‘An indefinable question’: Generative AI art as knowledge controversy

Shelley Yang, University of Cambridge
Supervised by: Dr. Ella McPherson, University of Cambridge

‘The task that generative A.I. has been most successful at is lowering our expectations…It is a fundamentally dehumanizing technology because it treats us as less than what we are: creators and apprehenders of meaning. It reduces the amount of intention in the world.’
- Ted Chiang, ‘Why AI isn’t going to make art’[1]

‘AI is a tool with the power to enhance creativity and innovation. It saves time and energy for creators by enabling them to focus on what they do best—creating.’
- Sachin Dev Duggal, ‘Democratized creativity’[2]

‘What the older artist-craftsman has spent a lifetime learning to do is suddenly hardly worth doing. People are doing his work in the sloppiest possible way and being thought superior to him just because of it.’
- Howard Becker, *Art Worlds*[3]

Generative AI technologies have precipitated a knowledge controversy in the art world by contesting what we believed we knew about artistic expertise and value. In arts AI has seen both wide usage and wide pushback: mass amounts of AI images have entered our visual lives, while many artists are fiercely opposed to GenAI’s development. Supporters have hailed it as an efficient, democratising technology; detractors argued that it violates ethical norms, makes worse art, and dehumanises. I argue that these disagreements are best understood as different conceptions of what art, technology, and society are/should be. Debates about GenAI art participate in and transform art historical and political debates about the meaning of artworks (art objects) and art work (the process).

Following Allred and Aragon’s study, I approach this conflict by examining differences in underlying assumptions.[4] I conducted semi-structured interviews with five self-identified young artists (approx. one hour each). Interviews are highly useful for examining knowledge controversies, capturing moments of uncertainty and thought processes in real time that textual data, after the fact, conceals. Emerging artists just entering the art world today are relatively free to form their views, less constrained by established careers in a conflict where the dust has yet to settle. Recruited primarily from social media contacts, these interviews highlight some of the arenas of contestation and what participating artists consider to be at stake in them. While there are limits to convenience sampling, utilising existing

---

[1] Ted Chiang, ‘Why AI isn’t going to make art,’ *New Yorker*, 31 Aug 2024. https://www.newyorker.com/culture/the-weekend-essay/why-ai-isnt-going-to-make-art. Last accessed 25 Sept 2024.
[2] Sachin Dev Duggal, ‘Democratized creativity: the evolution and impact of AI,’ Forbes, 9 Apr 2024. https://www.forbes.com/councils/forbestechcouncil/2024/04/09/democratized-creativity-the-evolution-and-impact-of-ai/. Last accessed 26 Sept 2024.
[3] Howard S. Becker, *Art Worlds*, rev. ed. (Berkeley: University of California Press, 2008), 279.
[4] Alyse Marie Allred and Cecelia Aragon, ‘Art in the machine: value misalignment and AI “art”’, in *Cooperative Design and Engineering* ed. Yuhua Luo (Springer, 2022), 31-42.

networks and pseudonymisation with random letters (A-E) helped build trust for discussions of an at times politically or emotionally charged subject.

Knowledge controversies occur when new elements (eg. actors, ideas, or technologies) are introduced into a knowledge system, putting seemingly established norms 'up for grabs'. Drawing on systems theory, Isabelle Stengers' analysis of event generation as a kind of particle collision and Callon's 'hot situations' provide helpful ways to understand such conflicts as multivalent and open-ended in outcome.[5] Knowledge controversies make existing knowledge conflicts highly visible, reconfiguring and generating new knowledge. When talking about art quality, participants engaged with debates on the form/content distinction in art criticism and the value of commercial art. With work, they commented on artistic work's relationship to human creativity. These arguments and uncertainties resonate with wider debates on the proper roles of art, technology, and capital in society. (For instance, one participant argued that GenAI limited imagination and hence enabled fascism). Art may be one of the frontline case studies for how data technologies can come to transform other fields. How we imagine the technology and the world sets the terms for what and how technologies are (or aren't) funded, developed, adopted, and critiqued.

