(Forthcoming in *Philosophical Psychology*)

EPISTEMIC PRESENTISM

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ABSTRACT. Common-sense functionalism is taken to entail a version of the extended mind thesis, according to which one's dispositional beliefs may be partly constituted by artifacts. As several opponents of the extended mind thesis have objected, claiming so can generate a cognitive/knowledge bloat, according to which we may count as knowing the contents of trusted websites, even before looking them up (!). One way to retain common-sense functionalism, but avoid the ensuing 'cognitive/knowledge bloat' worry is to introduce *epistemic presentism*—i.e., the view that there are no dispositional beliefs and that we can only believe, and thereby know, things in the present. Independently of the above problem, epistemic presentism can be further motivated by shedding light on two central epistemological questions: (1) how to understand the distinction between doxastic and propositional justification and (2) how to interpret the closure principle. The view also aligns with strong intuitions about what we may take ourselves to know, what the relation between action and belief is, and what may count as part of our minds.

1. INTRODUCTION

If I ask whether you know what you had for breakfast, all you need to do is think about it and then respond. But how about five minutes or even five seconds ago, when the matter had not even crossed your mind? To deny that you knew back then would certainly be odd.

And yet, if we want to retain other—possibly stronger—intuitions (that we don't know all the phone numbers stored in our SIM cards, for example) or, even, hold on to the commonsensical understanding of our minds that seems to underlie all such intuitions, denying that you knew what you had for breakfast when the question had not

been brought to your attention may actually be advisable. But how can such a puzzle even arise? Curiously enough, the reasons for restricting our knowledge in time can be brought into light by attempting to extend our knowledge in space.

In a less enigmatic tone, the present target is the existence of dispositional beliefs—beliefs that are not presently occurrent. While positing such non-occurrent beliefs is commonplace within philosophy, it has also turned out to be particularly problematic. The reason as we shall see is that, from the common-sense functionalist point of view, it is a small step from claiming that there are dispositional beliefs to claiming that we know the contents of our smartphones, laptops or websites…even before looking them up. Assuming, however, that this can't be true and that we are not willing to reject common-sense functionalism, it is likely that the idea of dispositional beliefs may have to go.

Consequently, we will here consider the alternative of epistemic presentism—i.e., the view that there are no dispositional beliefs and that we can only believe (and thereby know) thoughts that are presently occurrent. Before we further expand on the idea itself, however, a bit more needs to be said about how we may end up with it.

2. EXTENDED KNOWLEDGE

Consider the extended mind thesis (Clark and Chalmers 1998; Clark 2007, 2008). According to this form of active externalism (Hutchins 1995; Theiner 2011; Wheeler 2005; Menary 2006, 2007; Rowlands 1999; Wilson 2000, 2004), mental states—beliefs, desires, emotions, and so on—can be extended beyond the boundaries of the organismic agent.

To motivate this claim, Clark and Chalmers (1998) need only invoke common-sense functionalism (Braddon & Jackson 2007) according to which, mental states and processes are just those entities, with just those properties, postulated by our everyday common-sense folk psychology.[1] Consider the following thought experiment: Otto is an Alzheimer's patient who compensates for his failing memory by always carrying a well-organized notebook. In order to claim that Otto believes a piece of information inscribed

[1] Active externalism has also appeared in the literature under two more formulations: (1) The extended cognition hypothesis (e.g., Clark and Chalmers 1998, Chemero 2009, Froese et al. 2013, Palermos 2014) and (2) the distributed cognition hypothesis (Sutton et al. 2008, Theiner et al. 2010, Tollefsen & Dale 2011, Hutchins 1995), both of which focus on distributed cognitive processes (as opposed to mental states). Several authors (Chemero 2009, Froese et al. 2013, Sutton et al. 2008, Theiner et al. 2010, Tollefsen & Dale 2011, Palermos 2014, 2016*b*) have recently noted that, due to their focus on cognitive dynamics, the extended and distributed cognition hypotheses can be backed up by dynamical systems theory (DST), which means that they can be motivated independently of the common-sense functionalism that underlies typical arguments for the extended mind thesis.

in his notebook—say that MOMA is on 53rd street—even before looking it up, Clark and Chalmers (1998) compare him to a normal subject, Inga. Upon hearing about an interesting exhibition, Inga thinks, recalls that the museum is on 53rd street and starts walking to the museum. Clark and Chalmers argue that if one wants to say that Inga had her belief before consulting her memory, one must also accept that Otto believed the museum was on 53rd street even before looking up the address in his notebook. This is because the two cases are *functionally on a par*; given our everyday, common-sense understanding of how memory works

> […] the notebook plays for Otto the same role that memory plays for Inga; the information in the notebook functions just like the information [stored in Inga's biological memory] constituting an ordinary non-occurrent [i.e., dispositional] belief; it just happens that this information lies beyond the skin (Clark & Chalmers 1998, 13).[2]

Furthermore—to strengthen their point—Clark and Chalmers spell out the relevant commonsensical intuitions by noting that, just as in the case of biological memory, the availability, portability and reliability of the resource of information are functionally crucial in determining whether a piece of information can qualify as one's dispositional belief. Specifically, they suggest, in order for an externally stored piece of information to be included into an individual's mind, the following criteria must be met:

> 1) The resource [must] be reliably available and typically invoked.
> 2) Any information thus retrieved [must] be more-or-less automatically endorsed.

