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## Overextended minds: social and institutional cognition



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## Outline

- The extended mind and the parity principle
- Hegel (!), objective spirit and mental institutions
- Revisiting the parity principle
- Conclusion

Let me credit my co-author on two recent papers  
– Anthony Crisafi (U. of Hertfordshire)

- Gallagher, S. and A. Crisafi. 2009. Mental institutions. *Topoi* 28 (1): 45-51.
- Crisafi, A. and Gallagher S. 2009. Hegel and the extended mind. *Artificial Intelligence & Society*.

## The extended mind

- Clark and Chalmers (1998) introduced the concept of the extended mind, in part to move beyond the standard Cartesian idea that cognition is something that happens in a private mental space, “in the head.” In order to both liberate the concept of mind from its neuronal confines, and at the same time, to place some controlling limits on how extended we can make it, they appeal to the *parity principle*:

If, as we confront some task, a part of the world functions as a process which, *were it to go on in the head*, we would have no hesitation in recognizing as part of the cognitive process, then that part of the world *is* (so we claim) part of the cognitive process.” (Clark and Chalmers 1998, p. 8)

On a strict interpretation this principle continues to measure cognition in terms of the Cartesian gold standard of what goes on in the head.

It suggests that a process outside of the head can count as a cognitive process only if in principle it could be accomplished in the head (or at least imagined to be so).

It is a piece of mind only if in some way it conforms to the (minimal) Cartesian concept of mental process as something that would normally happen in the head.

Thus, we can think of some mental processes as happening “out there” in the world, yet still have a principled reason to limit mental processes to the kinds of things that fit the established model.

- Clark (2008, p. 114) rejects this interpretation and insists that the parity principle should not be read as requiring any similarity between inner and outer processes.
- One can find this more liberal interpretation first voiced in Wheeler (2006): the parity principle does not “fix the benchmarks for what it is to count as a proper part of a cognitive system by identifying all the details of the causal contribution made by (say) the brain [and then by looking] to see if any external elements meet those benchmarks” (3; cited by Clark).
- This reading is consistent with the functionalist account that both Clark and Wheeler embrace.

- The worry that comes along with the liberal interpretation is that the concept of mind gets overextended to include any process in the world.
- Thus, even as Clark allows for the liberal interpretation he starts to tighten it up again with a set of additional criteria that need to be met by external physical processes if they are to be included as part of an individual's cognitive process.

1. That the resource (external process) be reliably available and typically invoked.
2. That any information thus retrieved be more-or-less automatically endorsed. It should not usually be subject to critical scrutiny (unlike the opinions of other people, for example). It should be deemed about as trustworthy as something retrieved clearly from biological memory.
3. That information contained in the resource should be easily accessible as and when required. (Clark 2008, 79)

- The parity principle plus these criteria rule over the primary and much discussed example of extended cognition provided by Clark and Chalmers: the example of Otto and Inga.

- First Inga:

“First, consider a normal case of belief embedded in memory. [Inga wants to go to MOMA, and remembers where it is].... It seems clear that Inga believes that the museum is on 53rd Street, and that she believed this even before she consulted her memory. It was not previously an *occurrent* belief, but then neither are most of our beliefs. The belief was somewhere in memory, waiting to be accessed.”



“Now consider Otto. Otto suffers from Alzheimer’s disease, and like many Alzheimer’s patients, he relies on information in the environment to help structure his life. Otto carries a notebook around with him everywhere he goes. When he learns new information, he writes it down. When he needs some old information, he looks it up. For Otto, his notebook plays the role usually played by a biological memory. Today, Otto hears about the exhibition at the Museum of Modern Art, and decides to go see it. He consults the notebook, which says that the museum is on 53rd Street, so he walks to 53rd Street and goes into the museum.” (Clark and Chalmers 1998, 12-13)

The notebook, for Otto, clearly plays the same role that memory plays for Inga.

The belief, in Otto's case supervenes on processes that lie "beyond the skin" when in fact neural processes engage with those non-neural processes.

Forget about Alzheimer's disease -- it's not really relevant. You or I may do exactly the same as Otto. Perhaps we have poor memories for directions or addresses – paper & pencil – we are using technology to do something that we could do, perhaps with a little more effort, in our head – or perhaps we transcend that with books, PDA – GPS – Google – phone ....

And what is it that we are doing? We are cogitating – thinking – remembering or solving a problem.

## Hegel (!) and mental institutions

- You might think it's crazy to bring up Hegel who is rarely mentioned in contemporary discussions of the philosophy and science of mind.
- But Hegel's concept of objective spirit can offer some productive insights into the the idea of the extended mind.
- The Hegel that we appeal to, however, is not the full-blooded Hegel that insists on the strict dialectic or the large, overarching and synthetic concept of Spirit. Rather, we will limit our considerations to one particular aspect of Hegel's work, his idea that the mind is expressed in social institutions.

**Hegel's concept of objective spirit** – not as modest as Clark and Chalmers – it extends the concept of extended mind to larger processes.