Characterising controversy

In a knowledge controversy, actors often disagree about the definition of the contested subjects. Differences in how participants (A-E) talked about GenAI relate to knowledge about both GenAI and art. All participants have used GenAI at least once; A and E have used it for artmaking. Participants tended to speak of AI as metatechnology embodied in specific products (like ChatGPT or Midjourney) or as a cultural phenomenon (as opposed to eg. a scientific field), reflecting the way the majority of non-specialist users encounter AI.[6] Affordances (ie. the additional capacities gained through a technology) were imagined between knowledge about GenAI's capacities and knowledge about areas in participants' own artistic process where this tool may fit into.[7] Painters referred to reference image making; collagists to generating texture. GenAI affordances are flexible yet constricted. Big data technologies are extremely expensive to develop and maintain, which means that they are necessarily created in alignment with the imaginaries and purposes of wealthy and powerful investors. Once released, however, many models can be used by anyone with an internet connection for a variety of purposes. Participants sometimes made normative distinctions between uses. For instance, C considered using AI for creating inbetween animation frames based on human-drawn prototypes acceptable as it is 'assistive,' while 'generative' AI is unacceptable.

---

[5] Isabelle Stengers, 'Events and Histories of Knowledge', *Review (Fernand Braudel Center)* 28, no. 2 (2005): 143–59, http://www.jstor.org/stable/40241626.; Michel Callon, 'An Essay on Framing and Overflowing: Economic Externalities Revisited by Sociology', *The Sociological Review* 46, no. 1 (1998), 244-269. https://doi.org/10.1111/j.1467-954X.1998.tb03477.x.

[6] This has parallels in the way sociologists have discussed AI: Zheng Liu, 'Sociological Perspectives on Artificial Intelligence: A typological reading,' *Sociology Compass* 15, no. 3 (2021): 3-10, https://doi.org/10.1111/soc4.12851.

[7] Peter Nagy and Gina Neff, 'Imagined Affordance: Reconstructing a Keyword for Communication Theory', *Social Media + Society* 1, no. 2 (2015), https://doi.org/10.1177/2056305115603385.

The clearest sign of controversy is conflict. All participants mentioned unprompted experiences of hostility about GenAI in art, ranging from 'enraged posts on Instagram' (B) to interpersonal conflicts: two mentioned being directly involved in a conflict with someone they knew in real life. Some participants spoke with an opposition in mind, naming groups such as a 'privileged artistic class' or 'tech bros'(A, C). One requested, mid-interview, that I ask other study participants to empathise with their position in order to 'change some minds.' All participants cited social media and online forums as a main knowledge source about those who share/do not share their views – the controversy is clearly present in artists' online lives, and often offline as well.

Controversy also means that participants are re-evaluating their knowledge commitments. One persistent theme across interviews is the sense of discomfort that participants felt about their beliefs. Participants cast doubt on their own knowledge claims. Speakers wondered aloud if their statements were too 'pretentious,' 'old-fashioned,' 'hypocri[tical],' 'cynical,' or 'biased'. 'I'm just not sure what to think about that,' D said of an AI generated comic they encountered. For C, GenAI has lead them to 'rethink what [they] classify as art':

'In [a museum], there's a piece of wood that's been hit by lightning [that] looked like an angel. I viewed that as art. I've seen people online saying that generative AI art isn't art because it needs a human intentionality behind the art piece in order to classify as art. And then I look at that really beautiful piece of charred wood and say, What was the intentionality behind that? I was put in a dilemma. When I look at generative AI art it just feels soulless to me, like there's something intrinsic in art that is found in, I don't know, something that was made by a human, like a Van Gogh, and even something made not by like an active being, like that charred piece of wood struck by lightning.'

- C

C stated that they once believed that 'anything can be art,' but their disapproval of GenAI art has lead them to consider 'intention' as another criterion. Intention, in this view, exists only through direct human work on the art object, excluding natural and GenAI made objects from the purview of legitimate art. Yet this criterion rejects natural objects C does value as art, and C has yet to find a way to explain their intuitions or convince themselves otherwise. 'Soul' tentatively emerges as one alternative criterion, but does not seem to be satisfactory either. For instance, B described several works of AI art as 'soulless' and hence not 'real art' but also 'cool'. Clearly, there are several judgments occurring here that clash with one another on the foundational question of defining art.

It would be too simplistic to dismiss these tensions as merely motivated reasoning.[8] Bad faith typically doesn't define its own limitations so clearly. What this does show is that

[8] For a contrasting perspective, see: Kobe Millet et al., 'Defending Humankind: Anthropocentric bias in the appreciation of AI art,' *Computers in Human Behaviour* 143 (2023), https://doi.org/10.1016/j.chb.2023.107707.

