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AI as epistemic media and the future of subjectivity

Abstract
For scholars of the social sciences and humanities, the most pressing question concerning AI is its ramifications for human beings: what would it mean to be human in a world increasingly populated by AI? This, I suggest, requires us to divert from the ontological question of "what is AI?" and seek a more human-centric mode of inquiry. In this essay I would like to lay out one such possible route for inquiry. I begin by identifying the shortcomings of the common historiography of AI, which narrates a progressive development of an autonomous thinking machine from its roots in mythology up to innovations in digital technology. Instead of such history, which harks back hardly a century and culminates in the development of deep learning, I suggest thinking of AI in the context of a much longer, non-digital history of epistemic media. Epistemic media extend the cognitive abilities of human users. They facilitate the creation of new forms of knowledge about the world and about the self. For centuries now, epistemic media have offered devices for creating subjectivity by allowing reflexivity, which grew out of a dialogue between the machines and its human users. But they were not autonomous thinking machines. By thinking about AI as part of that family of media devices we can start to outline a few key axes along which questions concerning the ramifications of AI to what it means to be human can be posed.

Keywords
AI; Subjectivity; Media; Technology Discourse

1. Historicizing AI: Conflation and conflict

A certain way of historicizing AI runs the risk of mystifying it. It narrates a linear story of technological progress, where mathematical

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breakthroughs are rendered into engineering marvels, and where smart machines become increasingly more complex, layered, scalable, and accessible. Such historiography suffers from what might be called "anachronistic teleology". It begins with the end – fully automated thinking machines – and moves backwards in time to excavate its origins and development from this contemporary perspective. This history tends to solidify the mystique of technology by aggrandizing the people involved in its creation and ultimately tells a story of human triumph (or tragic sublime).

We can get a glimpse of the popular discourse on technology in general and AI in particular as it is registered in Wikipedia. Wikipedia entries serve here not as indications of what AI actually is, but of how they are talked about, the technology discourse which surrounds them. By technology discourse I refer to a prevailing body of knowledge which purports to make sense of society by analyzing it through the axis of technology. Critical approaches see technology discourse as an object to be analyzed in and of itself, not for its truth-value (or its adherence to the reality of technology), but for the ideological coordinates that underlie it (Mosco 2004, Fisher 2010, Nye 1994). The entry for "The history of Artificial Intelligence" underscores two bodies of knowledge that foreshadow AI: myths in antiquity about intelligent (non-human) beings and attempts by modern philosophers to describe human thinking "as the mechanical manipulation of symbols" (Wikipedia 2024a). These two bodies of knowledge, "culminated in the invention of the programmable digital computer in the 1940s". This device, together with the ideas behind it "inspired a handful of scientists to begin seriously discussing the possibility of building an electronic brain" (Ibid.). In essence, then, this is a history of translating a fantasy and an intellectual quest into a reality by way of computers. As a research field, AI was founded in the 1950 in the U.S., went through a few decades of ups and downs, as well as a long period of disillusionment from the possibility of achieving AI, a period known as "AI Winter". A breakthrough happened in the early 2000s with the successful application of machine learning, which relied on powerful computer hardware and the collection of big data via the internet. Eventually, in the 2010s, deep learning eclipsed all other methods and gave rise to generative AI applications.

Such historiography of AI underlies a key narrative in the popular discourse, one which situates AI *vis-à-vis* human beings. The Wikipedia entry for "Artificial Intelligence" further elucidates that, defining AI as "a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their

chances of achieving defined goals" (Wikipedia, 2024b). A succinct representation of that discourse comes out of the key image accompanying the series of articles on AI in Wikipedia (figure 1). The image can be read as either a human brain occupied by a machine, or a machine posing as a human brain.

Figure 1: Human brain as machine/machine as human brain.
Image from Wikipedia.

Such exemplars of the discourse on AI attest to a prevalent narrative featuring a dual dynamic taking place between humans and machines: *conflation* and *conflict*. According to this, humans and AI are not only mutually exclusive, but their relations are inherently tenuous. This duality is epitomized by the most important qualifier for AI: The Turing Test. In the test, an artifice is considered intelligent to the extent that its interlocutor is not able to distinguish it from a human interlocutor. On the one hand, then, in order to be considered intelligent, the artifice needs to be perceived *as if* it were human, to be conflated with humanness to the point of indistinguishability.

