

Review of: "[Essay] The Algorithm; Mind of a Virtual Era – Our Code of Codes"

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Thank you for offering the opportunity to review the essay titled

First and foremost, I appreciated the passion by which the text seems to have been written with, passion that indicates a writer's close attachment to reading in a deeper sense, an art that I agree has been lost nowadays, and the author patiently preserves. Anecdotally, I have been recommended to review this essay, probably because the person who recommended me saw, beyond the overlap of academic interests, a similar passion for a craft-approach to reading and writing. This pre-ample is to simply express my sincere pleasure for reading the paper that goes beyond the formalities of reviewing practice. And of course, as a sweetener before some noted criticisms that –nevertheless- stem from my own disciplinary backgrounds and personal appreciation of certain subjects. Given Qeios's open-ended infrastructure, I would recommend to take the following with the preferred amount of pinches of salt – you can take on board none, a few, most, or all of them, depending on your preference. These are the points that stood out for me and, if addressed, would make the essay more likely for me to share with peers or happily cite.

1. Technological determinism and scientist-heroes

The first issue that stood out for me was a strong undertone of technological determinism. The reader is often left with the impression that human civilisation is currently solely dependent on its technological discontents. The use of first plural pronouns ("we," "us," "our") indicates passive reception of technological inevitability, as humans are a homogeneous mass subjected to the technical deity that is elsewhere criticised as such in the essay. However, many scholars see technological change as the outcome of multiple social groups who shape the technology more than it shapes humanity – questions of power immediately arise (consider the Social Shaping of Technology framework). Technological determinism is often perpetuated in the essay by the very anthropomorphic language used to describe AI/algorithmic functions, while invoking minimal criticisms in the shape of inverted commas to occur, for example when the author suggests machines can "extrapolate." Based on these, it seems that the author is either caught in the web of a double bind, or tries to cast such a double bind web to the reader. On the one hand, the reader learns about the tentative inevitability of these technologies being pervasive and quantifying human interactions, modes of living and thinking. Yet, on the other, the reader also learns about how key human faculties cannot be quantified. Then what is the situation we find "ourselves," other than a collective double bind? I have argued about something similar on a paper titled "Singularitarianism and Schizophrenia" from 2017, applying Gregory Bateson's contribution to psychoanalysis.

A frequent extension of technological determinism is the perpetuation of the scientist-hero archetype, something that is very much felt in the essay, although it is at odds with what the paper aims at conveying in terms of criticising these technologies' implications – a double bind again? Scientists-heroes are evoked every time the author speaks about “teams of the finest minds” or a “professor at MIT.” What makes one of the “finest minds” if their inventions are to be blamed for the torments listed at the end of the essay? In my view, and as a fan of the early cybernetics movement (that included Gregory Bateson), it is the military funding these “finest minds” received that turned their inventions towards the behaviourist understanding of the mind, leaving to current generations a legacy of such approaches paired to a libertarian imaginary of quantification as liberation (see the infamous Californian Ideology paper:

http://www.comune.torino.it/gioart/big/biggest/riflessioni/californian_engl.pdf). In the same heroic vein, the author seems to speak very highly of Domingos, despite his very controversial views and his open polemic against ethical assessment of computer science papers. Specifically about Domingos's contribution, the author offers a summary of his AI fable, however, all techniques or approaches (“tribes”) mentioned (e.g. connectionism, backpropagation, evolutionary AI, genetic algorithms) are presented without sufficient explanation to the broad readership this essay is aiming for. I think these two paragraphs could actually be omitted – they read as an otherwise fantastic summary of the book, but add very little to the argument.

1. Psychoanalysis and AI

For a paper that seeks to draw from psychoanalysis in order to apprehend AI, I was impressed to find no references to the minor yet very important literature on the topic. The early Sherry Turkle, (in her 1980 paper *Computers as Rorschach* and the 1984 classic book *The Second Self*), as well as in other papers (see her overview: Turkle, S. (2004). *Whither psychoanalysis in computer culture?*. *Psychoanalytic psychology*, 21(1), 16.) outlines nearly everything that is relevant on a consistent appreciation of the topic.

There are a few more prominent works that deserve to be cited:

Liu, L. H. (2010). *The Freudian robot: digital media and the future of the unconscious* University of Chicago Press.

Possati, L. M. (2022). *Unconscious Networks: Philosophy, Psychoanalysis, and Artificial Intelligence*. Taylor & Francis.

And my very own humble attempt at something about automation:

Galanos, V. (2019). *Blended Automation: The Language-Game of Psychoanalytic Automatism and Cybernetic Automata*. *Blended Cognition: The Robotic Challenge*, 85-95.

It was interesting to read the direct association between the Delphic “know thyself” and psychoanalysis, although I would be slightly careful with that, especially when I think about Greek nationalists who love Delphic oracles' history but despise Freud for his ethnic background.

I was impressed to see your translation of Eros and Thanatos as “Love and Destructiveness” – why avoid the word “Death” in this case, or, by the same token, prefer Creativeness instead of “Love”? I think this imbalance creates confusion for

those who do not know the meaning of the word “Thanatos” in Greek. Moreover, if one looks at Szollosy’s interpretation (see below) of the debate, it is pretty much that death/love drive, or a Saturnine complex, that pushes humans to be afraid of their creations in order to survive, while paired to a narcissistic motivation to imitate their own selves by mechanical means.

Szollosy, M. (2017). Freud, Frankenstein and our fear of robots: projection in our cultural perception of technology. *Ai & Society*, 32, 433-439.

I think there is something deeper to comment upon from a psychoanalytic perspective in what I found to be the most evocative image of the essay: “just look at all those pram-pushers on their cellphones” – I would write an entire essay based on the love drive exemplified by the pram’s content (the baby, continuation of life) and the negation of it (staring at the phone instead of caring for the baby).

