

Two versions of the extended mind thesis

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Abstract

According to the Extended Mind thesis, the mind extends beyond the skull or the skin: mental processes can constitutively include external devices, like a computer or a notebook. The Extended Mind thesis has drawn both support and criticism. However, most discussions – including those by its original defenders, Andy Clark and David Chalmers – fail to distinguish between two very different interpretations of this thesis. The first version claims that the physical basis of mental features can be located spatially outside the body. Once we accept that the mind depends on physical events to some extent, this thesis, though not obvious, is compatible with a large variety of views on the mind. The second version applies to standing states only, and has to do with how we conceive the nature of such states. This second version is much more interesting, because it points to a potential tension in our conception of minds or selves. However, without properly distinguishing between the two theses, the significance of the second is obscured by the comparative triviality of the first.

Keywords:

extended mind, functionalism, vehicle externalism, standing states

1.

According to the Extended Mind thesis, the mind extends beyond the skull or the skin: a subject's cognitive processes can constitutively include external devices, like a computer or a notebook. One of the first explicit defenses of the thesis is in a paper by Andy Clark and David Chalmers (Clark and Chalmers 1998); Clark then developed the view in a series of paper and a book (Clark 2008). The position has drawn both criticism and support, and a recent volume edited by Richard Menary (2010a) collects the contributions by some of the most characteristic representatives of this debate. I argue in this paper that the Extended Mind thesis can be understood at least in two different ways, a crucial distinction that is missing from the debate. Sections 1 and 2 are devoted to the explanation of the first of the two versions, section 3 is devoted to the second. Section 4 highlights some differences between the first and second version. Sections 5 and 6 spell out the consequences of accepting the Extended Mind Thesis.

Let us see the first version then. Certain kinds of substance dualists aside, virtually everyone accepts that the occurrence of some physical events is necessary (even

if not sufficient) for mental events to occur. Plenty of empirical evidence comes from cases where people has some damage to their brain, and as a consequences, their mental life becomes impoverished or diminished in some way. Suppose we have good (empirical) reasons to regard an event to be *the physical basis of a mental event*: that is, the event that is either identical to the mental event in question, or realises the mental event, or forms the emergence basis of mental events (and so on, for other mind/body theories).¹

There is no general conceptual reason to think that this event must be spatially confined to a bony structure called the 'cranium'. For a subject who moves around a lot, it may be practical to have the physical basis of her mental events in a portable format. If the physical basis is a soft, squishy material – like a brain – it may be a good idea to store it inside something that protects it from accidental injury. But these are practical considerations, and don't seem to exclude the possibility of other arrangements. Of course I am being somewhat frivolous here: the 'practical considerations' were repeatedly applied in our long evolutionary history. However, this still leaves open the possibility of all sorts of further developments.

As far as we know, the physical basis of our mental features involves at least some parts of the brain, so for us, at least part of the basis is inside our skull; but it is easy to imagine that technological developments could change the situation. Here is a case described by Andy Clark:

There is a documented case (from the University of California's Institute for Nonlinear Science) of a California spiny lobster, one of whose neurons was deliberately damaged and replaced by a silicon circuit that restored the original functionality: in this case, the control of rhythmic chewing. (...) now imagine a case in which a person (call her Diva) suffers minor brain damage and loses the ability to perform a simple task of arithmetic division using only her neural resources. An external silicon circuit is added that restores the previous functionality. Diva can now divide just as before, only some small part of the work is distributed across the brain and the silicon circuit: a genuinely mental process (division) is supported by a hybrid bio-technological system. That alone, if you accept it, establishes the key principle of *Supersizing the Mind*. (Clark 2009)

1 People may agree that the mind has a physical basis in this world, but argue that it need not have a physical basis in another world. I do not want to go into the issue of the necessity of the physical basis; I am talking about the possibility of an extended mind in worlds where mental events do have a physical basis. Another remark concerns my talking of events. People may prefer to talk of mental states or mental properties when discussing mind/body theories. The exemplification of a property is an event or a state (depending on our metaphysical theory), so in those cases the physical basis of a mental state or event also makes sense.