On the other hand, the Turing Test is haunted by a specter of *contest* and *conflict* between humans and machines. The intelligent artifice is assumed not merely to pass as human but to eventually surpass it. It therefore threatens to make humans redundant. First, in the very practical sense, by getting rid of them in all sorts of scenarios and replace them with a computer. But more profoundly, AI threatens to dethrone humans from their superior position in the universe by bringing down the last fortress of their unique humanness: their intelligence. This would not be the first time that humans are decentered from their own cosmology. It happened once with the Copernican revolution which suggested that our earthly habitat is not the center of the universe. It happened again with Darwin, who suggested that humans are not the crown of the natural world (and possibly not the pinnacle of a divine plan), and even more radically, that they are merely a recent development in the history of nature. The substitution of a humanist cosmology for a religious cosmology shifted the gravity of agency towards human will; now it was humans who

were deemed to make their own world. But this omnipotent fantasy also received two blows which further decentered "humans" from human history: both Marx and Freud pointed to extremely robust structural constrains of human history and human instincts (respectively), which govern our humanness. In the prevalent discourse, AI is seen as posing a new threat to dethrone us a little more. Only this time, it is the result not of a discovery of natural laws, but instead the making of our own devices: we invented and developed an artifice which threatens to surpass us and control us.

AI exacerbates the contention between humanists, who insist on uniquely human qualities, which can never be fully automated (creativity, for example), and post-humanists, who cannot conceive of anything humans can do, that machines would not eventually be able to do. By post-humanists, I refer to both optimists, who imagine a bright future of smart machines enhancing human life, and pessimists, who foresee humans doomed by AI, either culturally and politically, or literally. Both the humanist and post-humanist versions are, in fact, conflictual: either humans will be able to control AI and make it subservient to their wants or be controlled by it and defeated.

Public discourse on AI, then, posits humans and machines as two distinct, discrete, contrasted entities. As AI becomes humanity's reflection it might also become its annihilator; it is humanity's rogue doppelganger. Against the backdrop of this narrative, embedded in the 'normal' historiography of computers (to use Kuhn's term), I want to intimate an alternative historiography by thinking of AI as yet another iteration of knowledge devices, or what I call 'epistemic media'. This approach might open two new avenues for thinking about AI and deepen our understanding of its ramifications for humans. First, we can imagine a more dialectical history, one where humans and machines are not discrete entities but rather a mutually constitutive assemblage of knowledge production. And second, a history where the protagonists are not "humans" as such, but instead, "human subjectivity" (or self-reflection), a particular *facet* of our humanness. Such a history narrates the rise and expansion of subjectivity with the help of epistemic media during modernity and opens the question concerning the fate of subjectivity in contemporary AI-saturated environment.

2. AI as epistemic media: thinking with machines

Rather than excavating the philosophical, mathematical, and technical roots of AI, assuming a teleology of its current applications, I suggest we think of AI as one more event – albeit with seismic effects – of another

class of phenomena altogether: epistemic media. By epistemic media I mean a space, the materiality (both substance and form) of which help render data and information into a new kind of knowledge. Rather than thinking of media merely as a container of information, or a registrar of already-existing knowledge, the notion of epistemic media suggests thinking of the design and practices, involved in their use, as facilitating the construction of new knowledge. In this formulation, old, non-electronic media forms may be reimagined as calculators, or computers. Epistemic media are devices that facilitate thinking and allow for new ways of knowing to emerge. Historicizing AI as epistemic media, then, should encourage us to look for antecedents to AI, not in the technical sense but instead in the functional sense.

There is a large body of research into the most mundane and important epistemic media.[2] These "traditional" (i.e., non-computational) epistemic media were instrumental in bringing about modern subjectivity. By creating a space for self-reflection, where the self could encounter itself also as an object and be subjected to critique, they helped expand our realm of freedom. These media were not seen as distinct from our humanness, certainly not in conflict with it, they were perceived as facilitating a mode of knowledge co-construction. They were constructed by human beings and operated by them, but also had an agential role in affording self-reflection. An epitome of these co-constructivist relations between human subjectivity and media is the practice of diary-keeping. With modernity, self-reflection (i.e., using reason to inquire about one's own self) came to be an integral component of the self, and was interlaced with media. This "inward turn" (Taylor 1989, 177) and the insistence on opening up a space for self-reflection was facilitated by the availability of a material space on which such reflections could be arranged. Thus, for example, the production of cheap paper in the 16th century, and the expansion of writing "had an enormous impact on the growth of the self-consciousness" (Heehs 2013, 41). Letter and diary-writing thrived in 18th century Europe. Writing was not merely an "imprint of the soul" but also a way to present the self to the self, to make it public; "the diary became