[2] An anonymous referee worries about my claim that in order to motivate the extended mind hypothesis, Clark and Chalmers *need only* invoke common-sense functionalism. The referee objects that Clark and Chalmers need to also invoke the Parity Principle, which states the following: 'f, as we confront some task, a part of the world functions as a process which, were it go on in the head, we would have no hesitation in accepting as part of the cognitive process, then that part of the world is (for that time) part of the cognitive process' (Clark and Chalmers 1998, 8). The assumption that the Parity Principle is an additional step in Clark and Chalmers' argument is a common mistake within the literature on the extended mind hypothesis. As Clark (2007) and others (e.g., Menary 2007; 2010) have clarified, the Parity Principle is merely an intuition pump that restates the basic functionalist premise: that so long as a process realizes a function that we would accept as a specific kind of cognitive function, then we should not worry about the material realisers of that cognitive process, or, in the case of cognitive extension, where these realisers are located. The Parity Principle 'is about equality of opportunity. It is about avoiding a rush to judgment based on spatial location alone.' (Clark 2007). In other words, the Parity Principle is only meant to guard against spatial prejudice when deciding whether a process may qualify as a cognitive process. Common sense functionalism, which judges a process to be of a particular cognitive kind solely on the basis of the function it serves, already presupposes that the location of the process—just as its material realisers—should be of no concern. (Tellingly, Clark and Chalmers do not argue for the Parity Principle. Instead, they assume that should one accept common-sense functionalism then one should also accept the Parity Principle.) It is therefore incorrect to assume that satisfaction of the Parity Principle is an additional step in the argument for the extended mind hypothesis, over and above employing common-sense functionalism.

> 3) [Any] information contained in the resource should be easily accessible as and when required. (Clark 2010, 46)[3]

Now, given that memory is normally thought to support knowledge—memory, according to the received view, can both generate and store knowledge—we can project the extended mind thesis (as motivated by common-sense functionalism) to epistemology with the following result: Otto's knowledge is extended in the sense that he knows MOMA is on 53rd street even before consulting his notebook, just as Inga does even before engaging in recollection.[4] In other words, on the basis of common-sense functionalism, we must treat Inga and Otto on a par, which is to claim that they both possess dispositional beliefs that amount to (dispositional) knowledge.[5]

3. A TRILEMMA

There is a problem with extending our minds and knowledge in this way. The above common-sense functionalist criteria can be far too easily satisfied, thereby leading to unwelcome results. Many critics are suspicious even of the Otto case, but it is easy to generate numerous other counterexamples. Rupert (2004, pp. 401–405), for example, notes that a case similar to Otto is the case of a person who has access to a phonebook, or a directory service, through the use of her cellular phone. Nevertheless, it is counterintuitive to conclude that the phonebook, or the directory service allows her to have non-occurrent true beliefs about (or knowledge of) the phone numbers of everyone whose number is listed.

In other words, if any externally stored information that satisfies the above criteria were to count as a dispositional belief of ours, we would be led to a 'knowledge bloat', whereby our belief-systems would appear to 'leak' in implausibly many directions

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[3] This paper has been available online since 2006. These criteria, however, date even earlier as they had already made their appearance in (Clark & Chalmers 1998) (although the phrasing was somewhat different). Also, in (Clark & Chalmers 1998, 17), the authors consider a further criterion: 'Fourth, the information in the notebook has been consciously endorsed at some point in the past, and indeed is there as a consequence of this endorsement.' As the authors further note, however, 'the status of the fourth feature as a criterion for belief is arguable (perhaps one can acquire beliefs through subliminal perception, or through memory tampering?)', so they subsequently drop it.

[4] As Rupert (2004, 403) notes, if we allow for Otto's beliefs to extend, then similar remarks would apply to his knowledge.

[5] Within the literature there is an alternative way to account for extended knowledge. According to this alternative, which draws on the combination of the extended cognition hypothesis with virtue reliabilism (see Pritchard 2010a, Palermos & Pricthard 2013, Palermos 2011; 2014; 2015; 2016*a*) knowledge extends not in the sense that beliefs extend, but in the sense that justification extends: The involved artifacts are proper parts of the cognitive abilities that reliably produce/justify the agent's true (occurrent) beliefs.

(Clark, 2001; Rowlands 2009).[6] Farkas (2012), for example, gives the additional counterexample of Lotte who has downloaded 37 volumes of the history of Europe with a quick search function from a source she completely trusts, and Lynch (2014) warns us that, by the extended mind reasoning, we may turn out to know much of the information online.[7]

Now, to fully appreciate the problem we are facing, it should be noted that the above version of the extended mind thesis is actually taken to be a *consequence* of common-sense functionalism. Consider for example Weiskopf (2008) who submits that 'functionalism has all along been committed to the possibility of extrabodily states playing the role of beliefs and desires' (267) and Sprevak (2009) who takes such problematic cases of the extended mind thesis to constitute counterexamples to functionalism.[8] In other words, if we want to treat Inga and Otto on a par—such that we hold fast to common-sense functionalism—we must accept the knowledge bloat and the ensuing epistemic explosion. Otherwise, we must reject common-sense functionalism.

Indeed, a possible way to deny the functional parity between Otto and Inga is to give up common-sense functionalism for a different kind of functionalism. To see how this strategy works, consider Rupert (2004) who argues that Otto's way of recalling information is essentially different to biological memory to such an extent that the two information-retrieving mechanisms cannot be both treated as mental processes. Specifically, as Rupert notes, retrieving information from the notebook does not seem likely to exhibit the 'negative transfer' and/or the 'generation' effects which are typically manifested in the process of recalling information from biological memory.[9] This is indeed a promising strategy for rejecting the claim that Inga and Otto are functionally on a par. The problem however is that it comes at the cost of giving up common-sense functionalism for what is known as psycho-functionalism.

Psycho-functionalism claims that 'mental states and processes are just those entities, with just those properties, postulated by the best *scientific* explanation of human behaviour' (Levin 2017). Therefore, contrary to common-sense functionalism, 'the

[6] The relevant problem was initially called the '*cognitive* bloat' worry, but since all known examples of the problem concern outsourced propositional attitudes rather than lower level cognitive processes, it is perhaps more accurate to refer to it as the problem of '*knowledge* (or, at least, *doxastic*) bloat'.