To be clear, the suggestion here is that the external device partly *constitutes* the physical basis of the mental process, and doesn't merely host an event that *causally precedes* the physical basis.² The idea is that some malfunctioning part of the original physical basis is replaced by the external device, so the device becomes part of the basis. In some cases where a biological function is supported by an external device – for example a life-support machine – some might say that events involving the external device are mere causal predecessors of the biological events of the organism. However, in Diva's case, the silicon circuit replaces something that used to be a constituent of the physical basis of calculating (this, if you like, is stipulated in the example). Consequently, we have very good reason to regard the silicon circuit as also being a constituent of the physical basis of calculating.

A note of caution here. I find Diva's case very persuasive, but I am aware that people may object to the crucial step: just because the replacement is possible for chewing, it does not follow that the same is possible for all functions, especially mental functions. I do not have the space to address this argument in its entirety, but let me just make one remark. The possibility of Diva's case does not presuppose that any mental function or mental representation can be precisely located in the brain or is organized into separable modules. It is perfectly compatible with Diva's case that mental activities are distributed over extended neural networks. All we know is that some brain damage causes Diva to lose her ability to do mental arithmetic, and replacing the injured part restores the ability. The example leaves open the possibility that a significant portion of the rest of Diva's brain is also needed for mental arithmetic, and that the injured part participates in many other activities.

This may not satisfy all opponents of the argument, but my aim in this section – or indeed in this whole paper – is not primarily to defend the correctness of the Extended Mind thesis. My aim is rather to make clear what the content of the Extended Mind thesis is. Since Clark claims that Diva's case alone establishes the Extended Mind thesis, I use the case mainly as a device to find out what precisely the thesis is.

The first version of the Extended Mind thesis, based on Diva's case, is then this: the physical basis of mental events can extend beyond the boundaries of our organic body. Such cases are sometimes claimed to support a thesis called 'vehicle externalism' or 'enabling externalism', as it is familiar for example from Susan Hurley's work (Hurley 2010). However, I shall not use this label, because some usual illustrations of vehicle externalism – like Clark and Chalmer's case of Otto storing information in his notebook – also involve a quite different sort of extension, or so I will argue below. Since many people's idea of vehicle externalism comes from cases like that of Otto, and I believe that

2 For the importance of this distinction for the debate, see Menary 2010b.

externalism of the vehicle is strictly speaking inessential to Otto's story, I won't enter into this terminology to avoid confusion. (Otto's story will be introduced in section 3.)

2.

Perhaps not everyone will agree with Clark's account of Diva's case, but let us accept it for the time being, and see what else follows. If we had brain prostheses that extended beyond our skin, no doubt they would be very significant for medicine, but it's less obvious why they would be very significant for philosophy. Extending the physical basis of mental events beyond the body doesn't go against deep-seated intuitions or theoretical commitments, nor does it lead to absurd consequences in itself. For example, the possibility should be perfectly acceptable to defenders of a Cartesian internalist view of the mind. Indeed, Descartes himself might be especially sympathetic to this view. After all, he thought that the human body works like an automaton, and there shouldn't be a theoretical obstacle to adding some additional machinery to the automaton. Descartes did think that many of our mental events, as things actually go, are directly caused by movements of the pineal gland. The pineal gland is just a piece of the machinery of our body, so it is entirely conceivable that if it malfunctions, it is replaced by a part that has a slightly different shape.

The passage above by Clark is from his reply to Jerry Fodor's review of Clark's book *Supersizing the Mind*, in the *London Review of Book* (Fodor 2009). In his review, Fodor puzzles over the question of whether minds have 'parts', and in what sense can we regard an external device 'literally' as part of his mind. If Diva's story is the key to the Extended Mind thesis, the puzzle can be solved. The mind is extended in the sense that mental states have spatially extended physical bases (states that realise, are identical to, or provide an emergence basis for, mental events – depending on our mind-body theory). And once we think that the mind is extended *at all* in this sense, there seems to be no good reason to limit the extension within the boundaries of our organic body. The physical basis of mental states can extend beyond the skin.

