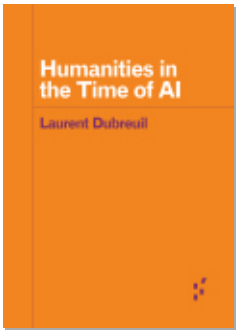
1. An Essay in Paradoxical Optimism



1. An Essay in Paradoxical Optimism

THIS IS AN ESSAY IN PARADOXICAL OPTIMISM. I am trying to show that AI offers a chance for the humanities to strengthen their relevance and their signification. What would be true in general is eminently so today, when "self-learning" algorithms allow machines to easily "generate" images, music, objects, films, and texts that were often seen as the hallmark of "the human." If we believe that humanistic research is about finding consensus positions, amplifying what others have said, labeling "good" and "bad" behavior, identifying what has already been identified, expressing simple emotions and affects, mastering a standard style, producing balanced overviews and reviews, describing phenomena without interpreting them, summarizing documents or books, or doing passable translations, then this is it. As I am writing and revising this book, in 2023 and 2024, generative AI is already able to accomplish these different missions to a degree that would be acceptable at a student level. I am certain that, a few years from now, the outcome will be more convincing. But, precisely, I contend that many of us have erred in believing, even for one second, that such were the ultimate tasks of the humanities. On the contrary, a maximalist take on scholarship would focus on creation, as a subject and an object, through a differential inquiry into its transformative significations.[1]

1. Throughout this essay, I use *scholarship* to refer more specifically to humanistic research.

Let us first rethink how we approach innovation in the broad sense.[2] There are trials and errors. There is novelty through randomness. There is invention, which consists in reorganizing what has been said, but even invention could be broken into diverse parts or thought of as a gradient, maybe with—or without—emergent processes, as there is a wide range between token variations and rearrangements that simply reconfigure the given (its meanings, its values, its consequences). And there is also creation, *poiēsis,* which stems from the boundaries of thought, from impossibilities, from contradictions, from both excess and defect—pretty much where novel ideas and practices arise in the arts or the sciences. Among thinkers and metathinkers, there has long been a complacent view of innovation that reduced this wide range to mainly one type, with the emphasis being put on the incremental, or what Thomas S. Kuhn dubs "normal science."[3] There is no doubt that we cannot create nonstop and that creation is rather an exception to the norm, what I call "intellection" or the extraordinary regime of thinking vis-à-vis the regular order of thought that we could name "cognition." Is the latter the only thing there is? For both theoretical and practical

2. The relation between intelligence and creation or invention was central to the theoretical elaboration around AI and cognition in the 1990s. See, e.g., Margaret A. Boden, *The Creative Mind: Myths and Mechanisms* (London: Routledge, 2003); Douglas Hofstadter and the Fluid Analogies Research Group, *Fluid Concepts and Creative Analogies: Computer Models of the Fundamental Mechanisms of Thought* (New York: Basic Books, 1996). As recently as 2015, participants in an AI conference could show up wearing buttons saying "Mere Generation," as a joke on the abilities of their own systems (see the opening paragraphs of Dan Ventura, "Mere Generation: Essential Barometer or Dated Concept?" [paper presented at the Seventh International Conference on Computational Creativity, Paris, June 28, 2016, https://www.computationalcreativity.net/iccc2016/wp-content/uploads/2016/01/49_Mere-Generation-Essential-Barometer-or-Dated-Concept.pdf]). Today, even scholars who would be otherwise prone to criticize generative AI tend to back away from reclaiming the force of creation.

3. See Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1970), esp. 2, 7, 10. I rely on Kuhn's theory for some key aspects of my own epistemology.

reasons, the majority response these days is positive, and the state of the art (rather: the nonartistic state of the art) in AI is precisely stuck at this level, leaving us with a wonderful device that is also heavily contributing to actively diminishing the amplitude and variety of human reflection, because it principally brings down the noetic to one conceptualization of the mind. In parallel, as long as we will sheepishly accept to be constantly reshaped by the algorithms of social media and by those of bureaucracy, we will also have prepared our minds to be much more similar to the next chatbot, since that chatbot is part of the ongoing reprogramming of human mental capabilities. But there are differences between, for instance, writing paragraphs filled with word repetitions, writing a redundant prose poem, writing in the style of Gertrude Stein, and creating Gertrude Stein's style. Undoubtedly, the GPTs of the present and future can do a pretty passable pastiche of the said—which is why so much of the social parlance, from the *Guardian* op-eds to social media moments of first-person proclamations, are so easy to reproduce with only a few commands to the electronic system.[4] What about the adventure of the unsaid, its performance and interpretation? About that, the humanities have something else to say, something incompatible with the standardization of mediocrity that computerized techniques are able to produce and multiply.[5]

4. See the op-ed GPT-3, "A Robot Wrote This Entire Article. Are You Scared Yet, Human?," *Guardian*, September 8, 2020, https://www.theguardian.com/commentisfree/2020/sep/08/robot-wrote-this-article-gpt-3.

