

Andy Clark and David Chalmers, "The Extended Mind," in Chalmers 2002, 643-651.

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TERMINOLOGY

With the Extended Mind Hypothesis (EMH) Clark and Chalmers present the idea of *active or vehicle externalism* in which extra-somatic elements (ESE) play a functional role in cognition

STRUCTURE

1. Introduction
2. Extended Cognition
3. Active Externalism
4. From Cognition to Mind
5. Beyond the Outer Limits

ARGUMENT

1. Introduction: THESIS: "Active externalism, based on the active role of the environment in driving cognitive processes."
2. Extended Cognition
 - a. Three cases are presented, and it is claimed all are similarly cognitive
 - i. Mental work
 - ii. External tool-mediated work
 - iii. Internal (prosthetic) tool-mediated work
 - b. These are examples of "general tendency of human reasoners to lean heavily on environmental supports"
 - i. Other examples: pen and paper, "language, books, diagrams, and culture"
 1. JP: doesn't this undersell language in particular?
 2. In what sense is language "external" to humans?
 - ii. Epistemic actions: "alter the world to aid and augment cognitive processes"
 - iii. These demand a "spread of epistemic credit"
 - c. Parity principle: "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 in recognizing as a part of the cognitive process, then that part of the world *is* (so we claim) part of the cognitive process."
 - i. The secondary literature recommends we distinguish causal vs constitutive roles here.
 1. Causal: extra-somatic elements influence cognitive processes.
 2. Constitutive: extra-somatic elements constitute part of cognitive processes.
 - ii. Thus the EMH relies upon a constitutive role for ESE such that the mind and the ESE act as a "coupled system". The external objects must function with the same purpose as the internal processes.

1. On the Menary "cognitive integration" perspective (see also John Sutton's "complementarity principle"), it's not the similarity of the parts of the process, it's the functionality of the total process that counts. It's not even the functionality of the external part. It's the whole coupled system, with external and internal elements.
2. Wheeler: extended functionalism: not just an embodied / embedded thesis. That can be just causality. Rather we have to stress the constitutive contribution of the extended parts to the whole extended system.

3. Active Externalism

- a. Coupled system: all components play active causal role so that they jointly govern behavior in the same way cognition usually does.
 - i. JP: note the way in which cognition is said to "govern" behavior: that seems to be the linear input-processing-output model that we will see challenged by the enactivists.
- b. Contrast with semantic / content externalism of Putnam and Burge.
 - i. In semantic externalism, the meaning of a term is determined by external factors (what your words mean isn't just dependent on what you think).
 - ii. Sloganezed by Putnam as "meanings just ain't in the head."
 1. Two speakers could have identical brain states while uttering something but mean different things by that utterance due to the context in which they make the utterance
 2. Recall that the content of belief is the target of a propositional attitude.
 - a. For example, the PA: "I believe that it is raining."
 - b. Remember the syntax of a PA: Subject – mental verb – "that clause".
 - i. Subject: I, you, he, she, they
 - ii. Mental verb: believe, want, fear, ...
 - iii. "That clause": "that p" where "p" is the proposition to which one has an attitude.
- c. Temporal distinction:
 - i. Semantic externalism relies upon the past effects – the ESE *have already been set up* as part of a world in which epistemic agents now act
 - ii. Active externalism relies upon present effects – the role ESE *play here and now*
- d. Resonates with situated robotics and other cog sci efforts (see Clark's *Being There* [MIT, 1997])
- e. Objections and responses:
 - i. Cognition need not be conscious process: e.g., memory
 - ii. Portability of internal resources should be replaced by reliability of coupling
 - iii. We have evolved to become dependent on environmental off-loading
 1. Common physiology example: Vitamin C synthesis is off-loaded to fruit
 2. Language is a key example for CC: here we see extended / shared cognitive processes in active coupled systems
 3. Ontogeny of brain in linguistic / cultural environments
 - a. Another example: the fish and surrounding vortices constitute a "swimming machine"
 - b. Humans grow up in "a sea of words": they are the vortices for our cognitive machines

4. From Cognition to Mind:

- a. We might admit that “experiences” are determined internally, but what about beliefs?
- b. Notebook example: Inga vs Otto
 - i. Inga is able to recall the address within her memory. She had a belief as to the location of the museum before consulting her memory. Inga’s memory is being internally accessed by her brain.
 - ii. Otto’s memory is constituted by the notebook. The notebook qualifies as such because it is constantly and immediately accessible to Otto, and it is automatically endorsed by him.
 - iii. Thus the notebook functions for Otto the way brain memory functions for Inga.
- c. Discussion, objections, and replies
 - i. So Twin Otto might believe MOMA is on 51st, if his notebook is different from Otto’s. Otto and Twin Otto have the same brain states, but the different environments they inhabit change the content of their beliefs. In this case, though, the active externalism of the notebooks is a difference in the dynamics of cognition here and now, not simply, as in Putnam and Burge, differences in reference and truth-conditions.
 - ii. Otto’s case is just that of non-occurrent belief, which we have no problem with in Inga’s case. Inga believes MOMA is on 53rd, even when that memory is not occurrent; it would be needlessly complex to say she believes the museum is where her memory will tell her it is when she accesses it.
 - iii. Inga’s memory is not necessarily more reliable than Otto’s notebook; after all, internal memory lapses and so on are not unknown.
 - iv. Inga might have higher-bandwidth access to her memory than Otto has to his notebook, but not all humans have such good access.
 - v. Otto’s perceptual access to his notebook is not the point: the point is the coupling of the systems allows an information flow, even if we admit a different feel (a different “phenomenology”) to the process for Otto than for Inga

5. Beyond the Outer Limits

- a. Extended belief: recap of the theses about Otto
- b. Socially extended cognition:
 - i. Couple example: sharing cognitive tasks (such as name / face association)
 - ii. You just need high degrees of trust, reliance, and accessibility
- c. Extended self: if we shrink the self to a “mere bundle of occurrent states” [Hume alert] we threaten “deep psychological continuity.”
 - i. Better to see agents as spread into the world.
 - ii. This will have moral and social implications, such that damaging someone’s environment might have as much moral impact as damaging their body.
 - iii. That is, the person is not confined to the body.