It's not obvious why Fodor (or others) should disagree with this; I can't think of any significant philosophical view about the mind that Fodor is attached to, and that would have to be given up, if we accepted this point alone. It wouldn't follow, for example, that we had to attribute mental states to self-propelling vacuum cleaners. The story is about extending the physical basis of mental events for those creatures who *already* clearly have mental events, and the extension goes simply by placing some of the realising machinery outside the skull. Nothing in this idea implies anything about derived or underived intentionality, for example.³

Or take for example a favourite motivation for internalism: a concern with

3 One philosopher who might disagree with the claim is John Searle: he is committed to the claim that only a biological organism can host thinking.

privileged access. Just because the realisation of an experience is supported by the device, there doesn't seem to be any reason to think it is less accessible to introspection. Or take another motivation: the role mental states play in the explanation of action. Again, the partially external realisation doesn't seem to make any difference to this issue; why should the fact that the physical realiser sticks out of one's head make it any less causally efficacious? The location of the constitutive or realising factors is not, *in itself*, likely to make a significant difference to our conception of the mind, at least in these respects. David Chalmers writes in the foreword to Clark's *Supersizing the Mind* that he does not believe “that there is anything privileged about skin and skull as boundaries for the mind” (Chalmers 2008, p. xi). Without adding something to the above considerations, there seems to be little reason to disagree with this statement.⁴

3.

If the extension of the physical basis outside the skull is *all* there is to the Extended Mind thesis, it's hard to see why certain people object to it so strongly – or indeed at all – nor why others hail it as a significant insight. As I said, it's hard to see what other philosophical thesis one would have to give up, if it transpired that for example brain prostheses for damaged areas of the visual system can be developed. But in fact, I believe that Clark was misrepresenting the essence of his position, because there is more. This will be illustrated on one of Clark's and Chalmers's original examples. An initial analysis of this example is the main subject of this section.

Compare the situation of Inga and Otto. Inga decides to go to the Museum of Modern Art, recalls that the museum is on 53rd street, and walks to 53rd street. We would normally say that Inga believed – even prior to developing the desire and the action – that the Museum of Modern Art is on 53rd street. Compare this with the case of Otto, who suffers from memory loss and keeps all sorts of useful information in his notebook. When he decides to go to the Museum of Modern Art, he consults his notebook, finds that the museum is on 53rd street, and walks there. Clark and Chalmers argue that if we regard Inga as having the belief that the Museum of Modern Art is on 53rd street before she recalls it, we should say the same about Otto. This is why:

in relevant respects the cases are entirely analogous: the notebook plays for Otto the same role that memory plays for Inga. The information in the notebook functions just like the information constituting an ordinary non-occurrent belief; it just happens that this information lies beyond the skin. (Clark and Chalmers 1998,

⁴ A similar point applies to the debate on externalism and internalism about mental content. I argue elsewhere that the point of this debate is not whether facts individuating mental states are inside or outside the skull; I use an example of a Twin Earth scenario based on a brain disease, where the individuating facts are inside the body yet an externalist conclusion is put forward (see Farkas 2008).

First, it may sound that this is just a variation of the Diva case. In the case of Diva, a damaged brain part is replaced by a silicon circuit with the 'same functionality'; the silicon circuit sustains the same mental operations, and it matters little that it is outside the body. If Otto's notebook corresponds to the silicon circuit, then we have the same strong case for a mental state being sustained by a physical event that's partly outside the body. And we have the same question of why anyone should be either opposed to, or thrilled by this.

But in fact, the stories of Diva and Otto are different. Even before we even try to assess the claim that Otto has the belief, we need to note that – as a number of commentators also pointed out – there are some interesting differences between the way the information concerning the location of MoMA figures in Inga's and Otto's life. There was no such suggestion in Diva's case: after the circuit is restored, Clark says, “Diva can ... divide just as before”. In contrast, the situation is not the same for Inga and Otto. It's not true that Otto uses the information that MoMa is on 53rd street “just as” Inga does.

One difference is that the phenomenology associated with retrieval is immediate for Inga, but it's mediated by a visual experience for Otto. Note that this is a phenomenological remark and is not meant to imply any commitment about how memory or recall works. It's simply the observation that *normally*, and describing how the process feels, we would say that Inga simply recalls the information without the obvious need to do anything else (as I said, on the phenomenological level – this isn't a statement about underlying operations.) In contrast, Otto retrieves the information *by looking it up* in his notebook.

