

Peer Review

Review of: "From Coherence to Control: A Non-Systematic Approach to Multi-Parametric Phenomena"

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I like the ambition of this article very much as stated in the acknowledgement: “This collaboration represents an experiment in dialogic reasoning — an exploration of how human intuition and machine-based language generation can co-emerge to articulate complex thought without predetermined control. In the spirit of the work itself, this text emerged through coherence rather than control — a dialogue between thought and computation that mirrors the phenomena it seeks to describe.” That said, I suggest that the author revisit some of the arguments as well as the overall conclusion.

Science is framed as having a dual successive trajectory – beginning with the ambition to “control” followed by – probably referring to quantum approaches – “accompaniment” rather than control. This then takes the author to reflect on the ‘equipments’ of science – whereas Galileo’s apparatuses “forced” nature to reveal its order, new apparatuses – of which GenAI is suggested to be exemplary – will help us “listen” to the order. This new mode of doing science (listening as opposed to controlling) will result in practising discernment (understanding as selecting and judging).

Actually, the scientific method was born out of discernment: selecting/judging certain musical harmonies that have shown that the world “can be known through number” as Philolaus, an early Pythagorean, wrote in his lost book “On Nature” in the 5th century BCE. Separating the world and the apeiron – the boundless – was the first recorded act of alphabetic discernment; one can muse whether this was “forcing” or “listening”. Aristotle thought it was forcing – he interpreted Philolaus as meaning “the world is number”. I am inclined to think that this first discernment was – literarily – listening: knowing meant doing (harmonies) that were/are not part of the apeiron. Harmonies are phenomena for Anthropos – the alphabetized figure to claim unique and sovereign access to the world – only. It’s not

nature we “know” but our embodied, situated engagement with the world; nature is not a mental representation of a separate, objective reality. The jury is still out.

Science studies have for long engaged in reflecting on what it is that we do when we do science – what is the scientific method? Is it forcing, listening, or is it actually constituting? Most Science and Technology (STS) scholars would agree that by method we constitute the real: Robert Boyle, the “inventor” of the scientific method, did not force or listen but constituted scientific facts by the triad of his claim to disinterested observation, truthful recording, and accurate dissemination. If what we call scientific facts are constituted, the question becomes – who, for what end, for whom does science constitute (or as ethnomethodologically inclined STSers would say “do”) “facts”. Feminist STSers have shown that scientific objectivity is “god’s trick”: its facts are always situated and power-ridden.

As Latour, Woolgar, Knorr Cetina, and others have argued: the laboratory has always been “not a place but a conversation.” The question is if/how we can discern the conversation as a research object. STSers and ethnomethodologists have been working hard to do so – not to “know” but to “understand” how facts are constituted by interaction. This, however, can only be done if interactions are accountable – if meaning (scientific or otherwise) is constituted in situ reflexively.

And here is the problem with the experiment that this paper is a “truthful recording, and accurate dissemination” of. The companion – GenAI – is a “social bullshitter”; not in the sense of the late Henry Frankfurt (having no relation to being interested in “the truth”), but as not being interested in or providing access to reflexively and accountably engaging with what this paper calls the “precision of the machine”. It, as Frankfurt has shown, is interested in getting on and over with (to do bullshit even if this bullshit seems like intelligence). GenAI is no companion: it is not much different from “Galileo’s telescope or Bacon’s method” – tools for forcing. However, what they force (throw back on us) is not “nature” or the “facts of nature that we – together with the tool – construct, but the situated and power-ridden questioning/answering captured in texts manipulated by algorithms and organized into zillions of layers of a neural network. The companions the author sees as intelligent are actually social bullshitters ruining the conversations we may have with reflexive and accountable partners in our laboratories.

I issue some caution in inviting GenAI to a conversation. I rather suggest keeping GenAI what scientists (as post-phenomenologists like the late Don Ihde have argued) use tools for: to assist in and be an implement to our embodied, situated engagement with the world while maintaining our critical stance towards both our research object, our method of inquiry, and – most importantly – the implement itself.

Despite all the criticism, I found the paper inspiring. How to use GenAI in research is the topic of the day. How it will impact our traditional forms of doing science is an important and relevant question. As STSers, however, argue, GenAI is not “a thing” but more like a floating signifier – so we should treat it as such. Its meaning and potential will stabilise as a sociotechnical imaginary in processes of technological co-creation/co-constitution. Technologies are not deterministically evolving but are negotiated in situated and power-reflexive settings. Therefore, more care is required to address the troubles of negotiation, co-creation, and co-constitution, and, maybe, GPT-5 is not the best companion/stakeholder to do so.

This said, on a more practical note, the many quotes in the text are distracting; I would also encourage the author to engage with some of the more critical philosophy and sociology of science literature beyond Feyerabend (phenomenology of science, the strong programme of the sociology of science, SCOT, etc.) and the more recent STS literature on the topic.

Declarations

Potential competing interests: No potential competing interests to declare.