# *Defending Discontinuism, Naturally*

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# Defending Discontinuism, Naturally

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**Abstract**
The more interest philosophers take in memory, the less agreement there is that memory exists—or more precisely, that remembering is a distinct psychological kind or mental state. Concerns about memory's distinctiveness are triggered by observations of its similarity to imagination. The ensuing debate is cast as one between *discontinuism* and *continuism* (Perrin, D in *Seeing the Future: Theoretical Perspectives of Future Oriented Mental Time Travel*, 39–61, 2016). The landscape of debate is set such that any extensive engagement with empirical research into episodic memory places one on the side of continuism. Discontinuists concerns are portrayed as almost exclusively conceptual and a priori. As philosophers of memory become increasingly interested in memory science, this pushes continuism into an apparent lead. The aim of this paper is to challenge this characterization of the (dis)continuism debate—namely, that a naturalistic approach to the philosophy of mind and memory favors continuism. My response has two components. First, I argue for weakening the alignment between naturalism and continuism. Second, I defend a naturalistically oriented, empirically-informed discontinuism between memory and imagination. I do so by introducing *seeming to remember*, which I argue is distinct from other mental attitudes—most importantly, from imagining.

## 1 Introduction

The more interest philosophers take in memory, the less agreement there is that memory exists—or more precisely, that remembering is a distinct psychological kind or mental state. Concerns about memory's distinctiveness are triggered by observations of its similarity to imagination. The ensuing debate is cast as one between *discontinuism* and *continuism* (Perrin 2016). Discontinuism is the more traditional view, according to which memory and imagination are distinct. Continuism, in contrast, is the view that there are no fundamental distinctions to be made between memory and imagination. Additionally, each view

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comes in stronger and more moderate forms, such that discontinuism and continuism exist on something of a continuum. The landscape of debate is set such that any extensive engagement with empirical research into episodic memory places one on the side of continuism. Discontinuists concerns are portrayed as almost exclusively conceptual and a priori. As philosophers of memory become increasingly interested in memory science, this pushes continuism into an apparent lead.

The aim of this paper is to challenge this characterization of the (dis)continuism debate[1]—namely, that a naturalistic approach to the philosophy of mind and memory favors continuism. This claim seems to be broadly accepted, and Michaelian (2016a, 2016b) —a continuist—defends it explicitly. Specifically, Michaelian identifies the individuation of memory systems in cognitive neuroscience as a productive empirical research program well-suited to guiding a naturalist approach to mind and memory. This research program is construed as providing evidential support for continuism and against discontinuism.

My response has two components. First, I argue for weakening the alignment between naturalism and continuism. A naturalist methodology is inevitably pluralist, supporting many successful research programs, not only those that incline in favor of continuism. Correlatively, the evidence offered as a challenge to discontinuism presents a substantial issue for those versions of the view, but is not reflective of a more basic opposition between naturalism and discontinuism. Second, I defend a naturalistically oriented, empirically-informed discontinuism between memory and imagination. I do so by introducing *seeming to remember*, which I argue is distinct from other mental attitudes—most importantly, from imagining. In so doing, I make use of the same naturalist methodology that Michaelian (2016a, 2016b) uses to endorse continuism. In fact, the distinction between remembering and imagining I identify here plays a critical role in the very same research program that is used to promote continuism.

## 2 Framing the Debate

In this section, I offer a brief introduction to the (dis)continuism debate. This debate is difficult to introduce, and even more difficult to enter into, because the terms of the debate are not clear. There are apparent differences between the views that traffic under each label—continuists highlight similarities between remembering and imagining; discontinuists highlight their differences —but whether they are talking about the same mental states or have in mind the same similarities and differences between remembering and imagining is much more difficult to determine. My introduction is framed in terms of these issues.

The debate over memory's relationship to imagination does not involve all forms of memory. Instead, the focus is on a particular form: *episodic memory*, or memory for one's past experiences. Episodic memory differs from other forms of memory not only in its content—being focused on personally-experienced events rather than general facts or skills, as is the case for semantic and procedural memory, respectively—but in how that content is presented to the rememberer. Episodic memories are first-personal

[1] Following the convention set by others who have written on this issue (e.g., Michaelian 2016b), I will use the shorthand "(dis)continuism" instead of repeatedly referring to "discontinuists and continuists" or labeling the debate in terms of one position or the either (e.g., "the continuism debate").

and represented through autonoetic consciousness, allowing the rememberer to (at least sometimes) feel as if they are mentally time traveling back to the event or experience being recalled (Tulving 2002).

Even from this shared focus, discontinuists and continuists think about episodic memory in very different ways. For discontinuists (Perrin 2016; Debus 2014; Fernandez 2017), the focus is on *episodic remembering* as an occurrent mental state. Episodic remembering is generally understood to be factive. That is, the discontinuist hopes to capture all and only cases of successful remembering in their account of episodic memory. Instances of remembering are understood to be importantly different from memory errors (and from imaginative states). The continuist, in contrast, is focused on the *episodic memory system*—the neurocognitive structure that gives rise to episodic memory. While this system will produce the instances of episodic remembering that concern the discontinuist, it will also produce other occurrent mental states, including both unsuccessful cases of episodic remembering and, if the discontinuist is right, other instances of episodic simulation as well.