Other differences between them lie in the way newly adopted and abandoned beliefs interact with the rest of the subject's beliefs. For example, if Inga learns that the museum moved to another location, this affects not only her previous belief that the museum was on 53rd (resulting in its abandonment), but a number of other related beliefs. In contrast, if Otto enters a new address in his notebook, he has to make sure that he deletes the old address in a separate act. Moreover, he has to check the notebook for anything that is possibly also affected: the address of the museum cafe, or the distance between Otto's apartment and the museum. Further interesting differences are pointed out by Adams and Aizawa (2010).

Some people say that these differences demonstrate that Otto does not have the belief in question. As before, it is not my intention to settle this debate once and for all; rather, I want to find out what is exactly at stake in the debate. When I sketch the possible response by defenders of the Extended Mind thesis, I am aware that the responses can be further countered; the point here is simply to clarify the opposing views.

Defenders of the Extended Mind thesis argue that despite these differences, Otto

should be regarded as having the belief that the Museum of Modern Arts is on the 53 street. The general shape of a possible argument for this claim might go like this. Beliefs are identified by the complex and multi-faceted role they play in producing manifestations in the stream of consciousness and in guiding actions. These roles are enormously varied and complex, and some of the *prima facie* unusual features of Otto's situation are exemplified by other cases of *actual beliefs*. Let me consider two examples.

One might say that it is a condition for believing that *p* that we can recall *p* directly, without doing something else (for example, looking up the information in a notebook). However, with this move, we would exclude a number of our usual beliefs. Sometimes I recall a belief by recalling other beliefs; I recall the date of my first visit to MoMa by recalling other beliefs about my various visits to New York. I cannot directly retrieve the date, but that doesn't mean I don't know it: I have a very reliable way of retrieving the information. Sometimes I recall beliefs with the help of a mnemonic device, which is both indirect and has an auditory phenomenology – just like Otto's retrieval of beliefs has a visual phenomenology. Sometimes I need to recite the first four lines of a poem to state my knowledge of the fifth line. Yet this doesn't lessen my knowledge of what the fifth line is.

Another unusual feature of Otto's case is the lack of automatic integration of new beliefs. There are two ways to bring Inga's and Otto's case closer to each other. One is that Otto may have a smart organizer, rather than simply a paper-and-pencil notebook. Organisers are very good in the automatic integration of new information. The other way to reduce the difference between Inga and Otto is to point out that the same happens with *actual beliefs*: we are less than perfectly rational, and we have less than perfect ability to keep all relevant things in focus. It is entirely possible that I both believe that I have an appointment on Wednesday afternoon with the dentist, and that I believe that I will attend a lecture; I can recall each piece of information in the appropriate context; unfortunately, I haven't integrated the two pieces of information.

The suggestion is that the roles beliefs play are so complex and varied that we have no principled reason to exclude a case like Otto. A similar point is expressed, in another vocabulary, by a reference to coarse-grained and fine-grained functional roles (see for example Sprevak 2009). The claim is that the nature of a belief is determined by the state's functional role. However, the argument continues, if we are functionalists about belief and accept multiple realizability, we lack an adequate motivation to individuate functional roles in a very fine-grained way. With fine-grain individuation of the functional roles, Otto's and Inga's states have different functional roles, and hence even if Inga can be awarded the belief, Otto perhaps cannot. However, individuated in a coarse-grained way, the differences between the two functional profiles disappear. Otto has a state that plays the same functional role as Inga's belief that MoMa is on 53rd street plays. Hence we should award the belief to Otto.

As I mentioned, it is not my aim to defend the Extended Mind thesis against all objections – the debate is very complex and I cannot hope to do justice to all the intricacies of arguments and counterarguments in such a limited space. My aim in this paper is rather to make sure that we understand what exactly is at stake in the debate. Let me then state clearly what I take to be the second version the Extended Mind thesis: *the typical role of standing states can be extended* to include states that produce conscious manifestations in a somewhat different way than normal beliefs and desires do. The use of the term 'extended' is metaphorical; it simply means that we extend what counts as a functional role or a dispositional profile that qualifies a state to be a certain kind of standing state. As it will become clear from the following sections, spatial extension is not particularly relevant in this case. I am not saying that this thesis is necessarily correct; but if it is, this is the real lesson of the Otto-Inga case.

4.

