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Preservationism in Memory

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ABSTRACT

Preservationism in the philosophy of memory is dead, according to many. This opinion is not ill-founded. It appears to be justified both by common sense and by empirical psychology. But in what follows we explain how and why an independently motivated form of preservationism, modal preservationism, survives.

1 | Preservationism and Its Discontents

There is a folk idea about the role of memory in our cognitive economy according to which memory functions a lot like a personal library: you can only get out what you put in, and without added content the quality of what is available never improves over time. In less metaphorical terms, the idea is that memory can preserve contentful mental states, and it can also preserve the epistemic standing of those states, but memory never generates new contentful mental states, nor does it improve on the epistemic standing of existing mental states.¹

The following thesis captures the epistemological aspect of the preservationist idea. Let “ t_1 ” and “ t_2 ” be variables with the relational constraint that t_1 is a moment of time that occurs before t_2 .²

Basic Preservationism (BP): Necessarily, if S justifiedly believes (knows) that P at t_2 on the basis of an exercise of her memorial abilities, then this is in part because: at t_1 S justifiedly believed (knew) that P through the exercise of some other, non-memorial cognitive ability.³

According to BP, your memorial abilities at most preserve the epistemic relation you stand in towards P. So, if you justifiably believe (know) P at t_1 , then memory can at most preserve that status. Thus, if you fail to justifiably believe (know) that P through, say, the use of your perceptual abilities at t_1 , then your memorial abilities cannot *themselves* improve the epistemic relation you stand in towards P at t_2 .

Traditionally, preservationism was understood as a position about semantic memory—our memory of facts and general knowledge. In recent years, however, the debate has shifted: preservationism is now commonly framed in terms of episodic memory, which involves the recall of personal experiences. This shift is crucial to recognize, as some of the objections to preservationism discussed later are not applicable to the semantic case (Senor 2019, 142–3). That said, for the sake of continuity with the existing literature, we adopt the common convention of treating preservationists across eras as if they were addressing a unified target.⁴

What sets BP apart from similar formulations of the “Preservation View of Memory” as presented by Lackey (2005: 637) and Senor (2007, 200) and Senor (2019, 132) is that it treats the fact that, at t_1 , S justifiedly believed (or knew) that P through

the exercise of some non-memorial cognitive ability as a (partial) explanation, rather than a necessary condition, for S justifiably believing (or knowing) that P at t_2 based on her memorial abilities. The “because” in BP has been understood by some in terms of inference to the best explanation, which remains neutral among different models of explanation (such as the deductive-nomological model, causal explanation, unificationism, etc.) while being compatible with any of them (Cabrera 2020). BP has suffered a relentless march of counterexamples from both common sense and empirical psychology of memory. In Section 2 we quickly introduce the commonsense pressure that Lackey puts on preservationist theses. We show that a modest revision of BP survives her counterexamples as well as internalism about justification. Section 3 discusses some results from empirical psychology, results which seem to make preservationism unrecoverable in any form. Section 4 demonstrates that preservationism is surprisingly resilient. For there is at least one independently well-motivated way of being a preservationist that survives all existing objections to preservationism.

2 | Preservationism's Present State I: Common Sense

To see where Basic Preservationism goes wrong consider a case from Lackey (2005, 650):

The Inattentive Driver: While driving to work, Clifford sees signs, trucks, and other objects engaged in construction on the road, but because his attention is elsewhere, he doesn't come to believe (C) *that there is construction on the road*. The visual information about the construction on the road is processed and stored in a non-doxastic (image-like) format. Yet later, when asked by a friend whether there is construction on the road, Clifford comes to believe by memory that there is construction on the road. Given that belief is a necessary condition for justified belief (knowledge), Clifford acquires a new justified belief (knowledge) that (C) when he recalls what he saw while driving.

Lackey's case is clever. It shows that it's possible to form a belief in P on the basis of *experiential* memory at t_2 , and for experiential memory to justify that belief, even though one did not believe P at any earlier time t_1 . This refutes Basic Preservationism.