Although the (dis)continuism debate concerns the relationship *between* memory and imagination, the focus is on memory. There is, in fact, little to no discussion of imagination, nor endorsement of any particular theory or account of our imaginative capacities. Philosophers described as either continuists or discontinuists work primarily on memory. This asymmetry is not due to a lack of substantive or contemporary work on the philosophy of imagination, nor is it the result of an undisputed and widely endorsed theory of imagination. Indeed, philosophy of imagination is a rich, active area of current inquiry featuring a range of competing views on a number of issues (e.g., Kind, A (Ed). 2016). When (dis)continuists debate the similarities and differences between memory and imagination it is unclear whether they have the same sense of imagination in mind.

Finally, the debate between continuism and discontinuism is often characterized as a disagreement over whether the difference between memory and imagination is one of *degree* or one of *kind* (e.g., Michaelian and Sant'Anna forthcoming). Continuists claim that any differences between them are merely differences in degree, while discontinuists argue that the difference is one of kind. The debate is thus focused on the following question: are there fundamental differences between memory and imagination or not? Settling this requires an understanding of which differences are fundamental. There is not, however, an accompanying discussion of the nature of kinds that are at issue, how they are individuated, and what makes them fundamental.[2] Without this, it is difficult to determine whether the two views are arguing with the same set of criteria in mind.

In summary, the (dis)continuism debate is focused on episodic memory, and whether it differs from imagination in kind or only in degree, but with little agreement on (or

[2] (Dis)continuists will likely take issue with the claim just made. In jointly-authored work (i.e., continuists and discontinuists writing together), presentation of the debate is often divided into two forms: *metaphysical* and *epistemological (dis)continuism* (Perrin and Michaelian 2017; Michaelian and Sant'Anna forthcoming). There are versions of the debate concerned with fundamental differences in mental states and other versions concerned with fundamental differences in epistemic achievements, respectively. This may look like precisely the sort of differentiation I just claimed was missing. While sorting (dis)continuism into these two forms is helpful, it is only a first step in the direction of methodological explicitness that I am urging. Going forward, I focus on metaphysical (dis)continuism. Even once it's been established that the question about the relation between memory and imagination is a metaphysical one—concerning the kinds of mental states memory and imagination are and how they're related—more needs to be said about how these mental kinds are being individuated. This is the discussion I am claiming is absent from the (dis)continuism debate.

even discussion of) how episodic memory, imagination, and mental kinds should be understood amongst debate participants. The debate has instead been motivated by a recent spate of evidence from psychology and neuroscience on the relationship between memory and imagination. This gives the impression that a naturalistic, evidence-based approach to this question inclines toward the continuist position. I focus on the connection between naturalism and continuism in the sections that follow, arguing that the move from a naturalist methodology to continuism is less direct than many have supposed and, ultimately, in favor a naturalistic discontinuism between memory and imagination. In doing so, I make frequent references back to this section and the lack of consensus on key terms in the debate.

## 3 Naturalistic Continuism

Michaelian's (2016a, 2016b) continuism begins with a general commitment to a naturalist methodology, from which he goes on to defend the individuation of mental kinds by the neurocognitive systems that support them. In this section, I lay out the argument and evidence provided for this view, starting with an explication of the naturalist framework Michaelian articulates.

Naturalism is a common orientation among contemporary philosophers, although of course "naturalism means different things to different people" (Montero and Papineau 2016: p. 182). Across several publications, Michaelian is explicit about his commitment to naturalism and the way it guides his approach to theorizing about memory (most notably, 2016a, ch. 3). He characterizes his version as a descendant of Kornblith (2002), but with an interest in epistemically significant states beyond knowledge—most especially, memory. The aim of Michaelian's naturalistic project is to identify psychological kinds that are both epistemically significant and empirically tractable. The project is a naturalist one because the relevant kinds are meant to be natural kinds and the methods used to identify them will come from psychology, neuroscience, and other areas of cognitive science where these states are studied empirically. Distinctions are often made between *ontological* and *methodological* naturalism. Michaelian's focus is on the methodological. A naturalist orientation will incline us to adopt a view of mental states that arises from a "demonstrably productive empirical research program" (Michaelian 2016b: p. 67).

For Michaelian, the relevant research program is focused on the neurocognitive level, where psychological states are linked to particular neural mechanisms or neural systems. With regard to memory, Michaelian selects a particular empirically productive research program as the basis of his view: the taxonomy of kinds of memory in terms of *memory systems* (Michaelian 2016a: 18). The memory systems research program is carried out mostly within cognitive neuroscience—an evolving project of aligning the cognitive categories used to study memory in cognitive psychology with particular neural structures or brain regions through neuroimaging studies and evidence from lesion patients with memory deficits (Schacter and Tulving 1994; Schacter et al. 2000). The number and nature of these systems has changed over time, and indeed Michaelian proposes his own re-structuring of the taxonomy, but the focus remains on episodic memory as a kind of memory that is distinguishable from others because of the neurocognitive system from which it is generated.