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[2] Some of the epistemic devices that have received attention are the page (Mak, 2012), lists (Goody, 1977; Young, 2017), forms (Esbester, 2011), files (Hull, 2012; Vismann, 2008), documents (Gitelman, 2014; Riles, 2006), memos (Guillory, 2004), ledgers (Carruthers & Espeland, 1991), registrars, index cards (Krajewski, 2011), the filing cabinet (Robertson, 2021), the typewriter (Wershler-Henry, 2007), postcards (Östman 2004), diaries (Heehs, 2013; Vickery, 2021), letters, punch cards, books, newspaper clippings (Te Heesen, 2014), field-research boxes (Te Heesen, 2000), indexes (Duncan, 2021), table of contents, subject headings (Cevolini, 2022), chapters (Dames, 2023), paratext (Genette, 1997), footnotes (Grafton, 1999), notebooks (Yeo, 2014), and the word processor (Kirschenbaum, 2016).

a letter addressed to the sender" (Habermas 1991, 49). In sum, the diary was a radically new invention linking self to knowledge through media, allowing "experiments with … subjectivity" (Ibid, 51).

3. Epistemic media: Old and new

But what makes a particular media form, and a particular media practice, qualify as epistemic media? Or better yet, assuming that all media are epistemic to a greater or lesser extent, what are the epistemic qualifiers for media? Let me lay out four distinct tenets of epistemic media twice: First, as they apply to traditional media (I am thinking mostly of the personal diary, for simplicity's sake), and then, as they apply to AI.

1. Inscribing data: What is inscribed in epistemic media is data, as raw and naked as it gets. I understand the distinction between data, information, and knowledge as relative and co-dependent, rather than ontological (Rowley 2007). Pieces of data amount to information, pieces of information amount to knowledge. By definition, then, if epistemic media creates a new type and a new layer of knowledge out of that which was inscribed in it, all that which was inscribed can be thought of as data. Data can be the serial number of a transaction in an accounting ledger, a location of an appointment in a personal calendar, or a narrative about a dream laid out on the pages of a personal diary.
2. Real (or near real) time: Inscription takes place very close to the event being recorded. A meeting is registered in the calendar when it is set; a transaction is inscribed in the ledger when money is exchanged; an event is reported on in the personal diary not long after it had taken place. A personal diary is not a memoir, nor an autobiography, it is not a retrospective narrative with a beginning, middle, and end. Rather, it reports on events and thoughts as they happen.
3. Ordering: The spatial arrangement of data on the page is key for allowing its rendering into knowledge of a higher order.[3] In a personal diary, the arrangement is chronological. Not only is such ordering *a priori*, that is, it is set before any event took place or has been recorded. More than that, chronological ordering is also an arbitrary narrative structure. One could possibly arrange entries in a personal diary by any number of categories, such as types of events (dreams, meetings, etc.), or alphabetically (e.g. representing the name of an

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[3] Incidentally, the French *Ordinateur*, which currently denotes a computer, is etymologically linked with order in the sense of arrangement and sorting.

entry's protagonist). Ordering can also be achieved with lines which divide the page. Double-entry bookkeeping, for example, achieves its epistemic purpose by vertical lines separating incoming from outgoing expenses. Forms do the same with rubrics.

4. Reviewing: Lastly, a particular media practice which renders media epistemic is *re-viewing* them, that is, looking back at the inscriptions with a fresh gaze. Reviewing means taking into account particular entries vis-à-vis other entries, or a combination of entries, or all entries combined. This allows for a new synthesis and a new gestalt – not merely a re-view but a new-view. A diarist does not merely re-read an entry in her personal diary. Commonly, she will reread a couple of entries, taking into account both "real-time" – when these discrete entries were written – and the sequence of entries as they unfold retrospectively. Reviewing would not merely remind her of past events but might also give her a new insight into patterns and irregularities in these events, and into her *self*, the self which had put these inscriptions on paper in real time. At this point data inscribed may become the building blocks for knowledge grasped.

Reviewing, then, can be understood as the zenith of the epistemic process which begins with data inscription, a process where self and media co-create. Or in the succinct words of Michel de Montaigne, one of the great innovators of writing as a device for reflection: "I have no more made my book than my book has made me: it is a book consubstantial with the author" (Montaigne 2003, 612). By its structural design and mode of use, epistemic media opens up a space for self-reflection, where one can render her subjective experiences into objective inscriptions, which are then reflected back to her. Epistemic media can be likened to a therapeutic space where utterances lose their status as statements of an external reality and are reconsidered to reveal an internal reality, that of a subject.