Nevertheless, preservationists are right to quibble with the idea that Lackey's case refutes what lies at the heart of preservationism. For it's obvious that Clifford's t_2 belief that (C) is only justified by his experiential memory of his perceptual experience *because* he was *already* in a position to form a justified belief (and know) (C) at t_1 through the exercise of his perceptual abilities. So, when it comes to the epistemic statuses of *having (propositional) justification to believe* and *being in a position to know*, preservationists can easily argue that Clifford's memory is preserving an epistemic status that perception had already put in place. In this way, the generative role of Clifford's experiential memory appears to be primarily *psychological*, relating to memory's ability to help *bring about a belief* in what perception had

already justified and put him in a position to know. Thus, as Senor (2007, 205–208) observed, preservationists would be right to note that memory has not yet been shown to be *epistemically* generative. Thus, the following preservationist thesis remains untouched:

Prima Facie Preservationism (PFP): Necessarily, if S justifiably believes that P at t_2 on the basis of an exercise of her memorial abilities, then this is in part because: at t_1 S already had *prima facie* justification to believe that P through the exercise of some other, non-memorial cognitive ability.⁵

The basic idea PFP expresses is that memory is *preservative with respect* to the epistemic status of *prima facie* justification.

What is *prima facie* justification? Definitionally, S has *prima facie* justification to believe P just in case: S has reasons to believe P that would give S sufficient reason to believe P in the absence of defeaters. Note that having *prima facie* justification to believe P does not require that one actually believe P. It merely indicates that one is *in a position* to form a justified belief if defeaters are absent. *Prima facie* justification is often contrasted with *ultima facie* justification. To have *ultima facie* justification to believe P is to have *prima facie* justification *and* the absence of defeaters, in which case one has sufficient reason to believe P (Senor 1996, 2007, 2019, 138–41).⁶

PFP fares well relative to Lackey's counterexample involving Clifford's stored experiential memory. Since Clifford's original perceptual experience furnished him with a strong reason to believe (C), and his memory simply stored that perceptual reason.⁷

But PFP has other problems. Internalists have introduced challenges that impact both BP and PFP. For internalist theses about justification are hospitable to the idea that mental states can justify beliefs even if they are radically untethered to the world.⁸ For example, internalists tend to hold a view of justification on which Clifford can have a justified memorial belief that is produced by a merely apparent memory (produced by the memory system) that is itself a result of brain injury, confabulation, drug use, etc. Thus, according to internalism, it doesn't matter whether there is a prior time t_1 at which one had non-memorial *prima facie* justification to believe P. If correct, both BP and PFP are false as far as justification is concerned.⁹

Nevertheless, there are interesting limitations to internalism's ability to refute preservationist theses. For example, take a preservationist thesis that is concerned with *knowledge-level justification*, that is, justification (construed internally or externally)¹⁰ that puts one in a position to know:

Knowledge-Level Preservationism (KLP): Necessarily, if S is in a position to know that P at t_2 on the basis of an exercise of her memorial abilities, then this is in part because: at t_1 S was in a position to know that P through the exercise of some other, non-memorial cognitive ability.

Talk of “justification” is absent in KLP, but it can be introduced with a bridge principle: one is never in a position to know P unless one has knowledge-enabling justification to believe P. Notice that the internalist objections to PFP imagined above do not gain traction against KLP since unreliable, merely apparent memories as of past perceptual experiences of P cannot help put one in a position to know P. They are, one and all, gettier cases at their best.

Taking stock of the dialectic: we have seen no reason to reject PFP conditional on externalism, and we have seen no reason to reject KLP conditional on either internalism or externalism.

Unfortunately, empirical psychology seems to offer a death blow to both PFP and KLP, and it does this whether or not one takes an internalist or externalist view of justification. To simplify exposition, we will assume a broadly reliabilist theory of justification in what follows. We will also, for the most part, set explicit discussion of KLP to the side. Since once we assume a broadly reliabilist theory of justification, KLP and PFP become similar enough that the empirical objections to PFP below also function as objections to KLP.

3 | Preservationism's Present State II: Empirical Psychology's Constructivism Challenge

Constructivism in psychology has it that there are inferences taking place within episodic memory that give rise to knowledge-level justified beliefs. If this is so, then it is not correct to say, as PFP and KLP do, that a memory-based belief can be knowledge-level justified only if it was already *prima facie* knowledge-level justified *due to a source other than memory*. For this reason, some see little hope for preservationism in any form (Michaelian 2011; Bernecker and Grundmann 2019).

