

Special section:

The Human Condition for the Anthropocene: Being more-than-human

Guest editors: Martin Bohle and Eduardo Marone

Meta -Editorial: Artificial Intelligence à la LLM is more-than-human cultural science!

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Abstract: The special issue ‘The Human Condition for the Anthropocene: Being more-than-human’ begins with an experiment: The editorial has been authored by an assemblage of a human and an AI agent, whose draft was subject to the journal's open peer review process. This meta-editorial reflects on the experiment and argues that advanced Large Language models can be seen as more-than-human cultural science pursued by distributed agents comprising human and non-human components.

Decades ago, philosopher Daniel Dennett claimed that AI IS philosophy, arguing that developing AI involves exploring and understanding the possibility of knowledge (for a critical review, see Bringsjord and Govindarajulu 2025). This claim was shocking at the time, and my philosopher colleagues understandably objected. However, a quick review of the *Stanford Encyclopedia of Philosophy* entry on ‘Artificial Intelligence’ that I just cited reveals that philosophers are struggling to



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keep pace with the rapid evolution of AI and AI agents. Remarkably, this evolution is receiving a surprisingly positive, if not enthusiastic, response from many people. The newspaper 'The Economist' reports on a trend where younger generations increasingly replace real friends and partners with AI companions, contributing to the rising number of single individuals worldwide, particularly among young women in East Asia. In other words, many people easily start a relationship with the AI companion (<https://www.economist.com/international/2025/11/06/a-new-industry-of-ai-companions-is-emerging>). Other phenomena include widespread acceptance and even acclaim for AI influencers on social media.

A universal aspect of the human condition is the tendency to anthropomorphise non-human beings, recognising agency and sentience in various entities within our environment. This phenomenon is not exclusive to pre-modern societies. For instance, when the city of Melbourne assigned email addresses to individual trees as part of a citizen science project—inviting residents to report damage or observations—many citizens began sending messages to the trees (Gulsrud et al. 2018). The concept of 'meta-persons' (Sahlins 2023) exists across human societies and includes not only gods and spirits but also legal entities and nations that are attributed feelings and voices. From a scientific perspective, these attributions are often seen as mere projections of human thought and, therefore, illusory. However, in recent posthumanism, many researchers in the humanities and social sciences acknowledge the existence of non-human forms of agency (Malafouris 2013).

In this editorial and its meta-editorial double, the three editors explore the concept that researchers may recognise the autonomous epistemic agency of AI. More specifically, I suggest: AI in the form of LLM represents a form of cultural science that is 'more-than-human.' This is highly significant for the agenda of this journal: if we aim to study more-than-human culture, then scientific pursuits are cultural activities. Therefore, we should explore the possibility of a more-than-human science of culture. While this could involve, say, octopuses exploring human culture (Despret 2021), a more down-to-earth scenario is to envision AI as a more-than-human researcher exploring human or more-than-human culture. In the case of non-human culture, the use of AI to decode animal communication is already being explored (Neethirajan 2024). Given strong scientific evidence of superior intelligence in octopuses, we could envision a collaboration between AI and octopuses that serves as a non-human researcher of human culture, assuming that translation works effectively in both directions (Bridle 2022).

One alternative approach is to enhance and transform human researchers by integrating them with non-human AI systems. This perspective moves away from seeing AI merely as a tool that replicates human intelligence. Instead, it recognises that AI possesses its own distinct form of intelligence. By combining human and non-human agents, we can create a type of agency that transcends human experience.

This meta-editorial serves as an introduction to the editorial of the special section 'The Human Condition for the Anthropocene: Being more-than-human', given this editorial was co-written by a LLM (ChatGPT). The editorial is an outcome of a 'dialogue' of the human editors and the LLM. In this context, the text of the editorial is not a standalone piece authored solely by AI; it fundamentally relies on human input in various ways. First, the initial draft generated by the LLM was based on a call for papers written by the human editors. The LLM was conditioned by the specific scholarly context surrounding Martin Bohle as the user, including, beyond prompting the LLM, tuning his instance of the LLM (for a year) to his topics, literature read, and drafting style. Next, the draft editorial was reviewed by a human reviewer, Eduardo Marone, as part of the journal's regular open peer review process. Then the LLM got prompted (by Martin Bohle) to revise the text based on the feedback provided, and finally, the human reviewer endorsed the ultimate result. Our readers can

follow this exchange on our peer-review site: <https://culturalscience.org/editorial-for-the-special-issue-the-human-condition-for-the-anthropocene-being-more-than-human/>. The editor approved the publication. In other words, this editorial represents a collaborative effort between humans and a dedicated instance of a LLM. So, what is the authorship?