Before I inquire into the further consequences of the Otto case, let me explain more clearly what the difference is between the first and the second version the Extended Mind thesis: EM1, the extension of the physical basis, and EM2, the 'extension' of which roles qualify a state as a standing state. One difference is, as I said, is that literal spatial extension is relevant for the first thesis, but not for the second. The alteration of the role can go together with the literal spatial extension of the physical basis outside the skull, like in the case of Otto and his notebook. However, this has no particular relevance. Mark Sprevak imagines Martians whose internal states work in the way Otto's notebook does (you replicate the apparatus of the notebook in the Martian's head), and it doesn't make much difference to the argument (Sprevak 2009).

In fact, a substance dualist could run the Extended Mind argument with the story of a forgetful Otto consulting a demon, instead of looking at a notebook. Each time Otto needs information, he summons an immaterial spirit, and asks a question, which the spirit answers by speaking to Otto. Like in the notebook case, there is indirect retrieval, accompanied by sensory phenomenology, and if the demon is not very clever or rather recalcitrant, there may be the same problem with integration of new information as in the case of the notebook. Those who resist the claim that Otto-with-the-notebook has the relevant belief are very likely to also oppose the claim that Otto-with-the-demon has the relevant belief. But the demon case does not require literal spatial extension. The point here is not the spatial location, but the role the state plays in the subject's mental life.

Another way of characterising the difference between the two versions is to assume functionalism (although we'll see below that this assumption need not be accepted). Using the language of functionalism, the first version involves modification of the realiser, the second version involves modification of the role. Extending the realiser and the role mean different things: the first is a literal spatial extension, the second is a

metaphorical extension of the possible functional profiles that qualify something as a standing states. The two extensions are independent. We could extend the realiser (with supporting the physical basis of a visual experience by an external device) without altering the role; and we can alter the role without extending the realiser (the case of the Martian with the internal notebook, and the case of Otto telepathically consulting a demon).

This leads us to another important difference between EM1 and EM2, which concerns their scope. Let us distinguish between events in the stream of consciousness and standing states. Events in the stream of consciousness encompass sensations, perceptions, occurrent emotions, musings, deliberations – that is, everything that forms part of the subject's conscious life. In contrast, standing states like beliefs and desires characterise a subject even when she is not conscious: we don't lose our beliefs even when we are dreamlessly asleep. I had had all sorts of beliefs about locations of museums yesterday before I went to sleep; it would be implausible to claim that I lost all of them during my dreamless sleep, only to instantly regain them in the morning when I woke up. Standing states can be had independently of what is actually going in the stream of consciousness.⁵

EM1 applies to all sorts of mental features, conscious events and standing states alike. Whichever of these have a physical basis, that physical basis can be extended as described in the first two sections. In contrast, the clear application of EM2 plausibly is *only to standing states*.

The difference between the stories of Diva and Otto can be obscured by describing both cases as cases of an external device 'having the same function' or 'same role' as a brain state. In fact, 'same function' can mean something different in the two cases. Consider first conscious episodes: even if the physical basis of these is some brain-event, we can imagine an external device partly taking over the same 'function' or 'role' – that is, *the production of the same conscious event*. Notice that this doesn't commit us to a functionalist theory of conscious events at all. The following position is perfectly coherent: conscious events are characterised, say, by their intrinsic phenomenal character, and though we are unable to explain (at the moment?) just how exactly conscious character arises out of a brain event (there is an explanatory gap), it is still entirely conceivable that external silicon replacements of neurons would give rise to the same conscious events as brain states do. In other words, we accept a kind of multiple realisability: that the same conscious character can be realised (constituted, caused) by multiple types of physical events. This isn't sufficient, at least on the usual classification of theories, to make someone a functionalist. The nature of a mental state would be

⁵ This doesn't mean of course that they are independent of the *total history* of my conscious experiences; the claim is only that I could retain my beliefs about the location of museums even if my mind is occupied with something entirely different – or with nothing at all.

determined by its intrinsic qualitative character, rather than by its functional role.

In contrast, the claim that Otto's notebook has the 'same role' (or 'same function') as some of Inga's brain states has a more substantial content. Standing states cannot be characterised in terms of phenomenal character or merely in terms of representational content; we have to appeal to the complex and multi-faceted roles they play in producing conscious episodes and in guiding actions. This does involve a commitment to some variety of functionalism, even if a very weak one. But whereas functionalism has alternatives in the case of conscious events, it is hard to see what fundamentally different theory of standing states one could have. It seems that on any theory, for example *beliefs* and *desires* are distinguished by the role they play.

