelligence Before ChatGPT’, *Artsy*, 5 Jun. Available at: https://www.artsy.net/article/artsy-editorial-6-artists-artificial-intelligence-chatgpt [Accessed 28 Feb. 2024].

[52] Chung, S. (2024) *Sougwen Chung (愫君) – works by sougwen*. Available at: https://sougwen.com. [Accessed 29 Feb. 2024].

[53] Variety (2023) ‘‘Hollywood 2.0’: How the Rise of AI Tools Like Runway Are Changing Filmmaking’, 22 Feb. Available at: https://variety.com/2023/artisans/news/artificial-intelligence-runway-everything-everywhere-all-at-once-1235532322/ [Accessed 24 Apr. 2024].

[54] Mynavi News (2019) ‘Masayuki Suo: 'AI will become a substitute for film directors' - enjoying change and technological innovation’, 22 Dec. Available at: https://news.mynavi.jp/article/original_movie-12/ [Accessed 14 May 2024].

[55] Cropley, A.J. (1999) Creativity and cognition: Producing effective novelty. *Roeper Review,* 21(4), 253. Available at https://www.proquest.com/scholarly-journals/creativity-cognition-producing-effective-novelty/docview/206696740/se-2 [Accessed 13 May 2024].

[56] Cropley, A.J. (2006) In praise of convergent thinking. *Creativity Research Journal*, 18(3), 391-404. https://doi.org/10.1207/s15326934crj1803_13 [Accessed 13 May 2024].

[57] Runco, M.A. and Acar, S., (2019) ‘Divergent Thinking’, in Kaufman, J. and Sternberg, R. (ed). *The Cambridge Handbook of Creativity*. Cambridge University Press, pp. 224-254. Available at: https://doi.org/10.1017/9781316979839.013 [Accessed 13 May 2024].

[58] Cropley, A.J. (1999).

Margret Boden's theories of combinational and exploratory creativity also contextualise such interplay.[59] [60] Combinational creativity occurs when humans prompt generative AI to combine various forms of training data and synthesise them into an output. Regarding exploratory creativity, generative AI offers humans a vast dataset or "conceptual space"[61] to experiment with and further interrogate the subject matter. Yet, it is debatable whether AI can lead artists and cultural producers to transformational creativity, Boden's third category of creativity, which perhaps is most important for artistic innovation.

4.3. The era of meta-creativity

One of the most critical dynamics in human-generative AI interaction is the increasing relevance of *meta-creativity*.[62] [63] According to Bruch,

> metacreativity may be viewed as an approach to examining what to do and how to do it in creative processing, choosing and attending to the creative strategy under application.[64] [65]

We further articulate meta-creativity as "being creative about managing creative process, evaluating AI outputs and combining human and AI creativities."[66] We anticipate meta-creativity to become a hallmark of the generative AI era, where

> learning how to effectively communicate what an output should be and working collaboratively with these AI systems and tools is the future of creative output.[67]

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[59] Boden, M. (2004) *The Creative Mind: Myths and Mechanisms* (2nd Ed). Routledge, London.

[60] Boden, M. (2009) Computer Models of Creativity. *AI Magazine,* 30: 23-34. https://doi.org/10.1609/aimag.v30i3.2254 [Accessed 13 May 2024].

[61] Boden, M. (2004), pp 4-5.

[62] Navas, E. (2023) *The Rise of Metacreativity: AI Aesthetics After Remix*. Routledge, London.

[63] Lee, H.-K. (2024).

[64] Bruch, C. (1988) Metacreativity: awareness of thoughts and feelings during creative experiences. *Journal of Creative Behavior*, 22(1988), p 113.

[65] In Navas' view (2023), meta-creativity is a new aesthetic form, as where for Bruch, meta-creativity is a process not dissimilar to metacognition.

[66] Lee, H.-K. (2024).

[67] Ng, J. (2021); cited by Hutson, J. (2023) 'AI and the Creative Process: Part One', *JSTOR Daily*, 24 Oct. Available at: https://daily.jstor.org/ai-and-the-creative-process-part-one/ [Accessed 26 Apr. 2024].

This skill is prevalent in the field of "prompt engineering," wherein humans efficiently use generative AI to achieve desired results.[68] [69] For example, Japanese AI illustrators commonly refer to such prompts as "wizard spells," exchanging expertise on crafting precise and imaginative prompts.[70] Meta-creativity is further embedded when the more creative a human is in prompting generative AI – such as engaging in role-play and using descriptive, animated language – the better the outputs.[71] [72]

4.4. An uncreative relationship?

However, it is important to note that not all human-AI interactions produce positive results. Emerging research demonstrates mixed outcomes for human creativity in relation to generative AI.[73] Concerning the integration of generative AI into artistic work, one study found that novelty (a critical factor in creativity [74]) can suffer:

> while peak artwork Content Novelty...increases over time, average Content Novelty declines, suggesting an expanding but inefficient idea space.[75]

Further, another study on chatbot performance versus human counterparts showed,

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[68] Forbes (2023) 'The role of professional AI prompters in ensuring successful AI implementations' 2 Feb. Available at: https://www.forbes.com/sites/forbesbusinesscouncil/2023/02/02/the-role-of-professional-ai-prompters-in-ensuring-successful-ai-implementations/?sh=301326b167c8 [Accessed 26 Apr. 2024].