The move from memory systems to continuism comes via the discovery that the neurocognitive system that supports episodic memory also supports other episodic imaginative abilities. In 2007, this discovery launched a new research topic in memory science: remembering the past and imagining the future share a neurocognitive structure (Addis et al. 2007; Szpunar et al. 2007). *Science* would go on to declare this discovery one of the 10 breakthroughs of the year (*Science* 318: 1848–1849). In the decade since, this discovery has developed into an active research program in cognitive neuroscience, wherein numerous fMRI studies report that episodic memory and self-projection into the future (e.g., imagination and future planning) recruit the same 'core network', including the medial temporal lobes, hippocampus, retrosplenial cortex, medial prefrontal cortex, and the intraparietal lobule (Schacter et al. 2015).

For those like Michaelian who think of kinds of memory in terms of the neurocognitive systems that support it, these discoveries alter the understanding of episodic memory and its relation to other more imaginative episodic capacities. The shared neurocognitive system is conceived of as one devoted to *episodic simulation*—or *episodic hypothetical thinking* or *episodic construction* or *episodic imagination*, depending upon the particular theorist. The general idea across these variants is the same: there is a single neurocognitive system devoted to self-focused (i.e., episodic) event construction, which guides our thinking about what we have done, what we might do, what we could have done, what we are doing, etc. Episodic memory becomes but one form of episodic simulation, on par with other uses of this general self-projective capacity. Remembering the past, imagining the future, and entertaining counterfactuals are parallel abilities. At a certain level of abstraction, each of these processes can be understood as a form of hypothetical reasoning, whereby patterns of information are flexibly combined and recombined to produce the desired representations. These mental states may differ in degree—indeed, each of these episodic simulations produces distinct patterns of activity within the shared neurocognitive system (Benoit and Schacter 2015). But, importantly for the continuist, they do not differ in kind.

The commitment to a naturalist methodology not only offers support for a form of continuism; Michaelian sees it as also providing an argument against discontinuism. Naturalism inclines us to adopt the ontology of successful empirical programs and also gives us reason to abandon ontologies whose distinctions fail to be vindicated by these programs. In this vein, Michaelian advises, "from a naturalistic perspective, we should not draw distinctions between mental states or processes where none is to be found at the neurocognitive level" (Michaelian 2016b: 76). This general commitment creates an argument against discontinuism because of its focus on episodic memory as an occurrent mental state (Perrin 2016; Debus 2014; Fernandez 2017). For discontinuists, episodic remembering is generally understood to be a success term. That is, the discontinuist hopes to capture all and only cases of successful remembering in their account of episodic memory. The states of remembering are meant to be distinct from memory errors (and imagination).

The neurocognitive framework by which memory is investigated empirically, however, is thought to offer no support for this distinction. Several decades worth of research in cognitive psychology have shown that episodic memory errors are both pervasive and persistent (e.g., Loftus 1997). Most disturbingly, these errors are often imperceptible to the would-be rememberer, such that it can feel as if one is genuinely

remembering when they are not. People often report false memories with as much (or more) confidence in their veracity as instances of genuine remembering (Roediger and McDermott 1995). That is, it is often hard to tell—from the inside—whether one is remembering a past experience or only imagining it. This line of research is thought to obviate the discontinuist position because it shows that there is not, in fact, a way for the rememberer herself to distinguish these states successfully.

Going forward, I accept the naturalist framework and methodology that Michaelian has outlined. What I question is whether this approach leads as automatically to continuism as is generally supposed. I divide my exploration of this question into two separate lines of inquiry—and sections, respectively. First, in Section 4, I ask whether the naturalist methodology provides a compelling argument *for* continuism. Then, in Section 5, I ask whether the methodology provides an argument *against* discontinuism. In both cases, I conclude no, setting up the defense of a naturalistic discontinuism in Section 6.

## 4 Does Naturalism Compel Continuism?

The naturalist methodology Michaelian uses to arrive at continuism reifies the distinctions provided by a particular productive empirical research program. The problem with this approach, at least for continuism, is that it isn't the only such program. That is, the naturalist methodology is inevitably *pluralist*. Insofar as this naturalism is directed at our epistemically significant psychological capacities, then work throughout cognitive science is at least potentially relevant (a point Michaelian acknowledges, Michaelian 2016a: 38). Cognitive science is a large, loosely structured interdisciplinary field, with numerous productive empirical research programs that cross-classify and in many cases contradict one another. The tools and concepts used in one area do not always align with those of another. This plurality of perspectives is often thought to be a good thing, critical to the field's productivity and innovation.

That pluralism results from naturalism is unlikely to come as a surprise to Michaelian. He happily acknowledges and endorses a form of pluralism that accompanies his approach (Michaelian 2016a: p. 43). But his focus in making this claim, however, is on normative pluralism regarding the standards for achieving particular states like knowledge. Here he embraces a moderate pluralism, whereby "a broad range of norms will turn out to be legitimate, but there are limits" (p. 47). The form of pluralism on which I am focused here is different. It is focused on the evidence base around which such norms might be structured. For any given psychological state or capacity, we will likely have multiple ways of conceiving of that capacity, each derived from a distinct research program. This does not mean that any and all research programs have equal legitimacy; we can extend moderate pluralism to these cases as well. But it does mean that there is no automatic move from a naturalist methodology to a particular research program. An argument is required for why *this* program and its distinctions (or lack thereof) is more relevant than the alternatives.