[7] Though, interestingly, by invoking Clark and Chalmers' fourth criterion (see fn. 3), Bjerring and Pedersen (2014) argue in favor of such cases of extended knowledge. In places, they even consider dropping this extra criterion and biting the bullet of the ensuing 'knowledge bloat'.

[8] Sprevak does not distinguish between the hypothesis of extended cognition and the extended mind thesis. Most of his counterexamples, however, involve extended dispositional beliefs and therefore concern the extended mind thesis.

[9] 'Negative transfer' is a particular form of interference effect, which appears when past learning detrimentally effects the subjects' capacity to learn and remember new associations. The 'generation' effect on the other hand is a mnemonic advantage of subjects who generate their own meaningful connections between pieces of materials learned. For more details see (Rupert 2004).

information used in the functional characterization of mental states and processes needn't be restricted to what is considered common knowledge or common sense, but can include information available only by careful laboratory observation and experimentation.' (Levin 2017). For instance, Rupert's resistance for treating Inga and Otto on a par invokes the 'negative transfer' and 'generations' effects, which are not part of our everyday understanding of how memory works but can only be revealed through careful scientific theorising and experimentation.

Invoking such fine-grained details in categorising mental states and processes would indeed block the functional parity between Inga and Otto. However, this approach invites a different problem. By focusing on fine-grained, human specific details about human psychology, psycho-functionalism is open to the charge that it is overly "chauvinistic" (Block 1980), because 'creatures whose internal states share the rough, but not fine-grained, causal patterns of ours wouldn't count as sharing our mental states' (Levin 2017). Unsurprisingly, it is precisely this problem for psycho-functionalism that Clark puts his finger on, in his reply to Rupert's objection against the case of Otto: 'just because some alien neural system failed to match our own in various ways (perhaps they fail to exhibit the "generation effect" during recall […]) we should not *thereby* be forced to count the action of such systems as noncognitive' (Clark 2008, 114-5). Therefore, if we wish to avoid this form of human-specific chauvinism, we must retain common-sense functionalism. By doing so, however, we are back to square one with respect to the problem of Otto and Inga and the ensuing cognitive/knowledge bloat.

Yet, there might be another way to avoid this problem, while still retaining common-sense functionalism. Specifically, a possible—yet surprising solution—would be to claim that neither Inga (and thereby) nor Otto possess dispositional beliefs or knowledge of the relevant propositions, because there are no dispositional beliefs. This is a surprising solution, because it would amount to answering negatively to the question we opened with and would lead to what we may here dub *epistemic presentism*: The view that there are no dispositional beliefs and that we can therefore believe and know those and only those propositions that are presently occurrent.

In other words, we face the following trilemma: [10]

[10] The following list of options is not necessarily exhaustive, as there are some (less obvious) alternative paths one could take (therefore, strictly speaking, the following is not a *trilemma*). Wikforss (forthcoming), for example, has attempted to block the Otto and similar cases by enhancing common-sense functionalism with the addition of an alternative criterion. It is not clear, however, whether her additional criterion (i.e., automatic direct interaction with other informational states) is not met by some of the existing information storing devices or even by Otto's notebook. Also, Gertler (2008) offers another alternative out of the problem by claiming that only occurrent states belong to the mind. This may sound close to epistemic presentism but, as we shall see in §5, it isn't.

1. Reject common-sense functionalism
2. Accept knowledge bloat
3. Accept epistemic presentism

Despite the fact that option (1) has been widely debated in the literature (e.g., Block 1980, Chalmers 1996, Churchland 2005, Weiskopf 2008 and Sprevak 2009), the foregoing suggests that there are good reasons for retaining common-sense functionalism, and option (2) can be rejected as obviously unwelcome.[11] Accordingly, the remainder of the paper sketches the alternative of epistemic presentism in order to assess its relative plausibility.

4. EPISTEMIC PRESENTISM

As the name suggests, epistemic presentism is the idea that we can only believe and know thoughts that are presently occurrent. The reason is that there are no dispositional beliefs but only occurrent ones.[12] Consequently, neither Otto nor Inga know the location of MOMA before 'looking it up', because the relevant information is not occurrent there and then for either of them. This is, of course, not to deny that they have known it other times in the past—if, say, they happened to entertain the same thought at some other moment, or when they first encountered the relevant piece of information (which is why it is inscribed in Inga's biological memory and Otto's notebook). But in the interlude of these moments neither of them knew.

If we allow for this, then we can both claim that Inga and Otto are functionally on a par *and* avoid the ensuing knowledge bloat: We can't possibly know the contents of our notebooks, phonebooks, the internet or what have you without looking them up, simply because we do not believe them. And the reason why we don't believe them is not because they are externally stored but because they are not presently occurrent.

The problem, of course, at least in Inga's (and any other purely biological) case is how to account for the rest of the memories we have 'in the background' of our minds. If they are not dispositional beliefs, what are they? To answer, we can here borrow

[11] Though cf. (Bjerring and Pedersen, *forthcoming*).

[12] Prima facie, there is no reason why epistemic presentism couldn't apply to every kind of belief we may possess. Consider, for example, Stevenson's (2002, 118) six categories of belief: (1) non-linguistic, object directed, (2) non-linguistic, mind-directed, (3) linguistic, object directed and unreasoned, (4) linguistic, mind-directed and unreasoned, (5) linguistic, object directed and reasoned, and (6) linguistic, mind-directed and reasoned.

