

Title: Memory and imagination

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Abstract: The consensus in twentieth-century philosophy was that memory is sharply distinct from imagination. This consensus has been challenged in recent years by a growing body of empirical research that reveals extensive similarities in the neural underpinnings of remembering the past and imagining the future and has gradually given way to a debate between “continuists” and “discontinuists” about the relationship between memory and imagination. This chapter begins by reviewing first-order arguments for continuism and discontinuism. It then discusses recent meta-level attempts to clarify the debate’s central concepts, namely, memory and imagination. Finally, it discusses a recent attempt to characterize the continuist-discontinuist debate in terms of metalinguistic negotiation and then develops a novel approach to bringing conceptual clarity to the debate, outlining different ways in which the (dis)continuity question itself can be and has been interpreted—irrespective of the various possible construals of the concepts of memory and imagination identified by earlier meta-level approaches.

Keywords: memory; imagination; continuism; discontinuism; episodic memory; episodic future thought

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1 Introduction

The relationship between memory and imagination has been of interest throughout the history of philosophy.¹ As is often the case, the range of views that have historically been defended by philosophers corresponds roughly to the spectrum of logically possible views, with even extreme views finding support. Thus Augustine, for example, argues for the existence of a sharp distinction between memory and imagination (Augustine 398/1955), while Hobbes, in contrast, maintains that “imagination and memory are but one thing” (1651/1994: 9). In twentieth-century philosophy, the dominant view was what might be called “dissociationism”. The dominance of dissociationism—a view in the spirit of Augustine’s—was arguably due, to a great extent, to the influence of the causal (Martin & Deutscher 1966; Bernecker 2010) and epistemic (Annis 1980; Williamson 2000; James 2017) theories of memory. The causal theory, on the one hand, holds that remembering entails the presence of an appropriate causal connection between the apparent memory and the subject’s experience of the apparently remembered event. The epistemic theory, on the other hand, holds that remembering entails knowing. Imagining an event neither requires an appropriate causal connection to an experience of it nor entails having knowledge of it, and partisans of either theory will therefore tend to view remembering as being sharply distinct from imagining.

In recent years, the dissociationist consensus has been challenged by a growing body of empirical research that reveals extensive similarities in the neural underpinnings of remembering the past (episodic memory) and imagining the future (episodic future thought). These similarities, which have inspired a simulation theory of memory that maintains, in the spirit of Hobbes’ view and in opposition to the causal and epistemic theories, that remembering entails neither appropriate causation nor knowledge (Michaelian 2016; cf. De Brigard 2014), are surprising and even troubling from a dissociationist point of view, and the

¹ See Nikulin (2015) and the chapters in part 9 of Bernecker and Michaelian (2017).

consensus has thus gradually given way to a debate between *continuists* and *discontinuists* about the relationship between memory and imagination. The continuist-discontinuist debate, which provides the focus of this chapter, concerns the question whether episodic remembering is a process or state of the same kind as episodic imagining. Call this the “(dis)continuity question”. Continuists defend a positive answer to the (dis)continuity question, discontinuists a negative answer.

Our discussion of the continuist-discontinuist debate is divided into three sections. Section 2 reviews a range of arguments for continuism and discontinuism. These arguments are *first-order* inasmuch as they focus directly on the relationship between memory and imagination. Because the first-order debate has suffered from important conceptual ambiguities, it has not always been entirely clear how and whether the available arguments advance our understanding of the (dis)continuity question. Section 3 focuses on the *meta-level* approaches to the debate that have therefore recently emerged, reviewing a series of attempts to clarify the debate’s central concepts, namely, memory and imagination. Section 4, finally, first discusses a recent attempt to characterize the continuist-discontinuist debate in terms of metalinguistic negotiation and then develops a novel approach to bringing conceptual clarity to the debate, outlining different ways in which the (dis)continuity question itself can be and has been interpreted—irrespective of the various possible construals of the concepts of memory and imagination identified by earlier meta-level approaches.