- According to the concept of objective spirit, social practices and institutions, such as legal systems, are pieces of the mind. They are products of cognition that are (1) externalized in their specific time and place, and (2) activated in ways that extend our cognitive processes when we engage with them.
- We create these institutions via our own (shared) mental processes, or we inherit them as products constituted in mental processes already accomplished by others. We then use these institutions instrumentally to do further cognitive work.

- If we think of the mind not as a repository of beliefs or propositional attitudes, but as a dynamic process involved in solving problems and controlling behavior and action – in dialectical relations with the environment – then we extend our cognitive reach by engaging with tools, technologies, but also with institutions.

## **Hegel starts with the body:**

“Under the head of human expression are included, for example, the upright figure in general, and the formation of the limbs, especially the hand, as the absolute instrument, of the mouth - laughter, weeping, etc., and the note of mentality diffused over the whole, which at once announces the body as the externality of a higher nature. (1971,, §411).

Insofar as the mind (as self-conscious) recognizes itself as this body, it recognizes itself as exposed to others, and seeks fulfillment in recognition by others, from which comes “the emergence of man’s social life” (§433).

- This seeking takes the form of the will, which in turn externalizes the mind and makes it objective – something that can be comprehended as such by others and something that develops into “an objective phase, into legal, moral, religious, and not less into scientific actuality” (§482).
- Hegel’s analysis often starts in the realm of psychology with the individual mind (see, e.g., 1949, §§4ff; 1971, §§440ff).
- He quickly moves beyond claims about how the mind functions in isolation from the world -- he recognizes that the fuller concept of mind is to be found in a person’s contextualized action.

“It is only by this activity that that Idea as well as abstract characteristics generally, are realised, actualized .... The motive power that puts them in operation, and gives them determinate existence, is the need, instinct, inclination, and passion of man. That some conception of mine should be developed into act and existence, is my earnest desire: I wish to assert my personality in connection with it: I wish to be satisfied by its execution” (Hegel 1956, §25).



- The mind, then, is not just a kind of subjectivity that is opposed to the objectivity of the world. This is rejected as an abstraction, merely as a way that one can begin to talk about the mind. The mind becomes objective to itself in the fulfillment of its activity.

“In the very element of an achievement the quality of generality, of thought, is contained; without thought it has no objectivity; that is its basis. ... In its work it is employed in rendering itself an object of its own contemplation; but it cannot develop itself objectively in its essential nature, except in thinking itself.” (Hegel 1956, §88)

- In other words, the mind is not simply externalized in its objective works, it works in its externalizations – mental institutions – which call forth further cognitive activity.
- In this sense, for Hegel, the mind is not simply externalized, it's extended when we cognitively engage with such institutions.
- These works of objective spirit are best exemplified by social institutions. Such institutions allow us to engage in cognitive activities that we are unable to do purely in the head, or even in many heads.

## The legal system

- Hegel's dialectic in the *Philosophy of Right* starts with an abstract will which manifests itself in claims on property, the appropriation and use of which immediately puts us in certain kinds of relations to others, relations which grow in complexity, and leads to contracts.
- A contract is in some real sense an expression of several minds externalized and extended into the world, instantiating in external memory an agreed-upon decision, adding to a system of rights and laws that transcend the particularities of any individual's mind.

- Contracts are institutions that embody conceptual schemas that contribute to and shape our cognitive processes. As such they can be used as tools to accomplish certain aims and to reinforce certain behaviors
- Concepts of property, contract, rights, and law, once instituted, guide our thinking about social arrangements, for example, or about what we can and cannot do (see Hegel 1971 §§488ff). Insofar as we cognitively engage with such tools and institutions we extend our cognitive processes.

- The legal system is constructed in part in thought processes: the law is “the march of mental development” in the “long and hard struggle to free a content from its sensuous and immediate form, [in order to] endow it with its appropriate form of thought, and thereby give it simple and adequate expression” (1949, §217).
- The administration of justice, the application of law to particular cases, is a cognitive process through and through.

- Usually we think of judgments as happening in the privacy of one's own head. But some judgments supervene on processes that allow control over a large amount of empirical information. In a court of law, evidence and testimony are produced, and judgments are made following a set of rules that are established by the system. The process in which the judgments get made will depend on a body of law, the relevant parts of which may only emerge (because of the precise particulars of the case) as we remain cognitively engaged and as the proceedings develop. Judgments are not confined to individual brains, or even to the many brains that constitute a particular court. They emerge in the workings of a large institution. Yet these legal proceedings are cognitive processes – they produce judgments that may then contribute to the continued processes of the system. The practice of law, which is constituted by just such cognitive and communicative processes, is carried out via the cooperation of many people relying on external (and conventional) cognitive schemas and rules of evidence provided by the legal institution itself. It's a form of cognition that supervenes on a large and complex system, an institution, without which it could not happen. It is a cognitive practice that in principle could not happen just in the head; indeed, it extends cognition through environments that are large and various. An individual required to make judgments about the legitimacy of certain arrangements interacts with the legal institution and forms a coupled system in a way that allows new kinds of behavior to emerge. Take away the external part of this cognitive process – take away the legal institution – and “the system's behavioural competence will drop, just as it would if we removed part of its brain” (Clark and Chalmers 1998, p. 9).