GenAI art has brought into collision beliefs about art, technology, and society that previously seemed like secure knowledge. Participants *know* and are willing to admit that their knowledge claims may be unconvincing or flawed (even to themselves), but don't yet know how to reformulate their commitments in a way that feels more ethically and logically satisfactory. It is clear from episodes like C's dilemma that participants have spent significant time thinking about AI art and what it means for them. That uncertainty persists is a sign of knowledge controversy – beyond the difference of interests between actors, artists are re-negotiating themselves how to reconcile beliefs and values competing for legitimacy. These uncertainties carry through discussions of what makes good art and valid artistic work.

Good art

Artists are audiences, critics, and students of others' art. Participants broadly agreed that there is good and bad art. Bad art is described as 'bland,' 'generic,' 'ugly,' or 'soulless'. Good art has qualities like originality, authenticity, or 'sauce' (D). What differed was where and how participants believed that these qualities could be located, a disagreement that is deeply entangled with art historical and critical debates.

Participants engaged with different frameworks to evaluate the impact of GenAI on art, two of which I will highlight here. The first is the distinction between form (ie. sensory features) and content (ie. meaning) within a work of art and whether one ought to take precedence over the other. Susan Sontag notably critiqued the valorisation of content in art criticism as a destructive act that distracts from sensual experience.[9] On the other hand, the primacy of content heavily informs A's argument that GenAI has minimal impact on art quality. For A, who exclusively works with a commercially available GenAI model, 'ideas' are the determinant of quality, which they set in opposition to 'fine technical' art. A explains this in terms of self-expression: art is how people 'express themselves.' The limits of GenAI are also conceptualised in this framework: GenAI cannot improve a 'bad idea' and can only produce a 'generic stock photo' when given one. GenAI art is neither more nor less authentically human.

In this view, good art is primarily expressions of interesting ideas and (crucially) selves, while form takes a secondary, communicative role. Art can be an excellent vehicle for changing society through visibility politics, a related set of assumptions that visibility meaningfully addresses marginalisation (eg. 'coming out of the closet'). A analogised invisibility in the art world to patriarchy, arguing that GenAI could afford self-expression for 'brown, queer and trans' people and the less 'artistically talented.' For A, GenAI is a neutral generator of imagery, through which the prompt-artist's self can shine. The ability to create visually appealing works quickly is taken to mean greater visibility, and through it social inclusion and equality. The assumption of content's centrality (though not the conclusion) is shared by other participants: quoting a well-known diaspora writer, E says that art is 'about innovation' and 'making it known that you exist'. However, E rejects GenAI in its current

[9] Susan Sontag, 'Against Interpretation', in *Against Interpretation and Other Essays* (Penguin Classics, 2009), 9-13.

form: E characterises the images and text they generated with AI as ‘acceptable’ but ‘not what [they] wanted’, thus failing to deliver on this promise. Yet this is posed primarily as a technical problem rather than a fundamental misalignment: though E objects to further GenAI development on copyright grounds, they agree that GenAI can potentially create good art.

Other participants chose to centre their argument on different premises, arguing that GenAI made worse art. B and D, who viewed AI generated art overall negatively, nevertheless both named multiple works using AI that they approved of. I argue that this can be interpreted as a perspective shift to viewing GenAI as a cultural phenomenon. This view is more concerned with what GenAI tends to create and encourage rather than trying to pin down what GenAI fundamentally is. One could make an oil painting appear like a watercolour, but most people have rather different imaginaries of the ‘typical oil painting’. The same is true for GenAI. D described current GenAI visual culture as ‘[pictures] trying to be perfect’ with an ‘ugly sheen’:

I think a lot of people break the rules to make art, and it’s a lot harder to replicate that authenticity…Because [when] you don't really have as much control, I think AI is most fun. Generally, if the AI changes this extraction process from…taking from established artists or whatever, leaving this tacky, do you want to look like Mona Lisa type of zone.
- D