Constructive memory processes can be taxonomized along three dimensions. The first dimension concerns the question of whether the process eliminates information or whether it adds information that was not contained in the original input. The second dimension distinguishes constructive processes according to the stage in the memory process at which they occur. The elimination or augmentation of information can take place at the encoding stage, the storage stage, or the retrieval stage. The third dimension concerns the truth or reliability of the ostensible memories the constructive processes give rise to.

Often constructive memory processes give rise to states of recall that only appear to be genuine memories but are false. A case in point is the *false recognition* phenomenon, where a subject claims to recognize as familiar an object, face, word, or scene that is in fact novel (Roediger and McDermott 1995). Other examples are retrospective bias and confabulation. *Retrospective bias* is at play when stored information is transformed to render it consistent with present beliefs. For example, research indicates that people currently displeased with a romantic relationship tend to have a disproportionately negative take on past states of the relationship (Schacter 2001, 138–160). *Confabulation* occurs when people produce entirely fictional stories that fill in gaps in their memories (Bernecker 2017).

What is particularly interesting for our purposes is that there are constructive memory processes that give rise to states of recall that are *non-accidentally true*. These processes work in either of two ways. Some such processes eliminate parts of the encoded information; others add information that was not contained in the original input. Examples of the former type are leveling and memory for gist. Examples of the latter kind are boundary extension and observer memory.¹¹ Let us examine these processes in turn.

Leveling and its counterpart, *sharpening*, are automatic processes that occur during recollection. Leveling results in the *omission or attenuation* of minor details and distinctions, the condensation of elements, and the general simplification of the stored contents. Sharpening, on the other hand, occurs when remembered details are embellished, and their significance is exaggerated.¹²

Leveling and sharpening are usually portrayed as a kind of memory distortion where the retrieval process is corrupted by expectations due to cultural schemas (Bartlett 1964). Sometimes, however, the loss of detail makes it less likely that the attenuated memory belief is false. Given the broadly reliabilist conception of justification presupposed, a decline in error possibilities entails an increase in *prima facie* justification. For reliabilism claims that someone's belief in P is *prima facie* justified if and only if it is produced by a cognitive process that has a tendency to produce a high percentage of true beliefs. Thus, there are cases of leveling where the subject's original belief was not justified but where her corresponding memory belief is justified due to the content attenuation at retrieval (Bernecker and Grundmann 2019, 529).

Sometimes we remember not specific episodes but generalities—the *gist*—across related experiences. For example, you may remember that in your youth you frequently went to the movies, but you are unable to remember any of the films you saw. Gist memory persists or even improves over time while memory for the individual items from which it is built fades (Posner and Keele 1970; Richards et al. 2014; Schacter et al. 2011).¹³

At times, we remember having seen more of a scene than was present in the physical input by extrapolating beyond the borders of the original stimulus. This is called *boundary extension*. It is a robust and consistent effect found in adults, children, and even babies (Hubbard et al. 2010; Intraub and Bodamer 1993). Boundary extension is classified as a source memory error (Lindsay 2008). People misattribute information that they generated internally while viewing a scene (or after viewing it) to the scene itself (Munger and Multhaup 2016). Even though boundary extension is a memory error, extended scenes tend to be accurate in that: had one seen a wider angle of the scene, one would have seen what one now claims to remember having seen. Thus, if we put the focus on scene construction rather than source monitoring, boundary extension is a remarkably reliable process (De Brigard 2014, 177–8; Fernández 2019, 196–7; Michaelian 2011, 325–6; Mullally et al. 2012). As such, boundary extension is a way in which memory can be epistemically generative.¹⁴

Memory cannot only include a wider angle of a scene than was observed at the time, but also depict a scene from a

perspective other than the one from which one experienced it. Psychologists distinguish between field and observer perspectives in autobiographical memory (Nigro and Neisser 1983; Rice and Rubin 2011). The field or first-person perspective is such that one relives the events through one's own eyes, as if one were looking outward, re-experiencing the events once again. Alternatively, one can, both voluntarily and involuntarily, adopt a third-person or observer perspective, so that one "sees" oneself as an actor in the recalled scene. Like boundary extension, *observer memory* is a widespread and well-established phenomenon.