1. Additional reference suggestions:

I am aware that the author has done a lot of reading to reach these thoughts, but I would recommend to make use of just a few more works that would clarify the use of certain terminologies for the interested reader.

A reference needs to be given when the author refers to Cathedral and Fortress – I could infer that Cathedral refers to either the Cathedral and the Bazaar book from the 90s or the Cathedral of Computation article by Bogost? I am not sure at all where Fortress refers to.

I found this phrase fascinating: “The computer would open-up a connected world, an equalized platform, a virtual space where all would be intertwined, all voices heard; it was the next frontier of limitless possibilities freeing humanity from drudgery, spreading us to extended minds, alternate selves, Artificial Intelligence.” I think the author would greatly benefit by taking a look at (if not devouring in hours) Paul Edwards book “The Closed World” essentially arguing about this mixed technical bundle of social and libertarian imaginaries involving lots of military funding for cyberspace, AI, cyborgs, internets, and more.

I appreciated the tacit reference to OCD in the phrase “Obsessive looking for calls or messages, feverish checking for “likes,” and compulsive scanning for what’s trending, all consume time and attention which become constantly divided and fragmented” – although people with diagnosed OCD might dislike the metaphor (I am fine with it, just a word of caution in our politically correct world). I wonder whether the list of “measuring what is gained against what is lost” is a linguistic game based on the idea of obsessive-compulsion to create lists. My first impression was that this was lazy writing, with some influence by Georges Perec’s poetic style, but in light of the OCD reference it makes more sense. However, I think that the deep intellectual pun (if that is one) should be acknowledged, while I would strongly recommend to add one academic reference for every one of the points being made (also consider the too esoteric terminology in some cases, e.g. Twitter poisoning – I doubt 90% of the readers will know what that is). Moreover, consider overlaps between “dangers” and “lost” items, e.g. attention spans and memory loss are featuring on both columns – is there any substantial difference between those? In any event the list must be better substantiated!

1. Typos, inconsistencies, and beautiful eccentricities to consider.

I come from a disciplinary cluster where we avoid capitalisation of disciplines or keywords, unless these are acronyms, so I would be tempted to use lower case for Code Biology, Tools, Signs, Representations, Chatbots, and other cases – in my experience, I think this is more accustomed to German and French academic writing.

Some of the cyber- terms are misspelled. As far as I remember from Leary's Chaos and Counter-Culture, psyberdelic is preferred to "cyberdelic." Later on there is mention of "cyperpunk" – that should be either cyberpunk or cypherpunk (too connected, yet sufficiently distinct cyber-movements from the 80s-90s). "Cyperspace" is probably "cyberspace" (I have never encountered something similar).

Towards the end (my favourite) Tim Leary is credited for coining the term cyberspace – this is wrong, as the term comes from the art scene and Susanne Ussing's Atelier Cyberspace in the 60s in particular. It was popularised in the 80s through William Gibson's Neuromancer sci-fi book. Gibson was good friends with Leary, who also used the term.

Tim Berners-Lee is spelled as Berner-Lee in the manuscript.

Most names are written consistently with their first name initialised, this is fine since the practice mostly consistent throughout the essay, and I appreciated it as it reminded me of old books from the 40s-50s that used this stylisation, but it might be found eccentric by some readers (I am often found to be eccentric, so I appreciate such social glitches in our world's algorithm).

Hayles 1999 is once spelled as Haynes 1991 or Hayle's 1999 or Hayes; Bayes is misspelled as Baye's, the Bayesians as Baysians, Wiener is misspelled as Weiner.

"Facets" is somewhere misspelled as "ffacets." Google as google, Gate of Utter Despair is inconsistently written as "Gate of Utter despair" (is there something about Lacan's linguistic field here, I wonder – I had a Greek nationalist teacher in the second grade who demanded from us to write "Greeks" with capital G but "turks" with lower case t, imposing on us her views about the neighbouring nation's inferiority; you can imagine what kind of revelation Lacan was to me and what degrees of importance I place on such typographic choices/chances). "Avanguard" should probably be "avant-garde." "Pide piper" is likely to be "pied piper" (although I am craving for a Turkish pide as I am writing this).

There is lack of apostrophe on "Connectionsts' backpropagation."

April, 20 2020 should probably be April 20, 2020.

I would stay consistent by using AI instead of either A.I. or A.I

I think the phrase "Mathematicians think in abstract terms" is a generalisation several mathematicians I know would disagree with.

I liked the pairing of euphoria and dystopia. It is an interesting combination of mutually exclusive antitheticals, in that usually dystopia is contrasted to utopia, while euphoria to dysphoria. In AI's case, both pairs are to be found, e.g. AI

promises either utopian or dystopian futures, as much as either euphoric or dysphoric sentiments. I just wondered whether I am overthinking about that passage and in case this was simply a poetically evocative mistake and the author aimed at writing “dysphoria” or “utopia” in any of the two positions. If that happened to me, I would use both antithetical terms!

Ending my last sentence with an exclamation mark, I have to admit I really appreciated their use throughout the essay, but the Devil’s advocate inside me thought of comments I received occasionally about their use. Knowing that some readers do not take writing seriously if they see too many exclamation marks, I would minimise their use. Their signified sentiment can be incurred by the sentences themselves, in most of the cases.

This began as an attempt at a very short review, but I am glad I reached 4 A4 pages. It is indicative of a great paper that, if discussed over one’s favourite refreshment, would impress the most charming of memories. Thank you again for the opportunity to read it. I am at your disposal for any further discussion, recommendations, suggestions, clarifications, in hope this is useful.