This general point about pluralism applies to the selection of the memory systems framework as the method by which to individuate mental states and endorse continuism. This research program isn't cherry-picked; Michaelian is right to acknowledge it as a prominent and agreed upon approach amongst cognitive neuroscientists

who study memory (Michaelian 2016a: p. 19). But the pluralist point still stands, creating a gap between the methodology and any particular research program, even such a popular and productive one. I offer three examples of how pluralism challenges the attempt to identify the memory systems approach as the best way to individuate cognitive kinds.

First, amongst naturalistically oriented research programs, there are a range of ways of characterizing and sorting forms of memory. Michaelian's favored approach is the account of memory systems in cognitive neuroscience, which includes only some of the relevant disciplines. Those who study kinds of memory in other areas of cognitive science—cellular and molecular neuroscience, artificial intelligence, comparative psychology, etc.—may carve kinds of memory differently. Take, as just one example, the way that cellular and molecular neuroscientists conceive of spatial memory in rats and other model organisms as instances of episodic memory. For those in the memory systems tradition, these spatial memories are classified as procedural, rather than episodic. The memory systems approach typically characterizes episodic memory as a uniquely human capacity (e.g., Tulving 2002). But for researchers in cellular and molecular neuroscience, the contextual memories that rats, mice, rabbits and other laboratory animals are capable of acquiring—for particular environments, paths, and experiences in them—are evidence of episodic or at least episodic-like memory, suggesting a continuum of abilities across a range of species (e.g., Hasselmo 2012; Templer and Hampton 2013). There is a third approach to episodic memory in artificial intelligence, where the focus is on the storage and retrieval of instance representations, without any appeal to occurrent mental states or phenomenological features of remembering (e.g., Nuxoll and Laird 2007, 2012).

Second, the selection of the memory systems approach privileges the interests of cognitive neuroscientists who work on *memory*, neglecting the interests of those who study other psychological capacities—most notably, imagination. It is not obvious that one should presume that the system boundaries which are of most interest for sorting between forms of memory will be equally useful for delineating other cognitive abilities. If one were to frame this project in terms of imaginative systems, it is easy to suppose that the system breakdown would look different.

There are also issues that arise when one thinks about cognitive kind individuation more broadly, without a focus on memory, imagination, or any other particular capacity but instead with an eye toward cognitive processing more generally. On this point, it's notable that the neurocognitive system identified as supporting episodic simulation is considered by many cognitive neuroscientists to be part of the default network (DN), which includes not only memory and imagination but also mindwandering and other forms of creative thinking (Raichle 2015). This broader network may have more to do with goal-directed behavior in general than episodic simulation in particular (Andrews-Hanna et al. 2014).

Third, the memory systems approach is built on faith in the alignment between cognitive categories and neural systems or structures. Amongst cognitive neuroscientists and philosophers there is rapidly increasing interest in whether such alignments exist or whether our approach to cognitive categories and their relation to the brain needs to be radically reframed. This work is often labeled as "cognitive ontology" in deference to Price and Friston's (2005) paper drawing attention to these issues. Many now think that a radical rethinking of our cognitive taxonomies is in order, but there are

multiple distinct proposals for how this might go (e.g., Anderson 2015; Eisenberg et al. 2019).

The aim of these observations is not to refute continuism, only to emphasize the gap between embracing a naturalist methodology and endorsing the memory systems framework and the continuism it seems to imply. The memory systems framework is a successful research program and it does provide evidence in favor of continuism. But the strength of this evidence must be understood and evaluated alongside other lines of evidence and other successful research programs. Without an argument for why this framework should be considered the most fundamental, the direct inference from a naturalist methodology to memory systems (and continuism) is blocked.

## 5 Does Naturalism Preclude Discontinuism?

Even if a naturalist methodology does not compel continuism, as I argued in the previous section, the methodology may still lean in its favor if it rules out the alternatives. If naturalism precludes discontinuism, then this would provide support for continuism, albeit indirectly. Michaelian has argued that such evidence against discontinuism exists. Discontinuists have relied on introspectively available, subjective distinctions between genuine remembering and imagination, which appears to be in direct tension with the evidence amassed via the naturalist methodology. Despite decades of trying, memory science has not been able to identify any clear marker of successful remembering, or any internal metric for distinguishing successful cases from memory errors (e.g., Loftus 2003). And there is plenty of evidence in the opposite direction, showing that these states are indistinguishable to the subject (e.g., Dewhurst and Farrand 2004). A naturalist methodology, according to Michaelian, should not only guide us toward the categories and kinds of successful research programs, but also deter us from distinctions lacking such support.

Going forward, I continue to endorse the naturalist methodology as Michaelian has presented it, and accept as well the evidence he's offered on this point. The science of memory offers little to no hope that successful remembering could be identified as a distinct cognitive kind, especially not if the boundaries of that kind are drawn subjectively (in terms of what the subject herself can discern, through first-person methods, about her mental states). And insofar as discontinuists rely on this sense of remembering for drawing the contrast with imagination, the view runs afoul of naturalism and seems difficult to defend more generally. My interest here is in whether we should expect a similar fate to befall all versions of discontinuism. Is there a way to draw the distinction between remembering and imagining that is not similarly challenged by this evidence?