Audi's (1994) notion of '*dispositions to believe*'—though note that Audi does not introduce the relevant idea to replace dispositional beliefs (which is what we will here do), but in order to explain what dispositional beliefs are *not*. According to Audi, both dispositional beliefs and dispositions to believe have adequate psychological bases (meaning that in order for their content to be entertained, anything that is required is already present within one's psychology). But the difference between the two is how directly available they are: 'The suggested difference between a dispositional belief and a disposition to believe is in part that between accessibility of a proposition by a retrieval process that draws on memory and its accessibility only through a belief-formation process' (*ibid.*, 420), where, according to Audi, the latter is understood either as an inferential or a mediational process. Put another way, although in both cases the constituents of the relevant belief are already present within our minds, dispositions to believe are yet to be formed whereas dispositional beliefs are antecendently held.

This is an interesting distinction. Epistemic presentism, however, goes a little further by claiming that beliefs cannot be antecendently held, which is, in effect, to deny the existence of dispositional beliefs altogether. No matter whether a piece of information is directly or indirectly available, if it belongs to our memory, then it is a disposition to believe. Of course, following Audi, there is little doubt that there should be a distinction between inferentially and non-inferentially available dispositions to believe, such that only the latter may count as parts of our memories. According to epistemic presentism, however, our memories contain only, and are systems of, intertwined dispositions to believe.

Interestingly, at one point, even Audi himself entertains the thought that 'explaining actions requires only dispositions to believe, and that the distinction between these and dispositional beliefs is largely artificial' (425).[13]

5. INDEPENDENT MOTIVATION AND INTUITIONS

According to epistemic presentism, beliefs can only be occurrent and any other proposition we are inclined to assent to is not a dispositional belief but merely a disposition to believe. Is this move only motivated by the trilemma we considered in §3 or can there be independent grounds for it? Moreover, how intuitive is it really? To ease

[13] Despite this remark, however, Audi is still skeptical of this assimilatory move, whose proponents, he notes (fn. 16), are Cohen and de Sousa: 'Belief that *p*….is a disposition to feel it true that *p*… . You answer the question whether you believe that *p* by introspecting or reporting what you are disposed to feel about the matter' (Cohen 1989, 368). 'Bp is a disposition to assent' (de Sousa 1971, 25).

ourselves into epistemic presentism, we may consider two further points that can be offered in its support (both of which are of epistemological interest). Then, we can also assess how appealing the view is by testing it against our intuitions.

The first point concerns the import of epistemic presentism to grasping one of mainstream epistemology's central distinctions, lying at the heart of the internalist approach to epistemology (Poston 2007). I am referring to the distinction between being propositionally and doxastically justified in believing *p*: [14]

> *Doxastic Justification*
>
> *S* is *doxastically* justified in holding *p* only when *S* holds *p* by possessing reasons *R* for *p and S* believes *p* in virtue of those reasons *R*.
>
> *Propositional Justification*
>
> *S* is only *propositionally* justified that *p* only when *S* possesses reasons *R* for *p* such that were *S* to believe *p* in virtue of *R* she would also be *doxastically* justified, but either *S* doesn't believe *p* at all, or believes *p* but for the wrong reasons.

The reason for drawing attention to this distinction is because—in the absence of epistemic presentism—it is hard to see how we can make sense of it *in practice*. To see what the problem is, let us assume that our memories count—*contra* epistemic presentism—as (dispositional) beliefs. Let us also assume that one, at some point, comes to believe reasons *R* for *p*. If that's the case, then how is it possible for one to be propositionally but not doxastically justified in believing *p*? How is it possible for one to believe that *p*, believe reasons *R* for *p* (i.e., be propositionally justified in believing that *p*) and still fail to believe *p* in virtue of (at least *also*) one's propositional justification?[15]

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[14] For original formulations, see (Kvanvig 2003), (Pollock and Cruz 1999) and (Swain 1979). I here define propositional justification in terms of doxastic justification though Turri (2010) questions which of the two (doxastic or propositional justification) should come explanatorily first. Letting this issue aside, I am here interested in the distinction's very existence.

[15] In other words, how it is possible to believe/know one's reasons for some proposition *p* and fail to believe/know *p* (at least *also*) in virtue of these reasons? Lehrer's (2015) Mr Raco is a recent attempt to provide just such a case: Mr Raco is initially a racist who believes that the members of some race are susceptible to a disease that the members of Mr Raco's race are not. As it happens, after a while, Mr Raco becomes a doctor and, as a result, acquires evidence that his racist conviction is in fact correct. So far so good, but Lehrer wants us to further imagine that, after all is said and done, Mr Raco keeps holding his initial belief not on the basis of the newly acquired scientific evidence, but because of his initial racist prejudice. In other words, Mr Raco is not doxastically justified in his racist belief, because he does not hold it on the basis of his propositional justification. On my part, I find this hard to imagine. While it is certainly plausible to think that Mr Raco may now hold his initial belief for *both* reasons (which is why he would still qualify as a racist, despite the fact that he also holds scientific evidence for the target proposition), I do not see how he could concurrently believe both reasons for his racist belief but still fail to hold it on the basis of both of them at the same

By contrast, if we adopt epistemic presentism, we can easily make sense of the above by claiming that it is only in the case of being doxastically justified that one believes *p* in virtue of *believing* one's propositional justification that *p*; in cases of believing *p* while only being propositionally justified for *p*, one's propositional justification is not believed, but it is instead a mere *disposition to believe*.[16] As Turri (*forthcoming,* 2) notes, 'some put the distinction in terms of "justifiable" versus "justified" belief, and we might also put it in terms of "being in a position to justifiedly believe" versus "justifiedly believing"'.

The second point concerns the idea that knowledge is closed under known entailment, which is usually formulated this way:

Closure Principle

If *S* knows that *p*, and *S* knows that *p* entails *q*, then *S* knows that *q*.