There is growing concern in the scientific and creative fields about human authorship being diluted using AI. Many critics advocate strict criteria to distinguish human authorship from AI contributions, as clear attribution of achievements is considered essential, for example, when hiring academics for a university track. However, it is likely that making this distinction will become increasingly challenging soon. For example, I am not a native English speaker, so I rely on advanced AI for language editing, including selecting synonyms. I do not use AI to generate any content, which, however, has been done deliberately in the editorial. Nevertheless, concerning style and grammar, I can no longer claim to be the sole author of this text (you are reading). This may not matter for this type of text, but it probably does for more literary production.

In cognitive sciences, the concept of distributed cognition has been around for decades (Clark 2011), and we can certainly consider these applications of AI as examples of it. We can argue that cognitive agency is becoming distributed, including the creative aspect. This is evident because the editorial contains some new ideas and connections that were not originally imagined by human editors. Therefore, AI can be viewed as an extension of the human cognitive apparatus, like the invention of numbers and other mathematical artefacts such as partial differential equations describing weather and their material representations in the meteorologist's computer, or outside of offices. Writing is more than just a tool for intelligent human beings; it fundamentally transforms how we think (Menary 2007). In this regard, culture can and should be defined as the evolving universe of interactions among humans and non-humans within various cultural performances, including modern science.

What exactly is added by the AI agent? The literature on AI is vast, and in the past, it mostly focused on logical variants and related symbolic operations. A breakthrough in AI has been achieved through a different approach: machine learning, which is based on probabilistic calculus and increasingly complex neural networks. Considering the editorial aspect, what kind of learning is involved in its production? Essentially, it relies on training the AI with a vast array of texts available through digital media or those that have been transformed into digital formats. Similarly, AI is also trained using a collection of digitally represented images and faces, among other things. Since human programmers cannot fully reconstruct and control how this immensely complex learning process unfolds, they are unable to completely explain the outcomes of specific applications. Consequently, we gain the impression of AI's creativity and autonomy.

In principle, this approach is like treating the human brain as an evolutionary system that generates spontaneous novelty, as seminally suggested by Gary Edelman (Edelman 2006). Neurocomputational models of the brain have also influenced AI engineers. In this context, we can explain, in theory, how the brain is supposed to function along the lines of the computer model, and vice versa (although I don't necessarily agree with that specific perspective, (Basso and Herrmann-Pillath 2024)). However, we still struggle to explain the outcomes of these processes. If we combine these two views, it becomes clear that the integration of human and AI capabilities resembles the emergence of a higher-order distributed agent with comparable cognitive abilities and underlying evolutionary mechanisms: This is fundamentally different from just treating brains as computers and computers as brains (Floridi and Nobre 2024). From this perspective, the editorial was created by the agent 'Martin@ai Bohle' who is a distributed evolutionary system with two physically connected

parts, Martin's brain and computer system Martin is using. This merger is already on the way, even without researchers implanting chips in humans.

For our topic, these aspects are of lesser interest, as they pertain to the technical details of enacting distributed cognition. When we consider how machine learning operates, an important point arises: AI functions within Popper's 'World 3,' which refers to the realm of human mental creations (Popper 1979). This holds true not only for texts, images, and other outcomes of human activity but also for various forms of learning aimed at understanding the physical world. For instance, a face is an object in the physical world; it is not a creation of humans, while recognising a specific face is a cognitive concept of a given human. However, machine learning requires that this object is technologically transformed into an image, which is a result of human activity—such as inventing the technology and installing cameras (we leave aside the process in human eye and brain). From this, we can conclude that until we have fully AI-powered autonomous robots equipped with complete sensorimotor systems enabling independent action, AI remains embedded in the world of human creations, and not 'World 1', that is, observer-independent reality.