For conscious events, if an external device and a brain state play the 'same role' in the production of the event, there is no possibility of fiddling with the role, emphasising 'important similarities' and disregarding 'superficial differences'. You plug in the external device and it either produces the same conscious episode or not. That is why the second version of the Extended Mind thesis – the 'Extended Role' thesis – doesn't apply to conscious events. However, since standing states, on any theory, must be at least partly characterised by a complex role they play in producing conscious manifestations and guiding behaviour, there is room for modifying the role while still plausibly classifying something as a standing state.

In the 1998 paper, Clark and Chalmers state that consciousness does not plausibly extend beyond the head. Clark continues to insist that the Extended Mind thesis does not apply to conscious events. As he says in a recent reply to comments:

I note only that my own account of cognitive extension is not meant to make any claims extending the machinery of consciousness beyond the brain. I myself am skeptical of such extensions. (Clark 2010)

However, in light of his story of Diva (and in light of Clark's comparisons between prosthetic organs and extension of the mind), it is very puzzling why he is sceptical of such extensions. Diva's own case is quite interesting: doing mental arithmetic, it seems, is a conscious event. Therefore there is a conscious event in Diva's mind which is now extended beyond her head – so Clark claims. Why does then Clark think that the machinery of consciousness doesn't extend beyond the brain? To make the point even clearer, consider the example of Hera, who suffers minor brain damage and loses the ability to process auditory signals using only her neural resources. Therefore she does not have auditory experiences anymore. An external silicon circuit is added that restores the previous functionality. Hera's experience of hearing is completely restored: but now a genuinely conscious event (an auditory experience) is supported by a hybrid bio-technological system. Or so should Clark say.

Clark says that Diva's story alone establishes the key principle of *Supersizing the Mind*. If this is indeed the key to the Extended Mind thesis, then it seems to apply equally to conscious events and standing states. Then Clark has no good reason to say that consciousness doesn't extend. However, if Diva's story is *not* the key to the extended mind thesis, because the point is *not* the spatial extension of the physical basis, but the variation in functional role, then there is indeed good reason to say that the Extended Mind thesis does not apply to conscious events. But then Clark cannot use the plausibility of Diva's story to support his thesis about Extending the Mind.

5.

How far can we extend the mind? In both versions, we can imagine pretty extreme cases. Let us consider the first version. We said above that if the mind is spatially extended at all – in the sense that mental features have a physical basis which is spatially extended – then there seems to be no general reason to confine the extension inside the skull. Similarly, there seems to be no reason to limit the extension once we are outside the skull. Of course, our experience of the world might fundamentally change if our lived body changes. I am not defending here the unfairly distorted 'Cartesian' conception that mental features are completely independent of the shape of our experiencing body.

What should we say about the second version? As I said earlier, I cannot provide here a full assessment of the claim that Otto does have the belief that MoMa is on 53rd street – there are too many arguments and counterarguments to take into account. But suppose that we accept that Otto has the relevant beliefs; the question is, what other forms of 'extension' are available? In the original article, Clark and Chalmers consider other cases: if one never takes a decision without consulting their Filofax, the Filofax carries beliefs and intentions; if one is “unusually computer-reliant, facile with the technology, and trusting”, parts of the Internet may carry beliefs; in the case of an unusually interdependent couple, the beliefs of one's spouse may act as standing states of the other (p.17).

Now the worry is that by going this far, we'll be forced to let in *other* cases that create tensions in our normal notion of a subject or a self. Suppose someone, call her Lotte, always carries an electronic reading device. She downloads a 37 volume history of Europe with a quick search function, from a source she trusts completely. If any question about the history of England comes up, Lotte consults the book. The device satisfies the criteria of easy accessibility, reliable availability, and it is subject to automatic endorsement – these were, according to Clark and Chalmers, the main criteria of something counting as a belief. Does Lotte thereby acquire all the beliefs, and hence does she become an expert on the history of England? To say that she does is at least *prima facie* problematic. We do want to distinguish between an impressively erudite scholar of English history who mastered the subject, and Lotte, who simply stores a file on a device.

It seems the learning does truly belong to the historian, but not really to Lotte.