Given, however, epistemic presentism's insistence that knowing (in the present) is not quite the same as being disposed to know (diachronically), the above classical formulation of the closure principle is ambiguous between the following four principles:

1. If *S* has the disposition to know that *p*, and *S* has the disposition to know that *p* entails *q*, then *S* merely has the disposition to know that *q*.

2. If *S* has the disposition to know that *p*, and *S* knows that *p* entails *q*, then *S* merely has the disposition to know that *q*.

3. If *S* knows that *p,* and *S* has the disposition to know that *p* entails *q,* then *S* merely has the disposition to know that *q*.

4. If *S* knows that *p*, and *S* knows that *p* entails *q*, then *S* knows that *q*.

Principle 4 is of particular interest here. Firstly, it is seemingly identical to the classical formulation except that, this time, it carries the very specific meaning that all the relevant propositional attitudes are occurrent. Secondly, and as a consequence of the previous

time. To my knowledge, Lehrer provides no reasons why we should reject this (arguably) more plausible alternative over his assessment of the thought experiment.

[16] So, with respect to Mr Raco, the way to make sense of Lehrer's assessment of the case would be the following: Mr Raco may only hold his racist belief for racist reasons alone—even when he possesses internally accessible scientific evidence for it—if Mr Raco does not believe, but is only disposed to believe the relevant scientific evidence. In this case, Mr Raco would only be propositionally but not doxastically justified.

point, it is this and this principle alone that allows *S* to *know* (as opposed to being merely disposed to know) the entailed proposition *q*.

Why is this important? Within mainstream epistemology it has been recently noted that the classical formulation of the closure principle is not valid on all possible readings, because it fails to ensure that the subject believes *q* on the basis of the relevant entailment: Maybe, during the process of carrying out the relevant deduction, *S* forgets that *p* and/or the entailing proposition, or comes to believe *q* on entirely independent (and insufficient) grounds. If anything of the sort happens, then no more do we have the intuition that *S* knows that *q*.

Accordingly, several epistemologists (Williamson (2000, 117); Hawthorne (2005, 29); David *&* Warfield (2008); Pritchard *forthcoming*)) have insisted on reformulating the closure principle like this:

> *Competent Deduction Closure*
>
> If *S* knows that *p*, and *S* competently deduces from *p* that *q*, thereby forming a belief that *q* on this basis while retaining her knowledge that *p*, then *S* knows that *q*.

How does this refined formulation avoid the above error possibilities? The answer is that it makes explicit that, in order for *S* to know that *q*, all knowledge alluded to in the classical formulation must be occurrent.[17] This is a relatively uncontroversial point but, in the context of the present discussion, it can be particularly interesting. The reason is that this is the same point we made above on the basis of epistemic presentism. Accordingly, one might further claim, the debate over the interpretation and reformulation of the closure principle vindicates epistemic presentism, in light of which there is only one way to read the classical formulation of the closure principle, which has been correct all along.[18]

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[17] An anonymous referee worries that, contrary to my claim, the competent deduction principle is an improvement to the classical formulation of the closure principle, not because it makes explicit that all knowledge should be occurrent but because it makes explicit that the relevant inference should be competent. After all, one might draw incompetent inferences from occurent beliefs. The anonymous referee is correct to point out that inference should be competent. However, the above formulation of the principle—which stresses that knowledge of the entailing proposition should be retained—makes it obvious that epistemologists have been mostly worried about the possibility that one could loose knowledge of the entailing proposition while drawing the inference. Pritchard (forthcoming) is explicit about this in his discussion of the competent deduction closure: 'Since competent deductions are diachronic processes, it is also important to specify that the subject retains her knowledge in the entailing proposition throughout. For if the knowledge in the entailing proposition is lost during this process (perhaps as a result of the process itself), then clearly there is now no longer the same intuition that the entailed proposition should be known.'

[18] It may be objected here that even on the epistemic presentist reading of the closure principle (but not on the competent deduction closure), *S*'s belief that *q* could be based on something other than the entailment in play. However, just as in the case of propositional justification (see the discussion on the propositional/doxastic justification

Now, to move on, even though the preceding discussion may fall short of a full account of epistemic presentism, it should be sufficient for showing that the view may qualify as a working hypothesis, which can be motivated independently of the problem it was initially called to resolve (i.e., how to retain common-sense functionalism while avoiding the ensuing cognitive/knowledge bloat worry). A crucial withstanding question, however, is how well it can fare with respect to our intuitions.

To start with phenomenology, consider Audi again who notes that dispositions to believe are as temporally immediate as dispositional beliefs (despite the fact that, on his view, the former are always indirect). There is, however, a deeper phenomenological issue, which springs from the fact that we feel as if we did know what we had for breakfast five minutes ago and that, in general, we do believe a vast number of things other than the things we believe here and now.

Interestingly, the answer to such an objection may come from considering the phenomenology of another knowledge-conducive belief-forming process—that of visual perception. No one would deny that visual experience is sharply focused, uniformly detailed, colourful and high in resolution. But, in fact, outside the high-resolution, foveal region at the centre of our eyes, resolution drops dramatically and we are nearly colour-blind.

To confirm this take a deck of cards. Fix your gaze at some point straight ahead and without moving your eyes pick a card. Extend your hand with the card to your side while still fixating straight ahead. As you start moving the card towards the centre of your visual field you will notice that something is moving in the periphery, but—if you don't cheat—you won't be able to tell what colour it is until it has been moved within twenty or thirty degrees from the centre of your visual field[19] (Noë 2004, 49). 'Or consider the page you are now reading. Stare at a word or phrase. Without moving your eyes, how many other words can you distinctly make out? If you attend carefully, you'll notice that you can make out *very few* of the other words, even directly above or below the fixated word' (Noë 2004, 49). Clearly, the periphery of our visual field is nothing like it is in the centre, and yet we 'perceive' no difference at all.