As introduced at the outset, discontinuism is the view that there is a distinction in kind between remembering and imagining. All parties to the debate, discontinuists and continuists alike, agree that the form of memory at issue here is episodic memory. They disagree, however, on how to characterize episodic memory—which of its aspects to focus on—when comparing and contrasting it with imagination. Discontinuists have focused on the occurrent state of successful remembering, while continuists focus on the neurocognitive system that generates episodic states. In short, there is no agreed upon sense of episodic memory from which the debate arises. And since there is no

established characterization that grounds the current debate, there is nothing to preclude a discontinuist (or continuist) from focusing on an altogether different aspect of episodic memory in generating their position. This suggests it is at least in principle possible for there to be forms of discontinuism that are not impacted by false memory evidence in the same way as forms currently on offer.

Here I propose an account that focuses on an aspect of episodic memory that has thus far been neglected by discontinuists and continuists alike: *seeming to remember (episodically)*.[3] As defined in [reference withheld for purposes of anonymous review], "seeming to remember…occurs when a person has an occurrent mental representation, the content of which targets a representation in her personal past." In this psychological state, a person feels as if she is remembering an event from her past; she takes herself to be remembering episodically. The state identified here is meant to be one familiar from everyday experience. For persons with unimpaired memory faculties, there are times when one has a representation that feels as if it depicts a past experience. The use of "feels" here should not be read too strongly; seeming to remember does not require any particular phenomenological features. There may of course be some such features, at least for some people in some instances, but the feeling required is intended to be neutral, something that could be expressed along the lines of it seeming as if one is remembering, or appearing to remember, or taking oneself to be remembering. Under normal circumstances, the person in such a state would likely agree that they were remembering, if asked, and behave in ways concordant with remembering the past experience.

Seeming to remember, in this sense, is required for remembering but not sufficient. One can seem to remember and fail to do so, either because what one seems to remember never happened or because the way in which the experience is being represented as having happened is inaccurate. It might seem to me, for example, as if I remember my 8th birthday party. I might not actually remember it successfully—maybe because there was no such party or because the representation generated gets too many of the details of the event wrong. It is, in this way, possible, to provide a set of criteria that must be met in order for a state of seeming to remember to count as genuine or successful remembering. I first introduced this account of *seeming to remember* for this purpose [in reference withheld], distinguishing genuine remembering from errors like misremembering and confabulation. In doing so, I made clear these criteria are not introspectively available to the would-be rememberer; whether they have been met is not something we expect the person in a state of seeming to remember to have any privileged way of determining. They may be empirically verifiable, but the means for determining whether they have been met will be available equally to the rememberer and any other person who takes an interest in settling the issue. And, in any particular case, we may lack the resources to make a determination as to whether the remembering is genuine or not. The criteria do not guarantee a verdict; they only tell us what would have to be the case in order to label the instance of seeming to remember in one way or another.

This marks an important difference between seeming to remember episodically and the state highlighted by other discontinuists—genuine episodic remembering (e.g.,

[3] *Seeming to remember,* as used throughout the remainder of this paper, should be understood as shorthand for seeming to remember *episodically.*

Debus 2014). There is no claim here that a person can tell the difference between cases where they seem to remember and cases where they actually remember. And so seeming to remember is compatible with the evidence Michaelian has provided. A form of discontinuism built around seeming to remember would not be in obvious conflict with a naturalist methodology.

There is, therefore, no in principle incompatibility between naturalism and discontinuism. Certain forms of discontinuism may run afoul of naturalist methods, but it isn't inherent to discontinuism that it does so. There is no agreed upon sense of episodic memory in which debates over (dis)continuism are based, so there is no reason to require all forms of discontinuism to be committed to the same sense as exists in current versions of the view. It is reasonable to expect that there could be some sense of episodic memory around which a form of discontinuism could be based that at the very least does not conflict with established empirical research programs. The account of seeming to remember I have just sketched is meant to be one such proposal. Whether this sense of episodic memory is distinct from imagination, and distinct in a way that is supported by established research programs as a naturalist methodology requires, is a question I take up in the next section.

## 6 Naturalistic Discontinuism

In the previous section, I introduced seeming to remember as a psychological state in which a person takes themselves to be remembering a particular past experience. I turn now to building a version of naturalistic discontinuism around this state, by arguing that seeming to remember is distinct from imagination. Seeming to remember occurs when one thinks that they are remembering a particular event from their past—but, I claimed, even if it feels like remembering, the person cannot tell the difference between the seemings that are genuine and the ones that are not. Here I go on to argue that even though people lack the ability to make distinctions *within* the state of seeming to remember, they can distinguish *between* seeming to remember and other mental attitudes, like imagining—and further, that a naturalist methodology vindicates appeal this distinction. In fact, I will argue that the distinction plays an essential role in the very same research program that has been used in service of continuism.

First, I must make clear the sense of mental kinds and their individuation that I am working from. I appeal to the general characterization of mental states, widespread in philosophy, in terms of a distinction between *content* and *attitude*. Roughly, content is what the mental state means, represents, or is about. Attitude is the stance take toward what is meant or represented, a relation to the content. The distinction is most familiar from discussion of the propositional attitudes, particular belief and desire, where belief and desire are attitudes that can be taken toward propositional contents. A representation of the proposition *It is snowing*, for example, is something that could be believed or desired, and so, the two mental states could have the same content and yet be different kinds because of the difference in attitude taken toward that content. Numerous complications face any attempt to flesh out or extend this framework—accounting for other forms of representational content, differentiating between purely cognitive attitudes and those with conative, emotional, or phenomenological features, applying

the distinction to sensory and perceptual states, and so on. Still, some form of this distinction between content and attitude is generally understood and widely accepted.