- If we are justified in saying that working with a notebook or a calculator is mind-extending, it seems equally right to say that working with the law as a means (1949, §223), the use of the legal system in the practice of legal argumentation, deliberation and judgment, as well as the enforcement of law for purposes of controlling behavior is mind extending too.

- This view pushes us beyond the strictly defined parity principle and extends the mind to a degree that even the liberal interpretation might have reservations about.
- Is Hegel's concept of objective spirit too large, an overextended mind, or is Clark and Chalmers' concept of the extended mind not large enough?
- Whatever way we answer that question, we stand to gain some additional insight into the concept of the extended mind by considering Hegel's notion of objective spirit.



## Parity principle revisited

- Consider again the three criteria: resources should be
  1. Reliably available and typically invoked.
  2. Automatically endorsed – not subject to critical scrutiny – trustworthy.
  3. Easily accessible
- Each criterion involves matters of degree. What counts as reliably available (1), or easily accessible (2), for example? A legal system may be reliably available even if I don't carry it in my pocket. It may be only a phone call away.

- If I have a specific kind of question that needs answering (surely something that would typically count as a cognitive event), I can call my attorney, who can consult his law texts and codes, and together, in this process, and relying on easily accessible information and the mechanisms of the law, we can answer the question in a reliable way.
- Answering the question, solving the cognitive problem, may in fact be impossible without that access to the legal system. Indeed, one could imagine a specific kind of question that would never even come up if there were no legal system.
- The legal system in effect helps to generate certain cognitive events, and helps to resolve them.

- With regard to the second criterion, why should some process that would otherwise count as a cognitive process not count as a cognitive process because it requires critical scrutiny, which is itself a cognitive process?
  - There are plenty of instances of taking a critical metacognitive perspective (which is, of course, a cognitive process) on some problem solving acts of cognition.
  - Taking such a perspective is itself a cognitive process, and again, that process may necessitate an institution like the law.
  - That is, some critical perspectives may be legal perspectives that supervene on a legal institution, and do so in a way that is even more “trustworthy” than biological memory.

- Taking these criteria in a more liberal direction, we can certainly think that more prolonged and complex external processes may involve many elements, including processes that depend on social institutions, and may be less reliable, or may be less easy to access as a whole, or may require more critical metacognitive scrutiny.
- But such things should not disqualify them from being cognitive processes.

- One roadblock to this liberal interpretation is the fact that Clark and Chalmers introduce these criteria around their discussion of belief.
- Clark (2008) then seems to generalize the criteria to apply to all cognitive processes.
- But these criteria do not necessarily apply to all cognition, especially if one thinks of cognition in terms of cognitive processes and activities, e.g., problem solving, rather than in terms of mental states, or contents, e.g., beliefs, information.

- From directions in Otto's notebook to a set of Ikea instructions to prolonged use of a set of laws to solve a problem.
- It shouldn't matter in regard to the cognitive status of the process whether it takes 2 seconds to retrieve information from a notebook, or two days to solve a problem using a printed book.
- The important issue here is not whether something is rare, or requires critical evaluation, or is easy to access. Rather, the question is whether the external resources can carry our cognitive processes – whether they can be part of (or a potential part of) a cognitive process in that sense.

- Any lack of parity in this sense should not disqualify such processes from being considered cognitive if they are processes to which the human organism is linked in the right way, that is, “in a two-way interaction, creating a coupled system that can be seen as a cognitive system in its own right” (Clark and Chalmers 1998, p. 8).
- Accordingly, we can start to see that human cognition relies not simply on localized brain processes in any particular individual, or on short-term uses of notebooks, tools and technologies, but often on social processes that extend over long periods of time.

## Conclusions

- It seems clear that the use of a legal system to solve a legal problem constitutes a case of complex “epistemic action,” and is also an instance of extended cognition. “In all these cases the individual brain performs some operations, while others are delegated to manipulations of external media” (Clark and Chalmers 1998, p. 8).
- Legal systems are a good example, but so are other types of institutions, including political, military, economic, religious, and cultural institutions, as well as science itself.



- This motivates a critical perspective: It is important to take a closer and critical look at how social and cultural practices either extend or, in some cases, curtail mental processes.
- Pieces of technology, as well as specific institutions, offer possibilities, which at the same time carry our cognitive processes in particular directions.
- Institutional structures, especially, can shape the way that we use certain technologies, and can allow us to see certain possibilities even as they blind us to others.
- Such extended processes can have profound effects on us, and on our thinking. We should ask what the mechanisms and institutions do to us as subjects of cognition.

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