According to Noë, this is simply an illusion produced by the fact that wherever we look, we encounter detail. The ability to have as much detail as we want, whenever we want it—simply by taking a look—makes us feel as if we've had it all along. Even though

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above), it seems impossible to believe/know one's reasons for some proposition *p* and fail to believe/know *p* (at least *also*) in virtue of these reasons. (See also fn. 15).

[19] The effect is much more impressive with a deck of Uno cards where there are more than just two possible colors one can guess from.

the detail is not *actually* but *virtually* present, the phenomenological effect is the same. As Minsky writes, 'We have the sense of actuality when every question asked of our visual systems is answered so swiftly that it seems as though those answers were already there' (1958, 257). Accordingly, 'to experience detail virtually, you don't *need* to have all the detail in your head. All you need is quick and easy access to the relevant detail when you need it' (Noë 2004, 50).

Similarly, the epistemic presentist may suggest, in order to have the impression that you knew what you had for breakfast all along, you do not really need to have had any dispositional beliefs or knowledge about the matter. All you need is quick and easy access to the relevant information as required—something, which, according to Audi, is satisfied by both direct and indirect dispositions to believe.[20] Accordingly, our impression that we possess dispositional beliefs and knowledge may only be an illusion created by the fact that, at any moment in the past, we could have had easy and virtually immediate access to the corresponding information.[21]

In this way, epistemic presentism seems able to accommodate the phenomenology of our doxastic and epistemic experience. But can it handle our grasp of our minds and ourselves equally well? Do we really want to deny the existence of dispositional beliefs both for Otto and Inga, thereby possibly confining our minds in what is presently occurrent? Clark and Chalmers are well aware of how unappealing this might be:

> To consistently resist this conclusion [(that Otto's dispositional beliefs extend)], we would have to shrink the self into a mere bundle of occurrent states, severely threatening its deep psychological continuity.

This is a forceful rhetoric indeed—though one the proponent of epistemic presentism may again escape. To see how, it could help to focus on a crucial difference with Gertler (2008) who, in an attempt to avoid overextending the mind, decides to bite the bullet and 'limit the mind to occurrent, conscious states and processes'. As she writes, 'some internal (standing) beliefs and (nonconscious) cognitive processes are non-mental.'

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[20] Moreover, notice how Clark and Chalmers' criteria are designed to capture precisely this aspect of our phenomenology.

[21] A similar story can be said with respect to second person knowledge attributions. Say someone asks: 'Do you know what time the epistemology reading group starts?', and you reply: 'I am sorry, I don't, but Helen does, why don't you give her a call?'. It seems natural to say that Helen 'knows', even though she is probably not currently entertaining the thought in question and thereby is not, according to epistemic presentism, in a position to know. The reason, according to the above line of thought, is that, were we to ask her, she would have immediate access to the corresponding information, *as if* she knew it all along.

This may sound close to epistemic presentism, but it is not. Contrary to Gertler's view, the proponent of epistemic presentism is not committed to identifying the whole of the mind with consciousness. While the epistemic presentist insists that one only has occurrent *beliefs* in the present (denying in effect the existence of dispositional ones), there is no reason to deny that nonconscious dispositions to believe (and other nonconscious cognitive processes) can be proper parts of one's cognitive system. In order to block the knowledge bloat worry, which is based on our intuitions on what one may believe, all that is required is to rule out the possibility of dispositional *beliefs* (extended and non-extended alike).[22] Cognition, however, does not need to be confined in what is presently occurrent or within our heads. Accordingly, there is no reason to claim that dispositions to believe can't be parts of one's character and mental repertoire—even if, under the appropriate conditions, some of them may extend in space as well as in time.

6. OBJECTIONS AND CLARIFICATION

Let us then consider some possible objections, the answer to which may help us understand what epistemic presentism entails and what not. To start with, a threatening worry is that accepting epistemic presentism actually amounts to rejecting common-sense functionalism. Proponents of the latter view after all appeal to 'dispositional beliefs' rather frequently, such that denying their existence would seem like going against the letter of common-sense functionalism.

Despite its force, it is not hard to dispel this initial objection. To do so, we only need to remind ourselves that common-sense functionalism, as a general approach to philosophy of mind, holds that mental states and processes are just those entities, with just those properties, postulated by our everyday common-sense folk psychology. As

[22] An anonymous referee worries about my appeal to intuitions with respect to what one may believe. Specifically, by treating the view that there are dispositional beliefs as an intuition makes it easier to abandon it. Instead, if we treated the existence of dispositional beliefs as an empirical hypothesis, then the view would not be as easy to abandon on the face of epistemic presentism. In response, there are two reasons why the existence of dispositional beliefs may be seen as an intuition. First, given the current state of cognitive science, which is nowhere close to explaining the nature of dispositional beliefs, their existence, at least for the time being, is precisely that—an intuition. Secondly, due to eliminative materialism (see for example Churchland 1981 and Churchland 1986), dispositional beliefs might only be part of our intentional stance (Dennett 1989). According to this view, dispositional beliefs can only be seen as conceptual abstractions, which 'though real are not candidates for straightforward reduction or elimination as the result of cognitive science research' (Ramsey 2016). Accordingly, the existence of dispositional beliefs may fail to qualify as an empirical hypothesis, even in principle. Whether eliminative materialism is true such that we would have to resort to the intentional stance or whether the existence of dispositional beliefs could one day count as an empirical hypothesis, the aim of the present paper is to demonstrate the viability of epistemic presentism as an alternative to the view that dispositional beliefs exist—either as an alternative intuition in the logical space of our conceptual analysis of common-sense functionalism or as an alternative full-fledge empirical hypothesis (depending on whether eliminative materialism is true or false).

anyone's everyday interactions with friends and relatives may testify, however, 'dispositional beliefs' is a concept that no layperson ever appeals to. Dispositional beliefs is a technical term (perhaps first introduced by the dispositional theory of belief (Braithwaite 1932-3)) that forms no part of our common-sense, folk psychology.[23] Accordingly, denying the existence of dispositional beliefs—as the epistemic presentists do—cannot really count as a rejection of common-sense functionalism itself.