So how does AI operate as epistemic media? AI can be said to automate the epistemic process of media; facets of the epistemic process which were hitherto co-produced with human users are transferred to a fully autonomous process carried out by machines. For simplicity's sake, I will be thinking about "really-existing AI" in the following analysis, AI components embedded within digital platforms. To be even more concrete and precise, I am thinking of personalization machines poised to identify the wants and likes of individual users and marry them with relevant content, be it news stories or products.[4]

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[4] See, for example, Hallinan and Striphas 2014; Karakayali, Kostem, and Galip 2018; Prey 2018.

1. Inscribing data: The 'intelligence' of AI, whatever this term may stand for, begins with the collection of massive volumes and varieties of data. AI's approach to data is omnivorous. Not unlike the writer of a personal diary, whatever the specific task of an AI machine might be, it cannot really tell which data will turn out to be relevant for the later stages of knowledge creation. It therefore opts to be as wide and persistent as possible in generating this data. Data is mostly collected automatically as users of digital platforms (either online or, increasingly, in the "real world") leave a trail of data, registering their actions and behavior. In other words, most of the data to be inscribed is registered without the involvement of individuals (expect giving consent to access the data they inadvertently create).

2. Real (or near real) time: Data collection on digital platforms is done in real time. It is unmediated, un-interpreted, "dumb" (compared with the intelligence is purports to bring about). At the moment of inscription, it carries no further weight than the event it registers. In that sense it is – by and large – non-representational; it records the binary movements that have occurred. If a click of a user on a webpage creates the command 1110010110, then the data point is 1110010110. The real time quality of this process is succinctly captures by the notion of "lively data" – data as an organic entity, always on the move, always changing – or that of "flow" (of data) as a key dynamic to contemporary social action on digital platforms (Lupton 2016; Cetina and Preda 2007).

3. Ordering: Each data point needs to be ordered in space and time. The most fundamental and prevalent axis of order is temporality. For any data point, digital media needs to register a meta-data of time signature. In that sense it is just like a calendar, a personal diary, or a ledger: each piece of data is coupled with another piece of meta-data, ordering the former. Time signature (in all these media) needs not be concrete: in a personal diary, where inscription in real time is linear, each word and phrase also carries with it a time signature (however crude it may be).

4. Reviewing: The zenith of the epistemic process is here done completely automatically and autonomously from humans. It is a process of pattern recognition, which is a statistical procedure at its essence. The power of AI is statistical. This makes it, probably, the "purest" epistemic media in that the content of the data it processes is irrelevant for the results. All the knowledge it produces is deducted from statistical information about the frequency of an event in a universe of events.

4. Conclusion

This short essay is quite modest in its scope and goal. It tells us little about the ontology of AI and does not allude to the possible ramifications of AI on humans. Instead, it seeks to offer an alternative route for inquiry by doing two things. First, transposing AI from its convenient location in the history and genealogy of information theory and technology to that of epistemic media. Such a view has the benefit of disarming our enchanted (or terrified) gaze of digital technology. It does not refute the novelty of AI, or even its revolutionary potential, but instead seeks to elucidate this novelty in light of another – existing, even old – analytical axis. Second, placing AI as an element in the set "epistemic media" also allows us to shift the discussion from a general inquiry about humans versus AI, and focus on a specific element of humanness: subjectivity.

I have argued elsewhere that certain applications of AI – particularly algorithmic devices that render user-generated data into knowledge about them, which in turn informs how users think about themselves – can be thought of as epistemic media (Fisher 2021, 2023). My argument was that in comparison with "traditional" epistemic media, AI is excluding the self from the production of knowledge about the self. But even if we accept the thrust of this argument, many questions are left open and need further exploration in order to understand the possible ramifications of AI on human subjectivity. A more robust exploration, I suggest, may be carried out using the four tenets of epistemic media outlined above.

References

Carruthers, Bruce and Wendy Nelson Espeland. 1991. "Accounting for Rationality: Double-Entry Bookkeeping and the Rhetoric of Economic Rationality," *American Journal of Sociology* 97(1): 30-67.

Cetina, Karin Knorr and Alex Preda. 2007. The Temporalization of Financial Markets: From Network to Flow, *Theory, Culture & Society*, 24(7-8), 116-138.

Cevolini, Alberto. 2022. Remembering and Forgetting by Means of Subject Headings: A Contribution to the History of Knowledge Organization, *Journal for the History of Knowledge* 3(1): 1-13.

Dames, Nicholas. 2023. *The Chapter: A Segmented History from Antiquity to the Twenty-First Century*. Princeton: Princeton University Press.