World 3 is the world of culture. There are many definitions of culture, but this perspective follows biological anthropology, where culture is understood in the broadest sense as all types of human creations that are not directly determined by our biological characteristics (Mesoudi 2011). For example, tattoos, trousers, dishes, texts, and buildings all represent aspects of culture. There is also a narrower view that defines culture as reflexive representations in groups of humans (Hartley and Potts 2014). In this context, the subject of these representations includes various entities that have not been created by humans. For instance, a picture of a tree can be considered a cultural item.

Now consider the current state of AI. At this stage, most machine learning operates within the realm of culture as representation, if we exclude robotics, as previously mentioned. I don't mean to suggest that robotics is irrelevant, but it is not the primary focus in this context. Cultural science primarily deals with representations rather than human creations which are not intended to be representations. Cultural science does not primarily deal with the hammer in terms of the technique of using it, but in terms of its meanings, which, however, can also influence how it is being used. While this also pertains to how we define the field, considering the origins of cultural science in the discourse surrounding cultural studies (Hartley 2016), I believe this statement holds true.

Here we are: Against this backdrop, we can approach AI/LLM as more-than-human cultural science. To add emphasis in rephrasing Dennett: AI/LLM IS more-than-human cultural science.

AI/LLM explores, extracts, and systematizes the world of human creations as represented in various media, which are themselves human creations and may increasingly include AI-generated content. The view of AI/LLM as more-than-human cultural science can be compared to the use of AI in chemistry and pharmacology, where AI explores the realm of possible molecular combinations and their potential properties. Clearly, AI assumes a significant role in this research since it cannot be directly controlled or steered by the human researcher. The chemist and the AI merge into the entity referred to as 'chemist@ai.' The important implication of this understanding moves far beyond the current approaches in digital humanities and related fields, which use AI merely as a tool in big-data research on culture. In contrast, AI-based, more-than-human cultural science views researchers as distributed epistemic agents. How do these agents function?

This leads us to the question of the rules that govern the interaction between the human and machine components of the distributed cultural science researcher 'Alice@ai.' These rules are not merely technological regularities, such as the mechanical actions involved in typing on a keyboard. The concern regarding authorship in the use of AI relates to the institutional and normative structures that dictate how these components interact. In other words, 'Alice@ai' is an institutional

construct in the sense outlined by John Searle (Searle 2011). 'Alice@ai' is performed within an institutional framework. In this editorial of 'Cultural Science,' we illustrate one possible institutional configuration through which 'Martin@ai Bohle' is performed.

As our editorial demonstrates, this 'institutional configuration' operates in a dialogic form. Even at the basic level of correcting my English grammar, we observe this interaction: the AI suggests an edit and asks me whether I accept it. The AI learns from my decision and will consider this in future suggestions. This dialogic form aligns with a perspective on human cognition that firmly rejects computational paradigms and emphasizes the role of reasoning (Mercier and Sperber 2018). Intelligence involves providing reasons and learning from opposing viewpoints with justification. Indeed, most researchers would certainly agree that research is deeply dialogic, or perhaps better described as 'multi-logic,' since we always rely on the contributions, inspirations, and critiques of many others and stand on their shoulders. In other words, human-only research is also distributed, and we might even question individual authorship as an institutional construct created for purposes other than those of the research itself, such as societal systems of sanctions and rewards for research. We can envision the research community as a distributed evolutionary system, making it quite feasible to integrate AI/LLMs into that community as members. The condition is that AI/LLMs must adhere to the community's rules.

One important element of these rules is the transparent review process. Martin@ai Bohle's editorial is reviewed by another human researcher, and Martin@ai Bohle edits the first draft accordingly. This is only one scenario: Martin@ai Bohle can also review another piece by a human author, and so forth. The critical point is how these processes are being institutionalized in a transparent manner: We demonstrate this by neutralizing the authorship dilemma in the regular review process of this journal which is publicly accessible on our companion website culturalscience.org. Fortunately, Martin Bohle is a retired scientist, like me and Eduardo, so we no longer prioritize authorship for pushing our careers. This allows us to courageously venture into the unknown territory of more-than-human cultural science.

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