Nevertheless, apart from this general worry with respect to the compatibility between epistemic presentism and common-sense functionalism, there might be a more technical concern, which has to do with the specific functional role that occurrent and dispositional beliefs are supposed to play. The functional role of beliefs, in general, is to cause and explain action. Specifically, beliefs, in conjunction with desires, rationally explain an agent's actions, where an agent's actions may be physical as well as mental (as in the case where one's belief that *p* leads one to form the further belief that *q*). As far as occurrent beliefs—or, according to epistemic presentism, beliefs *simpliciter*—are concerned, there should be no problem. So long as a belief is presently occurrent, the causal relation between the agent's belief, desires and actions (whatever that might be) will be the same both for opponents and proponents of epistemic presentism. In order for there to be a tension between the two views, opponents of epistemic presentism must further claim that, sometimes, a *number* of beliefs—way more than the psychological limit on how many beliefs can be occurrent at any given moment—can have an effect on our actions. In other words, opponents of epistemic presentism must claim that dispositional beliefs play a functional role that is similar to the role of occurrent beliefs, such that removing the former from our ontology is going to create a functional hole: What could possibly play *their* role instead?

To respond, the claim that dispositional beliefs can have an effect on action is rather ambiguous, because it is open to the following three interpretations. (1) It may be

[23] It has been suggested to me that the claim that the notion of dispositional beliefs 'forms no part of our common-sense, folk psychology' may be too quick. We often say things like 'she believes that Brazil will win the World Cup', or 'he still believes in Santa Claus' without intending to imply that the subject is thinking about the World Cup or Santa Claus at the moment. While this is certainly true, I fail to see how such sentences demonstrate that common-sense psychology presumes the notion of 'dispositional beliefs' but not the notion of 'dispositions to believe.' Note that these sentences are formulated in the simple present tense, which is used to refer to an action or event that takes place *habitually*. Therefore, the above examples can be interpreted as indicating that whenever the subject is asked or thinks about the relevant matters, she *tends to believe* (in the present) that Brazil will win the World Cup or that Santa Claus exists. In other words, such sentences cannot vindicate the inclusion of 'dispositional beliefs' over 'dispositions to believe' in our common-sense psychology and claiming so would, in the face of epistemic presentism, beg the question. The common-sense functionalist status of 'dispositional beliefs' could only be established on the basis of expressions such as 'she *dispositionally believes* that Brazil will win the Wold Cup.' I have never heard of expressions like this.

the strong claim that dispositional beliefs (along with the relevant desires) guide actions *directly*; (2) it might be the weaker claim that dispositional beliefs have an *indirect* effect on the agent's actions by acting as the *background* against which the agent's occurrent beliefs take their *shape from*; and (3) it might be the still weaker claim that dispositional beliefs can *indirectly* affect an agent's actions by *disposing* the agent to act in certain ways (provided, of course, that the relevant desires are also present).

If it is the third and weakest claim, then we can simply follow Audi who, as we noted above, suggests that dispositions to believe can explain action equally well as dispositional beliefs. Specifically, we may claim, dispositions to believe can explain and be responsible for subsequent actions not by causing them *directly*, but by 'priming' or 'attracting' the agent to a space of possible occurrent beliefs and the actions that *these* beliefs may lead to. This is a space that is idiosyncratic of *that* specific agent and it is shaped precisely by what that agent is disposed to believe.

This much, of course, should be relatively uncontroversial. But what about the stronger claims? Admittedly, claiming (1)—that dispositional beliefs can have a *direct effect* on action, in pretty much the same way that occurrent beliefs do—is going to be rather puzzling for the epistemic presentist, who denies the existence of such dispositional beliefs. Nevertheless, it is not easy to see how the opponent of epistemic presentism is going to fare any better. How exactly can a belief—that is not presently occurring—guide an agent's actions *directly*, there and then?

Perhaps, what the proponent of dispositional beliefs has in mind is not claim (1) but claim (2)—that dispositional beliefs guide actions *indirectly* by acting as the background against which the agent's occurrent beliefs are formed, and from which they also take their shape. If that's what the claim amounts to, however, then it seems that the most promising way to accommodate it is not going to provide an argumentative edge to either proponents or opponents of epistemic presentism.

I am referring to Brandom's semantic inferentialism (2008), according to which the meanings of our propositional attitudes are derived by a web of inferential *commitments*, in a web of other propositional attitudes. For example, believing that there is a falafel in one's dish, commits one into believing that the dish is vegetarian, which in turn commits one into believing that the dish has no meat in it... which further commits one into believing that it contains no rabbit, duck, beef, pork and so on.

