

The scope and limits of AI in relation to Aristotle's work and Earthian evolution

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Abstract

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The ubiquity of AI systems and their psychological and societal impact has led a considerable number of people to attempt to link some of AI systems (AISs) further development to Aristotle's seminal contributions to human culture and civilisation. Nevertheless, this commendable aim sometimes either suffers from tenuous connections that pay lip service to his work (e.g., *Nicomachean Ethics*, *Politics*, *Rhetoric*) or ignores basic characteristics and results of AI.

This talk has two aims. First, to indicate how eudaemonia (human flourishing, happiness) can become an integral and indispensable part of hybrid planetary organisation. Second, to point out that the attempts to link the most significant ethical and political concepts of Aristotle's work to the R&D of new AISs are subject to the limits of human knowledge formalisability (such a fact signals caution for the goals of related AI projects). The following quotes will be used as reference points.

“Certain kinds of animals possess in addition the power of locomotion, and still others, i.e. man and possibly another order *like man or superior to him*, the power of thinking and thought.” (Aristotle (a), 414^b16-18). [Italics for emphasis are mine].

“If every instrument could accomplish its own work, ... if, in like manner, the shuttle would weave and the plectrum touch the lyre, chief workmen would not want servants, nor masters slaves.” (Aristotle (b), 1253^b34 - 1254^a1).

“We may define happiness as prosperity combined with excellence; or as independence of life; or as the secure enjoyment of the maximum of pleasure; or as a good condition of property and body, together with the power of guarding one's property and body and making use of them. That happiness is one or more of these things, pretty well everybody agrees.” Aristotle (c), 1360^b, 14-18).

First aim's key points:

1. AISs and robots can reveal gaps and contradictions in human knowledge and belief systems that are impossible to be discovered by humans. They can also reveal *new* pathways, methods, or conclusions—that is, new *AI-assisted* still *human-based* knowledge. These capabilities can increase human free time and, to the limit, abolish human labour. The latter is the necessary basis for the attainment of Aristotelian eudaemonia (cf Gelepithis 1999).
2. Hybrid planetary organisation is defined as the common societal organisation of our species based on the need to change *Homo sapiens*' dominant self-image to become compatible with the notion of eudaemonia and our planetary boundaries. Hybrid refers to the “full integration of human- and AI/robot- decision making.” (Gelepithis 2004, Vol. 2, p. 277). To be noted that such decisions would be *against* the vested interests of the global power elites.

Second aim's key points:

1. *Nicomachean Ethics*, *Rhetoric*, *Politics*, and parts of *Metaphysics* (in the sense of the study of the existential properties of things along with their principles and causes) contain topical and most significant concepts characterised by *informal* knowledge of humanity's socio-biological nature.
2. AI is divided in *human-designed* AI and *own-AI* (Gelepithis 2024). See Diagram-1.
3. The intrinsic limits of *human-designed* AI (e.g., impossibility of building AGI) are due to the formalisability limits of human knowledge (see Diagram-2). Such limits are due to the fact that although formalisation of human knowledge will keep expanding, it will always leave out the *biological* phenomenon of the understanding of human meanings (Gelepithis 1991).
4. Further development of AISs and robots integrating sensing, action, and (the) formalised parts of human knowledge could lead —not by human design— to the emergence of *own-AI* and eventually *own-robot* society. The possibility for such an eventuality necessitates a chance element similar to those occurring in the evolution of Earthian life. Such an element would provide the link for the emergence of *own-robot* meanings.