D’s objection to tackiness differs from A’s distaste for bland art in that it extends the critique from an individual with objectionable ideas to a culture of objectionable aesthetics. This puts D in conversation with Adorno and Horkheimer’s notion of the culture industry, which argued against a commodification of mass art/culture aimed at producing profit and placating viewers with standardised media.[10] Analysis of prompts given to major GenAI models suggests that prompting ‘privileges popular styles and surface aesthetic appearances’ through keywords like ‘trending on Artstation’ and names of famous artists.[11] Developers then cater to these priorities in subsequent iterations of models. For D, this makes current GenAI tools unhelpful for making good art and harms art quality in general. AI generated images can change the viewer experience for the worse because blandness and interest are (at least partly) located in the form. GenAI is less useful for marginalised artists, because its reflection of majority aesthetics reproduce majority bias – D mentions racial stereotypes. This also represents a different view of market forces. For A, who sees themselves as speaking for the ‘silent majority,’ the art world ought to be ‘mass market accessible’. This view considers the market and the majority to be the most legitimate evaluators of art. In D’s view, it is the precisely the mass market qualities of GenAI art that render them less enjoyable or valuable. This disputes the centrality of ideas in art judgement, considering features like form and texture as essential components. Furthermore, it suggests a distinctly uneasy view of the market’s influence on art quality.

---

[10] John B. Thompson, *Ideology and Modern Culture: Critical Social Theory in the Era of Mass Communication* (Cambridge: Polity Press, 1991), 97-109.
[11] Jon McCormack et al., ‘No Longer Trending on Artstation: Prompt Analysis of Generative AI Art’, in *Artificial Intelligence in Music, Sound, Art, and Design* (EvoMUSART, 2024), 292.

Hence, we see two rather different evaluation frameworks through which GenAI art can be evaluated. Neither is absolute and can be valued at the same time: A concedes that GenAI's style unoriginality as a limitation, B and D talk about art made with social justice aims in mind. One can subscribe to the same broad framework and still come to different conclusions on whether GenAI affects art quality and how. These reveal priorities in tension that shape art knowledge in different ways and lead to different conclusions about where GenAI can or cannot help with art.

Art and work

The most obvious distinction between GenAI and human created images is in work: humans may take days or even years to create something visually similar to what GenAI can make in under a minute. As creators in addition to viewers of art, artists' other main contact with the art world is through work. All five interviewees commented directly or indirectly on the role various kinds of work play in artistic creation. These imaginaries of work informed participants' views on the legitimacy of GenAI imagery and users. In Beckers' words, 'how little of the core activity [of art] can a person do and still claim to be an artist' (and for the object thus produced to claim to be 'art')?[12]

Broadly speaking, participants imagined the artistic process as comprised of essential and nonessential work. This distinction is the clearest with A and C, but is discussed in all interviews except for B: A described AI as a 'mechanical implementor of ideas,' and C's 'generative' and 'assistive' typology similarly suggests a divide between distinct kinds of work. Work imagined as rote or noncreative is considered more readily outsourceable to AI without unacceptably diluting the role of the artist or harming the art produced. C, D, and E all mention using AI to generate/modify film and animation frames as acceptable for reducing repetition, but reject its use elsewhere. Nonessential work here is also considered as less human: A considers ideation 'unique to humans'; C argues that AI is 'assistive' only where it cannot 'replace a human.' Participants' views on the legitimate applications of GenAI not only refer to the current affordances of public GenAI tools, but also what they imagine artmaking and humanity are fundamentally about.

The way participants talked about outsourceable work parallels what Howard Becker, in *Art Worlds*, called 'support personnel.' Support personnel are highly skilled and do the work of realisation, receiving directions from an artist (eg. a construction worker following an architect's blueprint).[13] There are always less skilled support personnel than people with ideas require. Some kinds of work are considered more outsourceable than others: I. M. Pei can plausibly claim to be creator of the Louvre Pyramid despite not having built it with his own hands, but claiming authorship of an oil portrait by a commissioned painter is more questionable. Authorship of any artwork is shared to some extent. Some artists are their own personnel, and only indirectly make use of others' labour by using premade materials like paint. In the internet age, some of the most visible artists work themselves as 'support

[12] Becker, *Art Worlds*, 19.
[13] Becker, *Art Worlds*, 77-92.

personnel' to an extent for commissioned or collaborative projects like games where they may have limited creative direction. In this way they become similar to Becker's craftsmen, whose work is primarily concerned with a technical virtuosity hard to replicate by others.

