

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

The topics of this paper are interesting, though the structure and content must be revised, and the results have to be better explained by the authors.

The title: To be clear, avoid acronyms.

The author also has to add the PhD of his education.

The abstract has to clarify the goal, methods, results of the simulation, and policy implications for intelligence evolution.

The paper is long; I suggest reducing it.

Authors have to structure the paper as follows:

- Introduction
- Theoretical framework, such as inserting here The Intelligence Attractor Framework and Theoretical Foundations of Intelligence Phase Transitions
- Study design and model (I suggest inserting here A Functional Model of Intelligence and Its Broader Implications)
- Results and discussion
- Conclusion

Avoid, in the just-mentioned sections, sub-headings that create fragmentation and confusion in the paper. For example, the introduction is too fragmented with a lot of sub-headings.

The introduction has to be shorter and better clarify the research questions of this study; now they are too cryptic. It has to indicate the gap present in the literature that this study endeavors to cover and provide more theoretical background. After that, authors can focus on the topics of this study to provide a correct analysis for fruitful discussion (see suggested readings that must all be read and used in the text).

The methods of this study are not clear. They have to be clarified. How intelligence is defined is not clear.

Insert here A Functional Model of Intelligence and Its Broader Implications.

I suggest designing clear hypotheses. Authors have to clarify

- Measures of parameters in the model
- Data analysis procedure.

Consider different methods of inquiry.

Authors have to avoid subheadings that create fragmentation and confusion. If necessary, you can use bullet points (same comments for the results section and all sections).

Results.

Some tables and figures can clarify the content.

To reiterate, avoid, in the just-mentioned sections, sub-headings that create fragmentation of the paper.

Discussion.

First, authors have to synthesize the main results in a simple table to be clear for readers and then show what this study adds compared to other studies.

Although the sections provide a detailed description, there needs to be a more critical synthesis and comparison with the literature. The discussion section has to interpret and describe the significance of your insights in relation to what was already known about the research problem being investigated and explain any new understanding or insights that emerged from your research. The discussion is better connected to the introduction through the research questions, hypotheses, and the literature.

Either compare your results and ideas with the findings from other studies or use the studies to support your ideas and results. This can include revisiting key sources already cited in your literature.

A claim for how the results can be applied more generally.

Show lessons learned, proposing recommendations that can help clarify these topics and the path-dependence of intelligence evolution, highlighting best practices.

Clarify how AI can impact human intelligence evolution and intelligence sequencing.

If the future is shaped by unbounded competition or unbounded cooperation, but there can also be a mix solution to consider.

The conclusion does not have to be a summary, but authors have to focus on the manifold limitations of this study.

The Conclusion does not adequately discuss the theoretical and policy implications of the study. Summarize your thoughts and convey the larger significance of your research. Discuss how the gap in the literature has been addressed and demonstrate the importance of your ideas. Introduce possible new or expanded ways of thinking about the research problem.

Make sure you create 3 subsections in the Conclusion: 1) Theoretical Implications, 2) Policy Implications, and 3) Ideas for Future Research.

Now these parts are presented not in a clear and logical manner.

Overall, then, the paper is interesting, but the structure is confusing. The theoretical framework is weak, and some results and insights create confusion... the structure of the paper has to be improved; study design, discussion, and presentation of results have to be clarified using suggested comments.

Reduce similarity with <https://doi.org/10.48550/arXiv.2503.17688>

To avoid duplicating

Suggested readings.

Coccia M., Benati I. 2018. Comparative Models of Inquiry, A. Farazmand (ed.), Global Encyclopedia of Public Administration, Public Policy, and Governance, Springer Nature, https://doi.org/10.1007/978-3-319-31816-5_1199-1

Estep, P.W. 2025. Multiple unnatural attributes of AI undermine common anthropomorphically biased takeover speculations, *AI and Society*, 40(4), pp. 2213–2228, Article 1

Sirisha, K.L.S., Richa, Anuradha, R., ... Gupta, L.R., Acharjee, P.B. 2025. The Tracking of (Machine) Intelligence's Evolution Using an Intelligence Catalogue Recent Trends in Engineering and Science for Resource Optimization and Sustainable Development, pp. 214–217

Coccia M., Benati I. 2018. Comparative Studies. Global Encyclopedia of Public Administration, Public Policy, and Governance –section Bureaucracy (edited by Ali Farazmand). Chapter No. 1197-1, pp. 1-7, Springer, Cham, https://doi.org/10.1007/978-3-319-31816-5_1197-1

Declarations

Potential competing interests: No potential competing interests to declare.