With this framework in place, I can further elaborate on seeming to remember as a mental state. Seeming to remember is an *attitude*, and it is episodic when the content is a particular past event or experience.[4] Seeming to remember episodically thus differs from other forms of memory in terms of its characteristic contents. For semantic memory, I seem to remember facts (or sentences, or propositions); for procedural memory, I seem to remember skills or sequences of motor action. In all of these cases, the attitude involved is best characterized as seeming to remember rather than remembering, as the person who holds the attitude may not be able to differentiate between successful instances and errors. But they are all united as instances of seeming to remember because of a shared general attitude taken toward these otherwise distinct forms of content. Seeming to remember them involves some commitment to their prior acquisition or acquaintance, which if relevant will be reflected in subsequent thought and behavior.

Teroni (2018) has offered an account of seeming to remember semantically along these lines, likening this attitude to belief and desire in the standard propositional attitude framework. He denies that such an account can be extended to include episodic memory, since the contents of this form of memory are not exclusively propositional. It's true that episodic memory contents are more complex, and that far more needs to be said about what these contents are. Despite the recent proliferation of research in the philosophy of memory, this issue has not yet garnered much attention. And those who have taken on this issue—e.g., Fernandez 2017; Rowlands 2018—have concluded that we will need a new, hybrid understanding of representational content that allows for a combination of propositional, phenomenological, and imagistic features. What is clear is that this hybrid content, whichever characterization of it we settle on ultimately, represents particular past events or episodes (or at least what the person takes to be particular past experiences or episodes). And if we widen our conception of what can serve as the contents of attitudinal mental states, then there is no concern about fitting episodic seeming into a more general content-attitude framework.

This gives us a clearer sense of seeming to remember, and how seeming to remember episodically relates to the attitude's other forms. What matters most for current purposes, however, is how it relates to imagination. Focusing now on imaginative mental states, we can ask: should imagination be understood as content or an attitude? Invocations of imagination are varied, making it possible to understand imagination in both ways. Van Leeuwen (2013) argues for three distinct meanings of imagination, where the latter two correspond to the distinction between attitude and content as it's being used here. There is "imagistic imagination," understood as the set

[4] A careful reader might note that my initial definition of seeming to remember included reference to the content, but also to a *target* of the representation. In adding this element, I was drawing inspiration from Cummins' (1996) account of mental representation (though not wholesale endorsing it). The target is the aim of the mental representation, what the person intends to or understands themselves to be representing and/or how it is represented. Including this element is important for remembering, I argued, because it helps set the correctness conditions for each instance of seeming to remember (i.e., it's not enough for the content to accurately represent *some* particular past event in the person's life; it must accurately represent the event her seeming to remember targets). I am not abandoning that component of the view here, only setting it aside to focus on the aspects most relevant for distinguishing seeming to remember from imagining.

of mental states with imagistic representational content, states like imagining the face of one's child when they were younger or imagining that one's name is being called at an award presentation.[5] There is also "attitude imagining" where imagination captures the relation to the content rather than the content itself. Attitude imagining, as Van Leeuwen characterizes it, involves treating the content as "somehow fictional" (p. 221). In the *Stanford Encyclopedia of Philosophy* entry on imagination, Liao and Gendler frame their discussion in terms of a similar attitudinal sense of imagination:

> *To imagine* is to represent without aiming at things as they actually, presently, and subjectively are. One can use imagination to represent possibilities other than the actual, to represent times other than the present, and to represent perspectives other than one's own. Unlike perceiving and believing, imagining something does not require one to consider that something to be the case. Unlike desiring or anticipating, imagining something does not require one to wish or expect that something to be the case (Liao and Gendler 2018, p. 1).

Imagistic imagining and attitude imagining may align in some cases, but can also be independent from one another. A range of non-imaginary attitudes can be taken toward imagistic contents and one could engage a fictional, imaginary attitude toward content that is entirely propositional.

Going forward, I focus on attitudinal imagining. It seems possible that there could turn out to be multiple distinct imaginative attitudes, distinguished in terms of which aspects of the mental activity are fictionalized or in terms of how fictional the representation is.[6] Nothing in my argument turns on that decision. My contention is that the attitude (or attitudes) of imagining are distinct from the attitude of seeming to remember. Regardless of how many forms of the imaginative attitude there are, they are all distinct from seeming to remember. Or so I will to argue.

The imaginative attitude and the seeming to remember attitude can be taken toward the same contents. It is possible to imagine a particular past experience and it is possible to seem to remember a particular past experience. But, much as belief and desire can be relations to the same content while remaining distinct mental states, imagining a particular past event and seeming to remember a particular past event are distinct relations to episodic content.