The principal disagreement between more and less AI-favourable views expressed in these interviews is what work can be considered nonessential and delegated out to the 'support personnel' of AI.[14] The maximalist demand considers only extremely repetitive work as outsourceable, such as in the example of animation frames. The minimal approach, not explicitly represented among the artists interviewed, does not demand anything of an artist other than the intent to make art. To A, the core activity of artmaking is to ideate, and all realisation is nonessential, a view that reproduces the form/content divide from the maker's side. Others defined different boundaries for what is 'good enough.' Imaginaries of essential work are intimately tied to ideas about art quality. E's dissatisfaction with GenAI work as merely 'acceptable' suggests a difference between the work necessary to making average versus good art. Some chose to focus on good work process: B opposed using GenAI themselves as it would be 'lazy' practice, even if the outcome might appear similar. However, participants largely maintained that there remains some work whose outsourcing should not cast doubt on the artist's legitimacy. These views draw that line at different points, while challenging the idea that there can be one standard of 'good enough.'

Different imaginaries of the range of essential work affect the affordances participants viewed as legitimate and useful. Unlike Beckers' personnel, GenAI is essentially free at point of use, and artistic processes deemed to be outsourceable without harm will cease to be viable as a source of income. Where nonessential work comprises only part of the typical repertoire of an artist of a field, GenAI can be imagined as an aid. Where all work in a field is categorised as nonessential, GenAI is a replacement. A argues that 'someone who genuinely has insightful things to say about society should not be…afraid of AI,' in contrast to people who 'just draw for others.' This not only suggests a hierarchy of work, but also a hierarchy of the people who do them.

Imaginaries of artistic work as valued/devalued have immense impact. Becker described the large-project artist's ideal support personnel as 'interchangeable human parts.'[15] This vision finds an uncannily perfect match in GenAI, capable of running around the clock at little cost and enabling access to the products of the world's labour algorithmically broken down into constituent parts so abstract they are not only interchangeable but unrecognisable once combined. Support personnel are no longer in shortage. Yet that work does not disappear, for GenAI constantly requires training material from artwork already made and

[14] The interviews primarily assumed that artists do want to claim sole ownership of their art in the traditional sense. In contrast, some works explicitly address the problem of shared creatorship and 'support personnel' invisibility – see: Joanna Zylinska, *AI Art: Machine Visions and Warped Dreams*, (London: Open Humanities Press, 2020), 117-127.
[15] Becker, *Art Worlds*, 78.

works made expressly for training, often under precarious conditions.[16] In the age of the gig-economy, this has uncomfortable implications for how we treat the labour and humanity of others. In a way, those who have the power to determine the essentiality of work also determine the disposability of people.

Power in the art world

Judging others' art and making art, the two core parts of art practice, have always been informed by imaginaries about good art and legitimate work. These assumptions and differences are reawakened from (relative) dormancy and centred in the GenAI art knowledge controversy. The advent of GenAI signals a potential redistribution of art expertise and legitimacy, as well as the efforts to resist redistribution or seek alternative distributions.

Past studies of knowledge controversy have focused on the 'democratisation' of knowledge in fields that historically have clear hierarchies of expertise, like science academia or international justice institutions.[17] Art hierarchies are more diffuse, and the configuration of the knowledge controversy itself is contested. For people whose entrance to the art world was facilitated by GenAI, especially those from technological fields, redistribution of legitimacy and expertise is experienced as democratisation, partly because they are the most likely beneficiaries of this redistribution. A, one such newcomer, says GenAI has been 'empowering' and 'liberating,' and argues that art should be reconceptualised to centre people with other employment like themself. For others, such as C, this is a symptom of corporate encroachment and 'cost-cutting' with the challenge coming from 'above' rather than democratisation from 'below.'

New systems of knowledge, power, and legitimacy will be generated by the GenAI art controversy, and the outcome remains open-ended. A envisions a 'free market' of art and ideas fueled by AI and the end of the 'artistic elite.' B believes that GenAI will be 'normalised very quickly' and rendered incontestably legitimate. C sees backlash that leads to more value placed on human-made art. D sees a 'dimmer' future art world. E says that 'the [AI] bubble will burst,' but not because of art because 'no one listens to artists.'

Whether a knowledge controversy occurs is also a function of power: new contenders must have power to persuade or replace actors subscribing to different norms, powers that are today linked to social and economic capital that the AI tech world can more easily access. The collision of the art and tech worlds in GenAI art has sparked a knowledge controversy in the former, but the same degree of contestation does not seem to have occurred in AI. Silicon

---

[16] Krystal Kauffman and Adrienne Williams, 'Turk Wars: How AI threatens the workers who fuel it,' *Stanford Social Innovation Review*, 11 Oct 2023. https://ssir.org/articles/entry/ai-workers-mechanical-turk. Last accessed 28 Sept 2024.