One might suggest that the historian's knowledge of the subject is more impressive than Lotte's, because the historian not only knows the dates and facts, but is also able to make connections or see patterns in a way that Lotte cannot. The historian has skills that Lotte lacks. Maybe this is true and maybe it explains why the historian's knowledge is *more* impressive than Lotte's, but it doesn't explain why Lotte's knowledge is hardly impressive at all in the first place. We respect those who have both factual knowledge and can make interesting use of this knowledge, but we also respect those who have only the factual knowledge. Just to have the dates and facts is something. But it's hard to feel this about Lotte.

In any case, another example will address the point about skills. After mastering the history of England, Lotte turns her interest to philosophy. She enrolls in a program, and she passes her exams with excellent grades. When her professor congratulates her on the results, she explains that her success is due to the fact that she hired a consultant, with whom she can confer 24/7 about any philosophical issue through a radio device. She passed her exams and prepared her papers by writing down what her consultant said. We should be clear that Lotte is an intelligent person, and she understands the lines her consultant feeds her. At no point she becomes a mere 'mouthpiece' repeating something she doesn't understand.

Understandably, the professor is not really happy with this arrangement, and explains to Lotte that she cannot use another person's help to pass her exams. Lotte looks worried for a moment, but then she brightens up and explains that she didn't have another person's help, because *she herself* has all the requisite skills and learning, in virtue of her relation to her consultant. She has easy access to her consultant, the consultant is reliably available, and she, Lotte, automatically endorses everything her consultant says about philosophy. Clark and Chalmers allow that one's "beliefs might be embodied in one's secretary, one's accountant, or one's collaborator" (p.18); this is a similar case. So Lotte's mind extends partly into her consultant's mind; if she answers a question correctly, it's because *she*, Lotte knows the answer. For example, the professor might think that this clever reply is coming from someone else, just because Lotte repeats the words of her consultant, who has been listening to the conversation for the whole time. But this would be the wrong way of looking at things: since Lotte's philosophical views are constituted in a large part by her consultant's mental states, this very reply is a product of her own mind.

6.

One might oppose the claim that Otto has the belief that MoMa is on 53rd street. However, *if* someone accepted that Otto had the belief, there would be considerable pressure for them to accept that Lotte has a great deal of knowledge of philosophy.

Inspired by examples similar to that of Lotte, some critics argued that the consequences of the Extended Mind Thesis constitute a *reductio* against one of the initial assumptions of the argument. Mark Sprevak (Sprevak 2009) thinks the culprit is the assumption that mental states are individuated by their functional roles. Sprevak is probably right in claiming that a version of functionalism is essential for the argument, but the problem is that some variety of functionalism apparently has to be part of any theory of standing states, at least in the broad sense that standing states are individuated partly by their role. In case of conscious episode, functionalism has an alternative. But we have seen that the version of the Extended Mind Thesis that applies to conscious events – EM1 – does not have the problematic consequences that EM2 does. If Sprevak is right and accepting functionalism leads to absurdly extended mental states, then we have a serious challenge in understanding the nature of our standing states.

This is Brie Gertler's diagnosis (Gertler 2007). Gertler clearly locates the problem with standing states, and she thinks the assumption of the argument which is reduced to absurdity is that standing states are part of the mind. Hence the conclusion of her own argument is that the mental should be limited to events in the stream of consciousness. But we may wonder whether this move resolves the issue. When describing Otto's or Lotte's case, we need not mention the term 'mental' at all. It's enough if we are talking about beliefs. Suppose we agree with Gertler that beliefs are not mental. This is no obvious help: Lotte will perhaps agree that her philosophical knowledge is not part of her mind, but she will insist that it's *hers*, and this is precisely that seems to be problematic.

Perhaps the stream of consciousness is the primary scene for our mental life. However, what our minds are, and hence what *we are*, doesn't seem to be exhausted by the stream of consciousness. Much of our past experience, our learning, our abilities, our plans, often bear no mark on the present shape of our consciousness, yet they are very much part of *us*, regardless of whether we regard this part as mental or physical. Even if my beliefs are not part of my mind, they are still *mine*. But if the second version of the Extended Mind thesis is right, there might be a problem with the idea that standing states (or dispositional states in general) are integral parts of persons: because we lack a principled way of delineating this part of our selves. This is the real challenge posed by the Extended Mind thesis.

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