2 The first-order debate

As noted above, the recent renewal of interest in the relationship between memory and imagination was sparked by empirical research demonstrating surprising overlap in the brain regions that are activated when subjects remember the past and imagine the future. We therefore begin our survey of first-order arguments with a review of this evidence and the uses to which it has been put by naturalistically-oriented philosophers of memory (section 2.1). We

continue by reviewing first-order arguments of a more theoretical sort, distinguishing among epistemological (section 2.2), metaphysical (section 2.3), and linguistic (section 2.4) arguments.

2.1 Empirical arguments

Three bodies of evidence—from neuroscience, neuropsychology, and developmental psychology—are usually taken to support continuism. Taken together, these bodies of evidence suggest that, though remembering and imagining differ in respects such as temporal orientation and level of sensory and contextual detail (D’Argembeau and Van der Linden 2006), they are underpinned by a single cognitive system (Addis 2018, 2020; Schacter and Addis 2007; Suddendorf and Corballis 2007). First, there is evidence from neuroimaging studies showing significant overlap in the brain regions that support remembering and imagining. These regions form the brain’s default mode network (DMN), which includes the medial prefrontal cortex, the medial and inferior lateral parietal cortices, the anterolateral temporal cortex, the hippocampus, and other regions of the medial temporal lobes (Addis et al. 2007; De Brigard et al. 2013; Schacter et al. 2007). Second, there is evidence from neuropsychology suggesting the existence of a strong correlation between memory and imagination deficits. This research reinforces the findings from neuroimaging studies, since patients with amnesia, depression, and Alzheimer’s disease—who exhibit various forms of DMN damage—perform poorly on tasks requiring remembering events in the personal past and imagining events in the personal future (Addis et al. 2016; Hassabis et al. 2007; Irish et al. 2012; Schacter et al. 2015). Third, there is evidence from developmental psychology suggesting that memory and imagination emerge in tandem between ages three and five (Atance and O’Neill 2001; Suddendorf 2010) and follow similar paths of development through late childhood and adolescence (Gott and Lah 2013). The overall picture that seems to be suggested by this research, and the picture that was initially favoured by naturalistic

philosophers of memory, is one on which remembering the past and imagining the future are simply two instances of a more general capacity for “mental time travel”.²

Discontinuists have argued, however, that the evidence does not in fact support this continuist picture. Perrin (2016), for example, argues that, while neuroimaging studies show that remembering and imagining share structural similarities, they also suggest that imagining is more cognitively demanding than remembering, as it involves significantly greater activation in certain brain regions, such as the bilateral premotor cortex, left precuneus, and the right hippocampus (Schacter and Addis 2007). De Brigard (forthcoming), going further, argues that the DMN is neither necessary nor sufficient for remembering and imagining, because subjects can engage in these processes by relying on brain structures outside this network (Wikenheiser et al. 2021) and because possessing a DMN does not necessarily enable subjects to engage in them (Liu et al. 2019). Neuropsychological studies also suggest that patients’ memory deficits do not entirely prevent them from imagining plausible events in the personal future (Squire et al. 2010) or from valuing future rewards through the representation of future events (Kwan et al. 2015).³ Furthermore, developmental studies reveal notable differences in the developmental trajectories of memory and imagination, observable at the behavioral (Coughlin et al. 2019) and neural (Østby et al. 2012) levels (Nyhout and Mahy 2023). A different sort of support for discontinuism comes from work reaffirming the hypothesis that a specialized episodic memory system drives learning from past experiences and recruits the hippocampus and neocortex in ways that imagination does not (see, e.g., Andonovski et al. 2024; Cheng 2024; Cheng and Werning 2016; Schwartz forthcoming; cf. Camillo 2025). The advocates of this hypothesis typically appeal to studies on memory consolidation and optogenetics, which suggest that memory, unlike imagination, recruits

² The term was coined by Tulving (1985).

³ All patients in the studies by Squire et al. (2010) and Kwan et al. (2015) had acquired amnesia.

various retention mechanisms to store and stabilize traces of past events (Guskjolen and Cembrowski 2023; Josselyn and Tonegawa 2020; Moscovitch and Gilboa 2024). These efforts to put discontinuism on a sound empirical footing have meant that continuism can no longer be taken for granted by naturalistic philosophers of memory.