References

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Diagrams

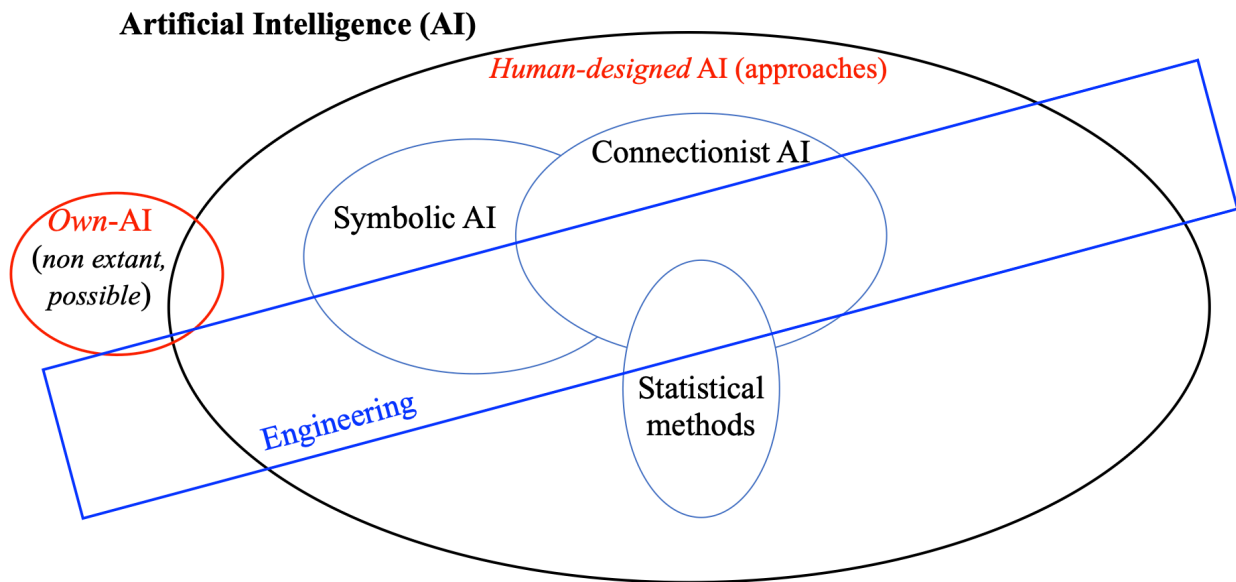


Diagram-1. Artificial Intelligence: Current approaches and future possibility.

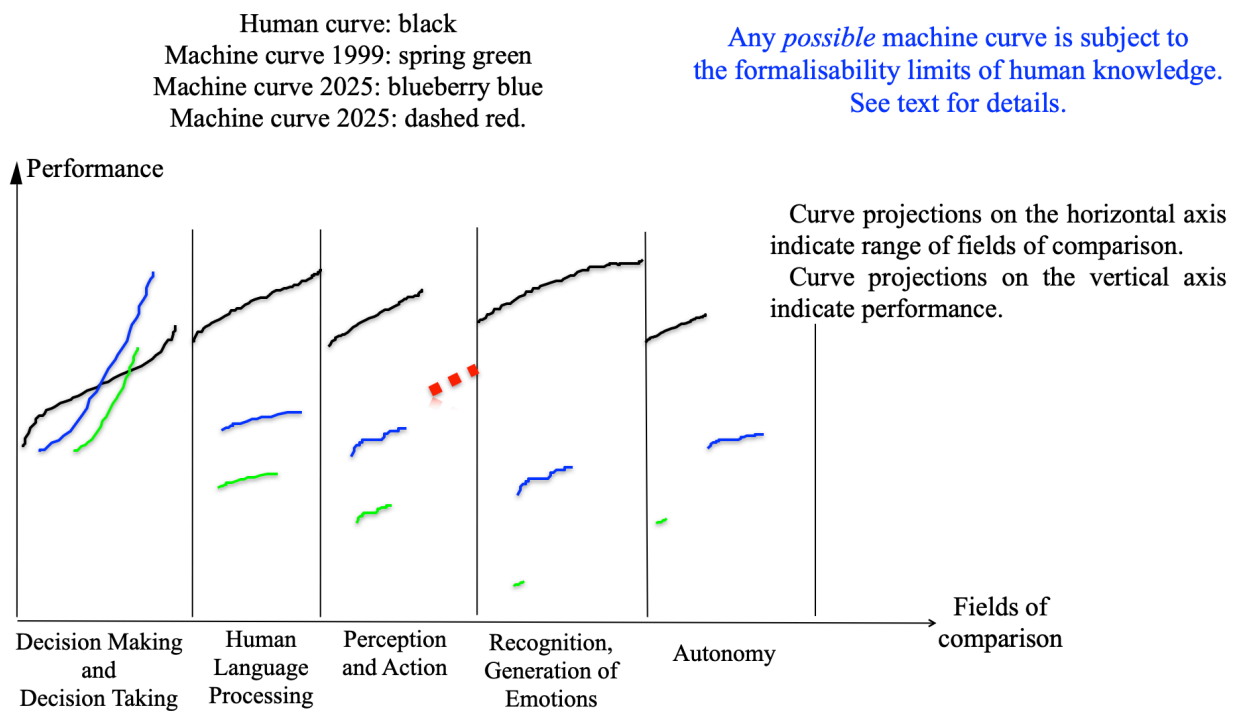


Diagram-2: Comparisons between human performance and *human-designed* AI ones.
 Intrinsic limits of AI telegraphically stated in blue.