5. I am using the central thesis I unfolded in *The Intellective Space: Thinking beyond Cognition* (Minneapolis: University of Minnesota Press, 2015), see in particular § 1–4, and in *Poetry and Mind: Tractatus Poetico-Philosophicus* (New York: Fordham University Press, 2018), § 1. To some extent, this essay is the last part of a tetralogy also including, besides the two books I just mentioned, *Dialogues on the Human Ape* I coauthored with Sue Savage-Rumbaugh (Minneapolis: University of Minnesota Press, 2019). For my overall argument, I am also using the experimental work I am a part of within the Humanities Lab at Cornell, such as the comparison between GPT-3 and human writing of poetry, and the semantic exploration using natural language processing methods of the French lexicon of race and Indigeneity.

This book is no prophecy. It might well turn out that the humanities as an academic field will soon recede even further, and digital innovations would play a key role in such a demise, indirectly or not. This gloomy prospect is highly probable; I do not intend to avoid it. I am not even arguing for a smooth and peaceful relation between "the tech" and "the humanities," and I am not suggesting that letting be would be wise or smart.[6] Rather the opposite: a strife is unavoidable, and I doubt an armistice is anywhere near, but, in our specific moment, we could see with extreme sharpness what discursive scholarship is bringing to us, why it matters, and how it thrives. My optimism is paradoxical, as it acknowledges that AI nullifies what many practitioners erroneously consider to be humanistic research—I take this invalidation as a good thing—and could concurrently cause extensive harm to its very idea, which would be the worst outcome. At the same time, as long as we wish to think further than the limitations of the given, the impetus of the humanities remains as, virtually, the only horizon for making sense of what we are and could become. By contrast, the one-dimensional narrowness of the most advanced AI is striking. Yes, we could fully habituate ourselves to the pale and reassuring normalcy of computerized outputs; after all, we are so deeply engaged in that direction already. We could even train ourselves anew so that we would become closer to the functioning of our own models, implant more electrodes in our cortices, or couple cerebral "organoids" with microprocessors with the goal of exploring "how a 3D brain cell culture can be made more computer-like."[7] There remains that

6. Contra Lawrence Shapiro, "Why I'm Not Worried about My Students Using ChatGPT," *Washington Post,* February 6, 2023, https://www.washingtonpost.com/opinions/2023/02/06/college-students-professor-concerns-chatgpt/.

7. Lena Smirnova et al., "Organoid Intelligence (OI): The New Frontier in Biocomputing and Intelligence-in-a-Dish," *Frontiers in Science* 1 (2023): 4, https://doi.org/10.3389/fsci.2023.1017235. The history of neural coupling with machines through invasive techniques largely predates our era and Elon Musk's Neuralink; see, for instance, José M. R. Delgado, *Physical Control of the Mind: Toward a Psychocivilized Society* (New York: Harper & Row, 1969). As

the other modes of thinking, the ones that diverge from their algorithmic deployment, show the possibility of, and the need for, an outside to our ultimate transformation into the adjuvants or universal fact-checkers of the brains we shall engineer.

Gabriel García Márquez's novel *Love in the Time of Cholera,* whose title inspired mine, is not first and foremost a chronicle of a certain historical era marked by an epidemic. The "time of cholera" is also qualified by the subjective impressions of the circumstances themselves (and remains in a plural form in the Spanish original *los tiempos*). As for the junction with *love*—like in Alain Resnais and Marguerite Duras's *Hiroshima mon amour*—it does not suggest that the plague, or the atomic bomb, should be the fuel of passion. It rather reminds us that, in the worst times, we can love. The final pages of García Márquez's narrative even show how the threat of contagion could provide an improbable support to a long-delayed relation, as the two aged lovers aboard a ship flying the yellow flag enjoy a cruise that could last for their "entire life."[8] In its turn, the "time of AI," not exclusively a chronological period, is providing a counterintuitive support for the humanities.[9] AI is spreading like a plague. We did not need it to think, but it is there, and, against all odds, we can use its noun and reality to try to recreate scholarship.

I was revising this manuscript, I read Raphaël Gaillard, *L'homme augmenté: Futurs de nos cerveaux* (Paris: Grasset, 2024), a lucid take on the kind of "augmentation" invasive human-machine neural coupling will bring.

8. Gabriel García Márquez, *El amor en los tiempos del cólera* (Bogotá: La oveja negra, 1985), 473; my translation.

9. *Time* is not a word that would belong to historians, and, clearly, this book does not seek to deliver a history of artificial intelligence. The history of AI is, unsurprisingly, a burgeoning field. See, for example, and with different approaches, Nils J. Nilsson, *The Quest for Artificial Intelligence: A History of Ideas and Achievements* (Cambridge: Cambridge University Press, 2010); Matteo Pasquinelli, *The Eye of the Master: A Social History of Artificial Intelligence* (London: Verso, 2023); David W. Bates, *An Artificial History of Natural Intelligence: Thinking with Machines from Descartes to the Digital Age* (Chicago: University of Chicago Press, 2024), a book that is still forthcoming as I am submitting this manuscript.

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