[69] OpenAI (2023) The art of AI prompt crafting: A comprehensive guide for enthusiasts. Available at: https://community.openai.com/t/the-art-of-ai-prompt-crafting-a-comprehensive-guide-for-enthusiasts/495144 [Accessed 26 Apr. 2024].

[70] Metaland (2024) 'AI illustration spells (prompt) catalogue', 1 Apr. Available at: https://stella-international.co.jp/media/ai-illustration-prompt/ [Accessed 22 May].

[71] Alcock, P. (2024) 'How divergent thinking can build better success with AI prompting - Putting AI in a 'creative box'', LinkedIn, 25 Jan. Available at: https://www.linkedin.com/pulse/how-divergent-thinking-can-build-better-success-ai-prompting-alcock-2fdwc/ [Accessed 29 Feb. 2024].

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[74] Boden, M. (2004).

[75] Zhou, E. and Lee, D. (2024).

> on average, the AI chatbots outperformed human participants... However, the best human ideas still matched or exceed those of the chatbots.[76]

Similarly, the following argument concerning AI-related decision-making has implications for the use of AI in creative production:

> data-driven machine learning does not experiment; it acts based on the best practice it has deduced from data about previous decisions. If machines begin to learn more from choices we made based on their recommendations, they will amplify their own, conservative solutions. Over time, this will narrow and drown out behavioural diversity in the training data... We will end up with a decision mono-culture that's unable to evolve...[77]

Such research challenges the parameters of a society wherein the broad deployment of AI diminishes general artistic novelty, our most imaginative ideas potentially lie undiscovered due to an overreliance on creative automation and our cultural output slowly becomes stagnant and homogenised.

5. Policy Implications

The three perspectives of AI's reformulation of cultural labour, briefly summarised here, warrant corresponding policy solutions. To achieve this, we urgently call for research on AI's multifaceted implications – or realities – and impact on human cultural work and creative processes. Such research would inform the development of relevant policies to support artists and cultural producers – meeting their unique needs and circumstances within the generative AI era.

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[76] Koivisto, M. and Grassini, S. (2023). Best humans still outperform artificial intelligence in a creative divergent thinking task. *Scientific Reports* 13, 13601. Available at: https://doi.org/10.1038/s41598-023-40858-3 [Accessed 13 May 2024].

[77] Gasser, U. and Mayer-Schonberger, V. (2024) *Guardrails: Guiding Human Decisions in the Age of AI.* Princeton University Press, New York, p 74.

First, we should address the negative impact of increasing creative precarity, most especially job loss and artists' lack of control over their creative identity and biometric data. We could begin by welcoming the recommendations and expertise of trade unions to ensure basic AI-related protections for cultural workers across diverse sectors. For long-term ethical sustainability, we could revaluate existing legal frameworks so that copyright and regulations for the protection of personal data are fit-for-purpose, and investigate if there is a need to introduce new protections for artists and cultural producers so that they can control their creative identity and biometric data.[78]

Second, we propose the development of policies that support artists and creatives in innovating and experimenting by exploring the humanness in their cultural practices and artworks. To this end, we also call for a renewed understanding of the humanistic value of live performing arts and other aspects of human-made arts and cultural expressions. One possible policy option is to introduce AI watermarking or synthetic content labelling to elevate and distinguish human-created works.[79] Another would be to foster further research on audience responses to human-made and AI-made cultural expressions, the prevalence of anthropocentric artistic preferences and its implications for our understanding of cultural engagement.

Third and last, we appeal for programmes that develop and nurture cultural worker's meta-creativity. This may come first in the form of training schemes on generative AI, machine learning and meta-creative upskilling. This should be accompanied by deeper research on what constitutes meta-creativity and how it could impact cultural workers' artistic creativity from a long-term perspective.

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[78] Farish, quoted in *Positive Thinking* (2022) BBC Radio 4, hosted by Myska, S. 1 Sep. Available at: https://www.bbc.co.uk/programmes/m001bkqt [Accessed 27 Jun. 2023].

[79] Vallance, P. (2023) *Pro-innovation Regulation of Technologies Review Digital Technologies*. UK Government. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1142883/Pro-innovation_Regulation_of_Technologies_Review_-_Digital_Technologies_report.pdf [Accessed 28 Jun. 2023].

We might also consider creating a national machine learning programme where creatives can train their own personal AI models – protecting individual artistic expression whilst spurring innovation and growth beyond global tech firms.[80] [81] [82]

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[80] Emad Mostaque, former CEO of Stability AI, proposed the idea of a national AI infrastructure for each country. The infrastructure is to be home-developed in order to reflect local culture and values and to counteract the power and cultural monopoly of predominantly western 'big tech' firms: Schick, N. and Mostaque, E. (2023) *Emad Mostaque: Generative AI as infrastructure for humanity | PIONEERS #1*. Available at: https://www.youtube.com/watch?v=aNYPCQBqnTY [Accessed 28 Jun. 2023].

[81] Frinny Lee, musician and CEO of AV Mapping, proposed the idea of personal machine learning models so that individuals could have ownership and agency over their creative and personal expression: Lee, F. (2023) conversation with Josepha Bertolini, present at: Protecting Creativity in the Age of AI. King's College London, 14 Dec, London.

[82] Ploin et al. (2022) discuss the building process and use of proprietary models by artists in creative practice, pp 23-29.

If you have any questions, need further information or would like to learn more about Sustainable Cultural Futures, feel free to contact us on the details provided below.

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