Qeios

Peer Review

Review of: "Intelligence Sequencing and the Path-Dependence of Intelligence Evolution: AGI-First vs. DCI-First as Irreversible Attractors"

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I found “Intelligence Sequencing and the Path-Dependence of Intelligence Evolution: AGI-First vs. DCI-First as Irreversible Attractors” an interesting read. The ideas it contains definitely are worth pondering.

I agree with the importance of the concept of intelligence sequencing, i.e., the order in which AGI emerges will fundamentally shape the long-term path of the artificial intelligence that will eventually surround humanity. On a personal level, I have always questioned the danger of attention-based AI (i.e., LLMs) becoming entrenched as humanity’s path towards AGI, the result being a lack of research and investment in other avenues that perhaps would yield a better, more beneficial, and safer AGI for humanity. So, in that regard, I enjoyed seeing these (but somewhat different, of course) ideas from the article.

However, a large weakness of this paper is the lack of empirical grounding. What that means simply is that, in about every field of science and technology, I can come up with all sorts of ideas and create hundred-page papers about them if I am not constrained. However, good theoretical work (even in fields such as theoretical physics) means being very constrained by the experimental evidence, i.e., being grounded by the evidence. This paper uses all sorts of theoretical frameworks such as dynamical systems and evolutionary game theory, but the evidence to support what is being written is not really there. The apparent formalization presented by the mathematical and theoretical frameworks is not really there. (Also, please number the equations. I was going to comment on some of the equations, but I realized they are not even numbered.)

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The ideas presented are interesting, but as I read through the paper, I keep thinking, “What evidence supports this?” (On a personal level, in fact, I create Python simulations of focused ideas in cognitive architectures in my own research work. Doing experiments keeps one very grounded and very humbled.)

As I get to section 4 “AGI-First vs. DCI-First: Contrasting Trajectories,” I start to wonder if the binary dichotomy explained so confidently is valid. Again, the ideas in this paper are interesting. My issue is that they should be better grounded by the evidence. This continues in the next section on “Implications for AI Safety and Governance.”

In summary, my impression is that this paper does contribute to the literature somewhat in raising these ideas. However, the paper does not live up to its potential due to a lack of empirical grounding. The latter, while seeming troublesome at first, will help you to create more convincing scientific work.

Declarations

Potential competing interests: No potential competing interests to declare.