Suppose I seem to remember my 8th birthday party. In so doing, I take a remembering attitude toward a mental content that represents the experience of this party. Let's stipulate, for the sake of argument, that the content of this state involves some semantic/propositional elements (facts about where I lived at that time, that I received a yellow bike, etc.), some imagistic elements (what the decorations looked like, how the cake tasted, etc.) and some phenomenological/emotional elements (e.g., how it felt to receive the bike I had been wanting for months). It's also possible to take an imaginative attitude to this same content. Suppose that I have no memory of my 8th birthday party, owing either to some amnestic trauma or to standard-issue forgetting. While visiting relatives for a holiday, in a fit of nostalgia, I look through old photo albums and ask

[5] Langland-Hassan (2015) defends an account of imaginative attitudes in keeping with this "imagistic" understanding of imagination, where the set of imaginative attitudes are defined by their inclusion of content that is imagistic (in part or in total).

[6] In this way, it could be possible to blur the distinction between attitudinal imagining and the third category in Van Leeuwen's taxonomy, "constructive imagining", which he argues is distinct because it is an activity that can be truth-focused rather than fictional.

others who do remember about what occurred at this party. I compile this information and imagine my 8th birthday party. The content could be the very same as in the instance of seeming to remember, but via the imaginative attitude I take toward it, I recognize the content as in some sense fictional. Even if it's an accurate representation of how that experience went, the representation of it as an experience I am replaying is fictional.

My memory of the particular past event does not need to be erased in order for me to take an imaginative attitude toward this content. For some event I remember, I could engage in counterfactual imagining, as part of the activity of wondering how my life might have gone differently. I might wonder, for example, whether receiving a piano or a chess set for my 8th birthday, rather than a bicycle, would have influenced my career choices. As part of this speculation, I might imagine my 8th birthday party, with some details as they actually occurred and with some details altered. Given the vagaries of memory, it's also possible for my recollection of this event to shift over time, and for whatever reason, I might someday seem to remember having received a piano at my 8th birthday party. Such a mental state could have the same content as the counterfactual imagining. Each includes some representational content that accurately depicts the past experience and some content that does not. But this shared content does not make the states indistinguishable. If I seem to remember receiving a piano for my birthday, then I take it to be the case that I did in fact receive a piano. When I imagine that I received a piano instead of a bicycle, I do not believe that I received the piano (although I might believe my life would have gone better if I had).

What exactly is the difference between these attitudes? I have not offered a full account of how attitudes are characterized and distinguished. An ultimate defense of the discontinuity I am claiming will require this. It's sufficient for current purposes that they're distinct to the person engaged in these mental states. People can tell the difference between cases where they seem to remember past events and cases where they imagine them or counterfactually entertain them. This is not to say that when they seem to remember the events that they do so correctly—the content of their mental state might be imaginary, in the sense that it does not represent a past experience they've had. But there is no reason to think they are similarly confused about which attitude they are taking toward whatever content is being represented. Seeming to remember a particular past experience and imagining a particular past experience are distinct in terms of what the person engaged in these mental states takes themselves to be doing, what they'd report about their mental state if asked, and what they would go on to think or do as a consequence of this mental state.

Let's pause and take stock. I have claimed that seeming to remember and imagining are distinct attitudes. Even if I have managed to convince you of this, what I have offered may still appear to fall short of my articulated aim of providing a *naturalistically-based* discontinuity. The above has made reference to appearances and seemings, invoking philosophical distinctions between aspects of representation and content. Where's the naturalism in that?

The naturalist methodology aims to respect the distinctions, kinds, and categories of the cognitive sciences that engage with memory and other epistemically significant states. So long as there is a productive research program within these sciences that makes use of the distinction I am alleging, then the distinction would seem to qualify as naturalist. Luckily, I do not have to go very far to find a research program that fits the

bill. The very same research program that is used as support for continuism provides support for the distinction I am making. That is, researchers in cognitive neuroscience who study memory systems and now explore the relations between various forms of episodic simulation make use of the difference between seeming to remember and imagining.

The majority of studies exploring the episodic simulation system make use of neuroimaging, particularly functional magnetic resonance imaging (fMRI) to identify which neural systems are active during remembering, imagining, and other forms of episodic projection. To complete these experiments, the researchers design tasks where participants are instructed to engage in various forms of activity. Researchers then observe which brain areas are active during each activity and evaluate the overlap in activity across these conditions. That is, participants in these studies are instructed to remember a past event, or imagine a future event, or imagine a possible past event. Participants appear to have no difficulty completing these tasks. There are no reported cases of participant confusion over which task they are doing while they are doing it. The finding that the tasks of remembering and imagining recruit similar, overlapping neural regions has been the feature of these experiments that grabs attention. What has been overlooked is the way in which this result depends on participants ability to selectively engage in remembering and imagining as distinct attitudes. The experiments are designed so that task conditions are individuated in terms of these mental attitudes. Researchers who design and make use of these experiments, and who believe that these results tell us something about the mind/brain, must in so doing believe in the legitimacy of the tools and methods they use—and one essential component of these experiments is the ability of participants to selectively engage remembering and imagining as distinct mental activities.