[17] Sarah J. Whatmore, 'Mapping knowledge controversies: science, democracy, and the redistribution of expertise', *Progress in Human Geography* 33, no. 5 (2009), 587-598.; Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, 'Open Source Investigations and the Technology-driven Knowledge Controversy in Human Rights Fact-finding,' in *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* ed. Sam Dubberley, Alexa Koenig, and Daragh Murray, (Oxford: OUP, 2020), 68-86.

Valley confronted with art has not undergone a crisis of legitimacy, at least not outwardly. A tells me after the interview that their colleagues at their AI startup job were mostly not interested in art. Many of the artists interviewed here have found the impact of AI on their lives harder to ignore.

Bibliography

Allred, Alyse Marie and Cecelia Aragon. ‘Art in the machine: value misalignment and AI “art”’, in *Cooperative Design and Engineering* ed. Yuhua Luo (Springer, 2022), 31-42.

Becker, Howard S. *Art Worlds*, rev. ed. Berkeley: University of California Press, 2008.

Callon, Michel. ‘An Essay on Framing and Overflowing: Economic Externalities Revisited by Sociology’, *The Sociological Review* 46, no. 1 (1998), 244-269. https://doi.org/10.1111/j.1467-954X.1998.tb03477.x.

Chiang, Ted. ‘Why AI isn’t going to make art’. *New Yorker*, 31 Aug 2024. https://www.newyorker.com/culture/the-weekend-essay/why-ai-isnt-going-to-make-art. Last accessed 25 Sept 2024.

Kauffman, Krystal and Adrienne Williams. ‘Turk Wars: How AI threatens the workers who fuel it,’ *Stanford Social Innovation Review*, 11 Oct 2023. https://ssir.org/articles/entry/ai-workers-mechanical-turk. Last accessed 28 Sept 2024.

Liu, Zheng. ‘Sociological Perspectives on Artificial Intelligence: A typological reading.’ *Sociology Compass* 15, no. 3 (2021): 3-10, https://doi.org/10.1111/soc4.12851.

McCormack, Jon et al., ‘No Longer Trending on Artstation: Prompt Analysis of Generative AI Art’, in *Artificial Intelligence in Music, Sound, Art, and Design* (EvoMUSART, 2024), 279-295.

McPherson, Ella, Isabel Guenette Thornton, and Matt Mahmoudi. ‘Open Source Investigations and the Technology-driven Knowledge Controversy in Human Rights Fact-finding,’ in *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* ed. Sam Dubberley, Alexa Koenig, and Daragh Murray. Oxford: OUP, 2020. 68-86.

Millet, Kobe et al., ‘Defending Humankind: Anthropocentric bias in the appreciation of AI art’. *Computers in Human Behaviour* 143 (2023), https://doi.org/10.1016/j.chb.2023.107707.

Nagy, Peter and Gina Neff. ‘Imagined Affordance: Reconstructing a Keyword for Communication Theory’. *Social Media + Society* 1, no. 2 (2015), https://doi.org/10.1177/2056305115603385.

Duggal, Sachin Dev. ‘Democratized creativity: the evolution and impact of AI.’ Forbes, 9 Apr 2024. https://www.forbes.com/councils/forbestechcouncil/2024/04/09/democratized-creativity-the-evolution-and-impact-of-ai/. Last accessed 26 Sept 2024.

Sontag, Susan. ‘Against Interpretation’, in *Against Interpretation and Other Essays* (Penguin Classics, 2009), 9-13.

Stengers, Isabelle. ‘Events and Histories of Knowledge’. *Review (Fernand Braudel Center)* 28, no. 2 (2005): 143–59, http://www.jstor.org/stable/40241626.

Thompson, John B. *Ideology and Modern Culture: Critical Social Theory in the Era of Mass Communication*. Cambridge: Polity Press, 1991.

Whatmore, Sarah J. ‘Mapping knowledge controversies: science, democracy, and the redistribution of expertise’. *Progress in Human Geography* 33, no. 5 (2009), 587-598.

Zylinska, Joanna. *AI Art: Machine Visions and Warped Dreams*. London: Open Humanities Press, 2020.