

## Res cogitans extensa

The review of George Theiner's *Res cogitans extensa*.  
A philosophical Defense of the Extended Mind Thesis

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For centuries, it was believed that if the mind has a spatial location at all (contra Descartes), then it must be located within the confines of the body, or skull to be more exact. The extended mind hypothesis (HEC) proposed by Clark and Chalmers (1998) in their now classic paper has challenged this idea. These authors noted that some external objects can be utilized in such a way that they can be seen as extensions of the mind itself, thus (purportedly) showing that some cognitive processing has an extent that goes beyond the boundaries of the brain and the body. In other words, cognition *can* happen and, with the use of proper cognitive artifacts (which category could, according to Clark and Chalmers, include something as mundane as a simple pen and notebook), *does* happen outside the head/body. Due to its originality and controversial nature, this thesis has been challenged by some researchers, but also embraced, further developed and reinterpreted by others.

An Austrian philosopher, Georg Theiner, is one the latter authors. In his book *Res cogitans extensa. A Philosophical Defense of the Extended Mind Thesis*, he is concerned with explaining and systematizing the current state of the debate regarding the HEC, as well as with defending its core, namely the very idea that the cognition partially takes place beyond the body. The book is not an introduction to the HEC, but rather a voice in the debate regarding this hypothesis. Theiner reconstructs

and supplements ideas expressed by other authors and defends the HEC against the counterarguments posed by its adversaries. The book consists of six parts and a conclusion. Its 284 pages contain some of the most significant themes, problems and controversies connected to the HEC, covering both foundational conceptual issues, as well as cases of more specific cognitive artifacts, including language. The book is well-designed. The reader is led by the author through a maze of problems that are gradually explained and discussed in considerable detail; every chapter is concluded with a brief and helpful summary.

In the first chapter of the book, Theiner attempts to situate the HEC on a larger theoretical background by showing its relations similar, but conceptually distinct outlooks on the nature of cognition, namely the embodied, situated and distributed approaches. In the same chapter, he introduces three "ground rules" for his discussion, which indeed affect the way subsequent chapters unfold. One of those rules, for example, is the "extended fairness" rule, according to which we should avoid burdening HEC with theoretical problems that could just as well be posed for other theories (including more traditional, internalist ones).

The second chapter is an in-depth discussion of a theoretical cornerstone of HEC, namely the principle of parity (PP), which is based on Clark's and Chalmers's proposal that "If, as we confront some task, a part of the world functions as a process which, *were it done in the head*, we would have no hesitation of recognizing as part of the cognitive process, then that part of the world is (so we claim) part of the cognitive process." [Clark & Chalmers 1998, p. 8]. In other words, according to PP, the functional equivalence between internal and external processes can justify categorizing the former as genuinely cognitive. Theiner presents different dialectical roles PP may play in a debate and subsequently discusses some specific issues that can be (and in fact were) raised in the context of this principle. Those issues include, among others, the desired functional fineness of grain in judging the equivalence between the internal and the external, and the epistemic role of folk psychological intuitions in attributing a cognitive status to some external processes.

The third part of the book centers on the relations between embodiment, dynamical approach to cognitive phenomena and HEC. The author describes some interesting research carried out in robotics, cybernetic biology, and computational neuroethology. He tries to convince the reader that it is erroneous to say that the brain is the central manager responsible for intelligent acts and that the body is only a passive receiver of those commands. Theiner also criticises other classic approaches to cognition, including the classic theory of control that separates morphology and computing. Referring to the principle of parity, this time the parity of control, he shows that both the body's morphology and the computing processes carried out by the brain are equally important in the process of control.

The fourth and fifth chapters are respectively devoted to language as a cognitive extension and the role of external representational systems in reasoning. The fundamental insight on which the former chapter is based is the idea that re-

descriptions of certain information in different representational formats are cognitively significant, i.e. they significantly impact the ways in which the information can be cognitively processed and employed by the subject. Among others, Theiner uses this assumption to challenge what he calls a "written language bias" (which he attributes to most authors working on language as a cognitive artifact, including Clark), which is based on failing to see and appreciate the fact that the cognitive effects of literacy skills go significantly beyond the ones afforded by spoken language. To back up his proposal, Theiner discusses interesting archeological data on the evolution of written symbolic systems used to represent numeracy.

In the sixth and last chapter of the book, the author concentrates on a metaphysical issue related to HEC, namely the idea of an extended selves, i.e. ones that go beyond the body boundaries of an individual. The author reconstructs and challenges Robert Rupert's arguments against the idea of extended selves. For example, Theiner challenges Rupert's argument that is based on an assumption that selves need to be stable, contextually invariant entities, so that including cognitive extensions as parts (or co-constituents) of selves would lead to unintuitive and unnecessary proliferation of selves.<sup>56</sup> The book finishes with a short conclusion that summarizes the most important points.

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<sup>56</sup> Very broadly speaking, author does this by attempting to show that it is unsatisfying and inconclusive to limit the boundaries of selves to the boundaries of cognitive systems, i.e. contextually invariant collections of integrated cognitive mechanisms and capacities. However, it is worth noting that there seems to be another way to challenge Rupert's argument, one that is actually in broad agreement with the basic insights of this author. According to this alternative line of reasoning, one can accept being included in a cognitive system as a "mark of the cognitive", while also defending extended selves by claiming that something does *not* have to be included in the body to be a part of a cognitive system. Let us imagine a scenario that seems logically and nomologically (at least if functionalism is true) possible. In this scenario, a person loses one or couple of her cognitive skills (say, mindreading) due to a localized brain damage, e.g. one which selectively impacts temporo-parietal junction. Now, imagine that we know enough about the brain that we can help the patient by (1) constructing an artificial device whose computational-functional workings closely simulate the computational-functional workings of temporo-parietal junction and (2) appropriately integrating this device with the rest of the person's brain. Imagine, however, that for some reason - due an engineering constraint or simply a fancy preference on the patient's side - this device is not located inside the person's skull, but is rather attached to her back (or hidden in her pocket, etc.) and from there wired, or even wirelessly connected to the rest of her brain. Although the new, artificial, external temporo-parietal-junction-equivalent is in principle detachable from the rest of the system, the person in question actually "wears it" all the time. *Prima facie*, the new device meets all the reasonable criteria for being a part of a person's cognitive system (i.e. it is functionally equivalent to a specific brain part, it systematically co-occurs with other mechanisms across different contexts and is integrated with them in suitable ways). In other words, the cognitive system as a collection of contextually invariant cognitive mechanisms and skills remains the same, although one part of it happens to be located outside the biological body. Of course, even if this proposal is correct, then Clark's and Chalmers's pen and notebook example might still be not enough co-occurrent and integrated with the rest of the cognitive system to be counted as a part of it. Still, if sound, the present proposal at the very least shows that accepting Rupert's premises (as Theiner reconstructs them) does not exclude the very possibility of extended selves.

Theiner's work is a very interesting study of some of the most important issues connected to HEC. In a competent and engaging manner, the author demonstrates the gravity and significance of the theory. He contrasts the arguments of the supporters and the opponents of the theory, underscoring the advantages in the argumentation of the former. As we have noted before, the book should be considered a voice in a debate rather than an introduction to the subject. Thus, it might prove to be a little overwhelming for readers who are not already following the debate at least marginally. However, for people already familiar with it - including those who embrace HEC, those who oppose it, as well as curious, but largely neutral spectators - the book should prove to be a valuable read.

### **Literature**

Clark, A. & Chalmers, D. 1998. The extended mind. *Analysis*, 58: 7-19.