There is no evidence that the shift from field perspective to observer perspective reduces the accuracy of the subsequent recall. This is why the British Psychological Society notes in a report on legal guidelines on memory that an "image experienced from a field perspective should not be assumed to be a more accurate recollection than an image experienced from an observer perspective" (2008, 20 cited in Dranseika et al. 2021, 2). The encoded content is richer than is normally acknowledged; it includes not only egocentric but also allocentric information (McCarroll 2018). The bottom line is that observer memory can generate *prima facie* knowledge-level justification.

Neither PFP nor KLP can tolerate reliable constructive memory processes. For if memory is both constructive and reliable, it can produce new knowledge and new justified beliefs that were never possessed by the agent at *any* prior time, t_1 . This suggests a modest inductive inference: *there is no true, theoretically valuable preservationist thesis to be had in the philosophy of memory.*

4 | Preserving Preservationism

It is very difficult to see how any preservationist thesis could be true in light of the constructive processes that our memory systems engage in. For as soon as we grant that memory can reliably generate new representational content by exercising computational processes that are internal to it, memory is virtually by definition a generative source of justification and knowledge.

We do not deny the actuality of, and certainly not the possibility of, constructive memory processes. Yet there remain preservationist theses that avoid all of the above counterexamples. To understand the motivations for the preservationist thesis to be provided, it helps to first reflect on the nature of *abilities*. Following Ernest Sosa (1993, 2015), we conceive of abilities as dispositions or capacities to reliably achieve certain outcomes when conditions are appropriate. Abilities are linked to the performance of specific tasks under normal conditions, emphasizing the agent's control and competence in achieving success.

What is important in this context is that abilities are normatively significant modal properties of agents. Think of Singer's (2009, 3) bystander who is morally required to ruin his shoes to save a drowning child. He is morally required in part *because* he has an ability to save the child from drowning. And this moral fact depends not on his *actual actions* but on actions he is *able to perform*. Indeed, it is this modal property that seems to be in part responsible for the moral fact that the bystander is required to save the child.¹⁵

Just as the bystander's physical abilities play a role in fixing certain moral features of his situation, an agent's cognitive abilities can play a role in fixing epistemic features of her situation. And this does not itself depend on any *actual* exercise of one's memory system, just as the moral features of the bystander's situation did not depend on whether or not he *actually* exercised his ability to save the child.

With these reflections in the background, consider the following:

Modal Preservationism (MP): Necessarily, if by an exercise (manifestation) of one's memory system S comes to justifiedly believe (know) that P at t_2 , then this is at least in part because: at t_1 S already possessed a *memory-based ability to justifiedly believe (know) P at t_2 .*

Three things to note about MP. First, the "at least in part" qualification is important as it is often our memory system *plus* other cognitive modules—like perception—that explains how and why we come to justifiedly believe (know) P via an exercise (manifestation) of our memory system at a time, t_2 . For example, visual *recognition* knowledge depends in part on perception and in part on remembered categories/profiles. That said, the "at least in part" qualification also indicates that memory *could* produce justified beliefs (knowledge) apart from the assistance of other cognitive modules, for example, perception.

Second, the "manifestation" condition is distinguished from an "exercise" condition in that there can be *exercises* of a reliable ability that lead to truth only via a deviant causal chain. *Manifestations* are exercises of an ability that exclude deviance. For this reason, manifestations are required for knowledge, while mere exercises which permit deviance preclude knowledge. That said, it is generally held that mere exercises can produce justified beliefs even if they fall short of knowledge. The language of "exercises" and "manifestations" is most suited to virtue reliabilism and its emphasis on reliable *abilities*.¹⁶ But other externalists maintain that reliable knowledge-generating *processes* can be engaged in circumstances where a true belief is produced in a deviant way. In such cases, one's belief is not knowledge, as knowledge precludes deviance (Goldman 2012, Ch 3). Readers who would prefer not to use the terms "exercise" and "manifestation" are welcome to revise MP as they see fit so long as memorial knowledge is only produced when deviant causal chains are absent.