To see the point, let's look at the methodology of one particular study in detail, that of De Brigard et al. (2013), who used fMRI to compare brain activation patterns during episodic memory—i.e. memories about *what actually happened*–and episodic counterfactual thinking—i.e. reflections on *what might have happened* had things been different. The aim of this study was to bolster support for adding episodic hypothetical thinking to the set of episodic capacities considered part of this neurocognitive system. Prior to scanning, participants recalled autobiographical memories, the most vivid and detailed of which served as the stimuli for the tasks completed during fMRI (e.g., "I was sitting in my living room when my mom handed me a letter from my dream college). Each selected memory was divided into three components: *context* (e.g., living room), *action* (e.g., mom giving letter), and *outcome* (e.g., acceptance to dream college). Once in the scanner participants were cued to a particular memory. In the "remember" condition, participants were next asked to call to mind the events as previously reported. In the "episodic counterfactual" condition, participant were asked to think about *what would have happened* if the cued event had involved a different outcome–e.g., receiving a rejection letter instead of acceptance. After controlling for emotional valence and mental imagery, De Brigard et al. performed a spatiotemporal partial least squares analysis (PLS) to assess similarities in the BOLD response between the conditions. The PLS revealed that the "remember" and "episodic counterfactual thinking" conditions recruited an overlapping set of voxels in regions consistent with the core network of areas identified in previous studies of memory and self-projective thinking.

The results are generally interesting, but what matters for my purposes here is the distinction made between conditions for participants. The researchers treated these conditions differently in their experimental design, and participants showed every indication that they were able to distinguish them and perform each cognitive task as instructed. This methodological approach is not unique to the studies in the selected paper; it is reflected widely in research in this area. The very same research program that provides the basis for saying that episodic memory and imagination are part of a shared neurocognitive system also makes use of, indeed relies on, a distinction between these states in terms of the kinds of voluntary occurrent representations they involve.

Continuists could accept this distinction between seeming to remember and imagination and still attempt to resist discontinuism. I consider two objections that could be raised. First, they might note that the memory systems research program is interested in identifying neurocognitive entities. The attitudinal distinction I have highlighted does not correspond to a difference in systems, and so it does not qualify as a truly naturalist position, much less a discontinuist one.[7] Being a naturalist does not, however, mean endorsing only the entities that correspond to the research interests of those engaged in the research program(s) one has highlighted. It means taking seriously all of the entities and processes and distinctions incorporated in that research program. Memory systems theorists are interested in answering the question, how many memory systems are there? The question the (dis)continuist has is different. They are trying to determine whether and how memory and imagination are related. The research program identified as one to highlight in answering this question offers (at least) two distinct answers. As neurocognitive systems, remembering and imagining are very similar. As attitudes a person can engage when thinking about the past, they are very different.

Second, the continuist could object by claiming that this difference I have identified is merely one of degree, rather than kind. In order to do so, they would have to be more explicit about the sense of degree and kind that are at issue here. Further, given the pluralism that a naturalistic methodology entails, they will have to argue that the kind-based distinction they have in mind is the most fundamental. Without knowing what the continuist might suggest on these points, it is difficult to offer an elaborate response.

Instead, I note the similarities continuists highlight between remembering and imagination, which they take as evidence that the two differ only in degree, and argue that the distinction I have shown exists suggests that the similarity is overplayed. Michaelian claims:

The boundary between episodic memory and episodic counterfactual thought is fluid, in the sense that we are able to shift freely back and forth between (attempting to) remember events as they actually occurred and (attempting to) imagine them occurring in more or less different ways (Michaelian 2016b: p. 71).

The point about fluidity is right, at least in one respect: it is often possible to switch between remembering and imagining and over time people can confuse one for the other. But the fluidity here is between instances of occurrent representation, not confusion within any particular occurrent representation as it's happening. Fluidity across instances is just another way of saying we can take different attitudes to the same contents.

[7] I am grateful to an anonymous reviewer for raising this objection.

To see the point, I will close by looking more closely at the method Loftus and colleagues have used for establishing false memories (e.g., Loftus and Pickrell 1995). In these studies, participants are first recruited to an experimental session where they are asked to vividly imagine possible but non-actual scenarios from their past—being lost in the mall as a small child, spilling punch at a wedding, etc. At some point later, usually after an interim of weeks or months, participants are called back and asked about their memories of childhood experiences and, at this point, some of the experiences imagined during the initial session are reported as memories. The standard interpretation of what occurs in such cases is a failure of metamemory or source monitoring: the availability of imagery from these "experiences" is misinterpreted as being a memory from the experience itself, rather than from the previous imagination. There is a confused fluidity between these two states over time. But at the time of each occurrent mental representation, there is no such fluidity. The person holds a particular attitude toward the content. In the first stage of the experiment, the participant is imagining. Later, they seem to remember. It is the change between these attitudes, which is striking, that makes these results so interesting and counterintuitive. If there were no substantive difference between imagining the past and seeming to remember it, there would be no such phenomenon to explain.

## 7 Conclusion

Recent neuropsychological evidence has indicated that episodic remembering and episodic imagining rely on the same neurocognitive system. This, coupled with evidence that we lack the ability to differentiate successful remembering, has led many to think that a naturalist orientation compels us to endorse continuism. In this paper, I have challenged this assumption—first, by creating conceptual space between naturalism and continuism and then by introducing a naturalistic form of discontinuism. Given the pluralism that I have argued a naturalist methodology entails, it seems likely that inquiry into successful research programs will yield a multitude of ways in which memory and imagination are similar and different. Rather than arguing in favor of either continuism or discontinuism, our curiosity about the relationship between memory and imagination might best be served by asking about the significance and implications of these varied relations, determining which matter and why.

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