Accordingly, we can use Brandom's view in order to demonstrate how one's background propositional attitudes (no matter whether they are dispositional beliefs or

mere dispositions to believe) can strongly affect one's actions, even if not in a direct way. For example, one who presently believes (1) that eating animals is wrong and (2) that the dish in front of him is venison may refrain from eating what he has been served on the basis of just these two occurrent beliefs. If Brandom is correct, however, the content of the agent's occurrent beliefs, which also determines their effect on his subsequent actions, is also informed and guided by the following two *inferential commitments* (amongst others): (1) That venison comes from deer and (2) that deer are animals. In other words, according to Brandom, propositional attitudes are 'nodes' in a wider inferential structure and their content as well as the kind of actions they can lead to depend on their position within that structure. Crucially, however, Brandom talks about this structure as a web of *commitments*, without specifying whether such commitments are supposed to be dispositional beliefs or mere disposition to believe. Accordingly, in order to account for how dispositions to believe—though not beliefs themselves—may have a strong, *yet still indirect,* effect on one's actions, it is open to the epistemic presentist to incorporate Brandom's view into her own, in the same way that the proponent of dispositional beliefs may have to do, in order to address the same concern with regards to dispositional beliefs. According to Brandom's semantic inferentialism, mentally available propositions can have an *indirect* yet pervasive effect on one's (occurent) beliefs by acting as the structural background against which those beliefs are formed and take their content from.

Of course this is not to say that epistemic presentism is necessarily committed to semantic inferentialism. Perhaps there can be alternative ways to explain how propositional attitudes other than the ones that are currently believed can have an indirect effect on one's actions. But if one wants to explain how actions can be *indirectly* motivated by more than just what one presently believes, then it is open for one to employ semantic inferentialism, independently of whether one is an epistemic presentist or not.

It appears then that epistemic presentism is in a position to deal with most functionalist worries. Before concluding, however, it is important to clarify one last point concerning the functional profile of beliefs. Since all conscious beliefs are also occurrent, why not simply claim that beliefs can be only those propositional attitudes that we are conscious of? As tempting as this suggestion may be, the answer is that even though some occurrent propositional attitudes are unavailable to consciousness, some of them may still qualify as beliefs or even knowledge. For example, consider Armstrong's (1968)

claim about driving absentminded: Most of us at some time have had the rather unsettling 'experience of 'coming to' after having been driving on 'automatic pilot', while our attention was elsewhere directed—perhaps having been day-dreaming or engaged in intense conversation with a passenger' (Carruthers 2016). But, while we were not conscious of most of our experiences related to driving, it would be strange to claim that we did not know that the traffic light was red in all these crossroads that we stopped or that it was green when we kept going. If anything, these *were* reliable beliefs that did guide action *directly*, even if nonconsciously so.[24] It seems, therefore, that our beliefs may be occurrent even if nonconscious, and epistemic presentism should be clearly distinguished from the stronger claim that all beliefs must be consciously entertained.[25]

So, how does epistemic presentism understand the difference between the functional role of beliefs and that of dispositions to believe? One easy response, which has been assumed from the very beginning, is that beliefs are *presently occurring*, whereas dispositions to believe are not. But what does it really mean for a belief to be presently occurring?'

The preceding discussion indicates the following: Independently of whether a proposition is consciously entertained or not, it may only count as presently occurring—and thereby as *a belief*—if and only if it can guide an agent's actions *directly*, there and then. This is what is required from a proposition *p* in order for the corresponding agent to come to know another proposition *q,* when *q* is known to be entailed by *p*; it is also what is required from an agent's reasons *R* with respect to a proposition *p* in order for the agent to be doxastically as opposed to merely propositionally justified in holding *p*;[26] likewise, it allows a driver to count as knowing that the light was green even if the driver had never been consciously aware of it; and, returning to the puzzle we opened with, it also provides a promising way for retaining common-sense functionalism in the face of the 'epistemic bloat' worry.[27]

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[24] Moreover, in relation to the above discussion on semantic inferentialism and the effect of beliefs and dispositions to believe on guiding action, such actions may be driven by a number of mentally available proposition such as that 'there is a highway code'; that 'all drivers should respect the code'; that 'according to the code, drivers should stop at red lights and pass with green lights', etc. According to epistemic presentism, however, such propositions can only count as dispositions to believe, as it would be implausible to claim that they *directly* guide our actions, every time we sit behind the wheel. Instead, the only beliefs that seem to have a direct effect on driving behavior are beliefs such as 'the light is green' or the 'light is red'—even if they are only subconsciously entertained.

[25] Allowing nonconscious occurrent states to count as beliefs is another significant difference between epistemic presentism and Gertler's (2008) view, which limits the mind to what is strictly conscious.

[26] Here we must not forget that drawing an inference on the basis of a belief is just another form of (mental) action.

[27] In closing, we can offer one more point in favor of epistemic presentism: Avoiding treating knowledge (and beliefs in general) as dispositional mental states seems to also be in line with the general approach of virtue reliabilism within contemporary epistemology. For reasons having to do mostly with Gettier cases and the value of knowledge (see Pritchard 2010a, §2.4; Pritchard 2010b; Greco 2008, Greco 2010) virtue reliabilists treat knowledge as a cognitive achievement. Ontologically speaking, Mourelatos (1978) has argued that achievements fall under the topic-neutral

6. CONCLUSION

Common-sense functionalism appears to overextend our knowledge, unless we accept epistemic presentism—unless, that is, we are willing to hold that there are only presently occurrent and no dispositional beliefs. This is a provocative move, and some would rather give up common-sense functionalism instead. On further reflection, however, epistemic presentism may not be as counterintuitive as one may have initially thought, it can be motivated on entirely independent epistemological grounds and it also has the resources to deal with several demanding challenges that may be launched against it.

ACKNOWLEDGEMENTS

I am thankful to Duncan Pritchard and Jesper Kallestrup for comments on a previous draft of the paper. I am also thankful to two anonymous referees for *Philosophical Psychology*. This paper was partly produced during a postdoctoral fellowship for the AHRC-funded 'Extended Knowledge' research project (AH/J011908/1), which was hosted at Edinburgh's *Eidyn* Research Centre.

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category of 'occurrences' (or 'processes' by (Joos 1968)), which contrasts sharply with the category of 'states' (422-424). In this sense, epistemic presentism's denial that beliefs and knowledge are mental states combines well with virtue reliabilism.

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