Third, time t_1 must precede time t_2 , but it need not be identical with the point in time at which encoding takes place. T_1 can refer to some time between encoding and retrieval. This is important to keep in mind because S may not possess at the time of encoding the very memory-based ability that allows them to justifiedly believe (know) P at t_2 . Sometimes the memory-based abilities required to justifiedly believe (know) P at t_2 are enhanced or modified after encoding and before retrieval.¹⁷

MP is unthreatened by the constructive nature of memory processes. The constructiveness concerns *the (possibly sub-personal) abilities that our memory systems afford us*. And every counterexample discussed involving the constructiveness of memory

involves exercises of memory's ability to produce new justified beliefs (or knowledge) in cases where the memory system didn't previously possess that justified belief (knowledge).

In what sense is MP "preservationist" in these cases? MP is obviously not preservationist about the previous possession of *actual justified beliefs* (knowledge). It is preservationist about previous *prospectively justified beliefs* (knowledge); that is, the justified beliefs (knowledge) that an agent *previously possessed an ability to acquire*. In this way, it is a distinctively modal thesis.

5 | Objections and Replies

In this final section we consider two objections generativists about memory might raise against MP.

One worry is that MP is trivial because it applies to any source of justification (knowledge), regardless of whether it is generative or preservative. Consider, for example, perception, an epistemic source that is clearly generative. Does my coming to know by perception at t_2 depend in part on my exercising a perception-based ability to know at t_1 ? The answer is clearly "no." First, I cannot have exercised the ability to perceive an event in which P *before* the event occurred. Since before the event occurred, it was not perceivable. Second, even if we perceive things not as they are right now but how they were split a second ago because it takes time for the signals from those things to travel across space and to be processed in the brain, one need not have had the perception-based ability to know that P in the past to have it now upon perceiving the event in which P occurs. For my very ability to know that P *by perceiving* the event in which P depends upon my act of perception, which cannot occur before either the event in which P occurs or before my modestly delayed act of perceiving it.

Here's the other worry. Should we continue to care about preservationism if we've had to take it modal? Yes. *First*, MP is a true, counterexample-surviving preservationist thesis that is neither trivial nor riddled with disjunctions to avoid the counterexamples above. Note how MP evades Inattentive Driver. Clifford comes to know (justifiedly believe) (C) at t_2 , but this was itself an outcome of an ability stemming from Clifford's memory system that he already had at t_1 . Now take the counterexamples stemming from the constructive nature of memory. To say that memory is constructive in the ways noted above is just to say that memory confers *an ability* to justifiably believe (know) things *at later times*. And when this ability is exercised (manifested) in a way that actually yields justified beliefs (knowledge) at t_2 , this was because these memorial abilities were possessed and activated at some earlier time, t_1 . MP just has no difficulty with memory's constructiveness. MP is also unthreatened by Bernecker and Grundmann's (2019, 529) counterexamples from forgetting. They argue that forgetting perceptual details of a scene over time can generate *a reliable ability to draw conclusions* about certain features of one's past environment, which when exercised yields justified beliefs. But this entails the satisfaction of MP's antecedent and consequent. So, it is no counterexample to MP.

Second, MP demonstrates a desirable structural parallel between epistemology and ethics: our abilities—even if they are not

used—play a role in fixing the normative features of our situation, be they epistemic or ethical.

Third, even if the structural parallel is rejected, many epistemologists have argued that it's the facts that we have *the potential* to access (whether or not this potential is actualized) that are of normative significance for belief and action. You can, Errol Lord (2018, Ch 3, 4) argues, correctly criticize me if I was merely in a position to know P and P made a decisive difference to what I ought to have done. It does not matter whether I actually knew P. Nor does it matter which cognitive system—for example, memory—I would have had to employ to know P. Many others agree.¹⁸ We should not, of course, conflate *being in a position to know* and *having the ability to know*. But whenever we are in a position to know this is *because* we had that ability. Conditional on these observations, we cannot properly understand the normative situation of an agent at t_1 unless we understand what they have the ability to justifiedly believe (know) at t_2 by exercising one of the generative activities of memory noted in Section 3.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The authors have nothing to report.

Endnotes

¹ Proponents of preservationism about epistemic status include Audi (1997, 410), Burge (1997, 47 n14), Dummett (1993, 420–1), Goldman (2009, 323), Huemer (1999, 349), Jackson (2011, 569–70), Malcolm (1963, 230–1), Owens (2000, 156), and Plantinga (1993, 61 n22).

² Where "time" refers to Lewis' (1976) *personal time*, that is, the sense of "time" that tracks the causal ordering of events, an order which is not reversed in "standard" cases of time travel.