Duncan, Dennis. 2021. *Index, A History of the: A Bookish Adventure from Medieval Manuscripts to the Digital Age*. New York: W. W. Norton & Company

Esbester, Mike. 2011. Taxing Design? Design and Readers in British Tax Forms before 1914. *Design Issues* 27(3): 84-97.

Fisher, Eran. 2010. *Media and New Capitalism in the Digital Age: The Spirit of Networks*. New York: Palgrave.

Fisher. Eran. 2021. Epistemic media and critical knowledge about the self: Thinking about algorithms with Habermas, *Critical Sociology*, 48(7-8): 1309-1324.

Fisher, Eran. 2023. Epistemic media: Their history and relations to subjectivity, *Knowledge Cultures*, 11(3): 7-24.

Genette, Gerard. 1997. *Paratexts: Thresholds of Interpretation*. Cambridge: Cambridge University Press

Gitelman, Lisa. 2014. *Paper Knowledge : Toward a Media History of Documents*. Durham: Duke University Press.

Goody, Jack. 1977. *The Domestication of the Savage Mind*. Cambridge: Cambridge University Press.

Grafton, Anthony. 1999. *The footnote: A curious history*. Harvard University Press.

Guillory, John. 2004. The memo and modernity. *Critical inquiry*, *31*(1), 108-132.

Habermas, Jürgen. 1991. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge: MIT Press.

Heehs, Peter. 2013. *Writing the Self: Diaries, Memoirs, and the History of the Self*. London: Bloomsbury.

Hallinan, Blake & Striphas, Ted. 2014. Recommended for you: The Netflix prize and the production of algorithmic culture. *New Media and Society*, *18*(1), 117-137.

Hull, Matthew. 2012. Documents and Bureaucracy. *Annual Review of Anthropology*, 41: 251-267.

Karakayali, Nedim, Kostem, Burc, & Galip, Idil. 2018. Recommendation systems as technologies of the self: Algorithmic control and the formation of music taste. *Theory, Culture and Society*, 35(2), 3-24.

Kirschenbaum, Matthew. 2016. *Track changes: A literary history of word processing*. Cambridge: Harvard University Press.

Krajewski, Markus. 2011. *Paper machines: About cards & catalogues, 1548-1929*. MIT Press.

Lupton, Deborah. 2016. *The quantified self.* Cambridge: Polity Press.

Mak, Bonnie. 2012. *How the Page Matters*. Toronto: University of Toronto Press.

Montaigne, Michel de. 2003. *Michel de Montaigne: The Complete Works*, trans. by Donald M. Frame. London: Everyman's Library.

Mosco, Vincent. 2004. *The digital sublime: Myth, power, and cyberspace.* Cambridge, MA: MIT Press.

Nye, David. 1994. *American technological sublime*. Cambridge, MA: MIT Press.

Prey, Robert. 2018. Nothing personal: Algorithmic individuation on music streaming platforms. *Media, Culture and Society*. 40(7), 1086-1100.

Östman, Jan-Ola. 2004. "The postcard as media", *Text & Talk*, 24(3): 423-442.

Riles Annelis (Ed.). 2006. *Documents: Artifacts of Modern Knowledge*. Ann Arbor: University of Michigan Press.

Robertson, Criag., 2021. *The filing cabinet: A vertical history of information*. Minneapolis: University of Minnesota Press.

Rowley, Jennifer. 2007. The wisdom hierarchy: representations of the DIKW hierarchy. *Journal of Information Science*, 33(2), 163-180.

Taylor, Charles. 1989. *Sources of the Self: The Making of the Modern Identity*. Cambridge: Cambridge University Press.

Te Heesen, Anke. 2014. *The newspaper clipping: A modern paper object*. Manchester: Manchester University Press

Vickery, Amanda. 2021. A Self off the Shelf: The Rise of the Pocket Diary in Eighteenth-Century England, *Eighteenth-Century Studies* 54(3): 667-686.

Vismann, Cornelia. 2008. *Files: Law and Media Technology*. Stanford: Stanford University Press.

Wershler-Henry, Darren Sean. 2007. *The iron whim: A fragmented history of typewriting*. Ithaca: Cornell University Press.

Wikipedia 2024a. "The history of Artificial Intelligence". Accessed September 1, 2024.

Wikipedia 2024b. "Artificial Intelligence". Accessed September 1, 2024.

Yeo, Richard. 2014*. Notebooks, English Virtuosi, and Early Modern Science*. Chicago: University of Chicago Press.

Youg, Liam. 2017. *List Cultures: Knowledge and Poetics from Mesopotamia to BuzzFeed*. Amsterdam: Amsterdam University Press