³ Conditionals of the form "If P, then P in part because Q" indicate that P requires Q, and that Q partially explains why P obtains. But it stops short of indicating that Q is solely or always sufficient for P.

⁴ We owe this point to an anonymous referee.

⁵ The idea that the preservationist insight can be formulated in a way that makes it immune to Lackey's objection by introducing the distinction between *prima facie* and *ultima facie* justification is owed to Senor (2007, 2019, 136). The idea has recently been reiterated by Miyazono and Tooming (2023a, 2023b) and Tooming and Miyazono (2024).

⁶ As we understand it, *ultima facie* justification is what others call "undefeated propositional justification" as it's often defined in terms of having sufficient reason to believe p (Silva and Oliveira 2022).

- ⁷ Furthermore, a principle like PFP fares well against Lackey's (2005) additional counterexamples involving forgotten defeaters and defeated defeaters since *prima facie* justification is the sort of thing you can have in the presence of defeaters (Senor 2007, 205–208).
- ⁸ Audi (1995: 37), Brogaard (2013), Conee and Feldman (2004), Pollock (1974, 193), Russell (1995, ch 9), Huemer (2007), and (with reservations) Schroer (2008).
- ⁹ As a referee has pointed out to us, while these challenges to preservationism have typically been cast as challenges arising from stances on the internalism/externalism debate, they are arguably more fundamentally associated with stances on the time-slice/diachronic debate about justification. For more on this see Hedden (2015) and Podgorski (2017).
- ¹⁰ If knowledge requires justification, then both internalism and externalism about justification imply that: if at t S has memorial knowledge that p due to acquiring justification at some prior time, then at that prior time S was in a position to know p in part because of that justification, irrespective of whether that justification was an accessible mental state or something else that externalists would be keen to identify as a source of justification.
- ¹¹ Toming and Miyazono (2024) take the phenomenon of event completion to also undermine preservationism. "Event completion" refers to our mind's tendency to fill in missing details of an incomplete or interrupted series of events, creating a coherent narrative or memory of the whole event. For event completion see Kominsky et al. (2021) and Strickland and Keil (2011).
- ¹² The notion of leveling was introduced by Gestalt psychology (Gardner et al. 1959; Gardner and Lohrenz 1960).
- ¹³ Gist memory is said to be responsible for the Deese-Roediger-McDermott (DRM) paradigm in which distinctive encoding of list items typically reduces false recognition of critical lures relative to a read-only control (Pardilla-Delgado and Payne 2017).
- ¹⁴ Gottesman and Intraub (1999) explain boundary extension as the result of activating perceptual schemas that represent the probable layout of the perceived scene. Nanay (2022) explains boundary extension in terms of the use of mental imagery to complete the parts of the scene just outside the boundaries of the picture and the transferring of the resulting hybrid perception/imagery representation to memory.
- ¹⁵ How could we reasonably think the bystander is morally required to save the child if he lacked the ability to do so? Maybe he would be morally required *to try* even if he lacked the ability to save the child, but this presupposes that he has another ability, that is, the ability *to try*. There is, of course, a lively debate to be had on the underlying "ought-implies-can" principle. But this is tangential to our main point that abilities *can* play a role in fixing normative facts.
- ¹⁶ E. Sosa (2015), Greco (2010), Kelp (2018), Pritchard (2018), Silva (2023).
- ¹⁷ For a case in point see Bernecker and Grundmann's (2019, 535–6) zebra counter case: Three-and-a-half-year-old Mary is learning to count to five and, while at the zoo, counts three zebras in a pen. Though she believes there are three zebras, her counting skills are unreliable, making her belief accidentally true. Six months later, she becomes proficient at counting to 100 but forgets the exact number of zebras. She remembers there were fewer than 10 zebras and now believes the zoo had fewer than 10 zebras based on memory. Boyle (2019, 244–5) considers a case where a child records information she does not (fully) understand at the time but only later when she recalls the information.
- ¹⁸ Neta (2018), Sylvan (2018), Lord (2018), Simion (2023), and Silva (2023) all argue that the reasons we have are the facts we are in a position to have factive access to. Given the constructive nature of memory processes, we are sometimes in such a position because of memory-based abilities to generate new information.

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