As far as the empirical evidence is concerned, then, the jury is still out, in the sense that there is empirical evidence showing both similarity and difference between the regions responsible for remembering and imagining, and the epistemological, metaphysical, and linguistic arguments discussed in sections 2.2-2.4 may thus have an important role to play.

2.2 Epistemological arguments

There have been relatively few sustained treatments of the epistemology of episodic memory,⁴ but epistemologists and philosophers of memory alike have tended to assume that there is an important epistemic asymmetry between the past and the future (e.g., Swinburne 1966; Perrin 2016). Most have assumed not merely that our knowledge of the past is vastly more secure than is our knowledge of the future but also that there is a deeper difference—a difference in kind—between our knowledge of the past and our knowledge of the future, that is, that we have a kind of epistemic access to the past that we simply do not have to the future.⁵ Thus Debus, for example, suggests that, whereas episodic memory involves thinking about particular events, episodic future thought merely involves thinking about general types of event (2008, 2014; cf. Campbell 2002). The plausibility of this epistemological discontinuism appears to rest on the more basic assumption that some form of *transmissionism* is correct, where transmissionism, formulated in maximally generic terms, says that remembering

⁴ See Frise (2023) and Senor (2023) for recent exceptions.

⁵ This assumption may be in line with the ordinary—or, as Craver (2020) refers to it, the “epistemic”—concept of memory (cf. McCarroll, Michaelian & Nanay 2024; Rudnicki under review a), though there is evidence that that concept may not be quite what philosophers typically take it to be (Dranseika 2020; Dranseika, Michaelian & Robins under review).

necessarily involves the transmissionism of something to the memory from the corresponding earlier experience (cf. Michaelian & Robins 2018; Michaelian & Sant’Anna 2021).

The idea connecting transmissionism to epistemological discontinuism is that one enjoys a special kind of epistemic access to a past event in cases in which, first, one has experienced it and, second, one’s current thought about it enjoys a direct link to one’s experience of it, in the sense that one’s thought is based at least in part on something that is transmitted or retained from that experience. Hoerl (2022), for example, has recently proposed an approach according to which memory is retained experiential knowledge. Martin (2001) earlier proposed a broadly similar approach according to which memory is retained acquaintance. If one or another of these *epistemic* transmissionisms is correct, then, simply because we are not acquainted with future events, there is bound to be an important epistemic asymmetry between the past and the future. The connection between epistemological discontinuism and the various *causal* transmissionisms that have been prominent in the recent literature is perhaps less direct, but much of the appeal of the causal theory of memory arguably derives from its alleged ability to explain how memory can underwrite reference to—and hence potentially knowledge of—past events (Openshaw 2023; Openshaw & Michaelian 2024). Indeed, causalists such as Cheng and Werning (2016) explicitly claim that one of the key virtues of causalism, according to which memory presupposes transmission of content or information via a memory trace (Robins 2017; De Brigard 2020), is its ability to explain the knowledgelikeness of memory. Even if there is a sense in which episodic future thought is knowledgelike, no causal explanation of its knowledgelikeness is available, suggesting, again, that there is a fundamental epistemic asymmetry between the past and the future.

To the extent that epistemological discontinuism rests on transmissionism, the adoption of an antitransmissionist theory, such as simulationism, will tend to undermine it.

One of the basic claims of the standard form of the simulation theory (Michaelian 2016b) is that the causal theory is wrong to hold that remembering necessarily involves the transmission of content, information, or anything else via a memory trace to the memory from the corresponding earlier experience. Simulationism thus maintains that a memory of an event need not involve any direct link to a past experience of it. One of the basic claims of recent radicalized forms of the simulation theory (Michaelian 2024; see also McCarroll 2020) is that the causal theory (along with the nonradicalized simulation theory) is also wrong to claim that one has necessarily experienced the event that one remembers. If either version of simulationism is right, it would appear to follow that there is no interesting epistemic difference between episodic memory and episodic future thought: the epistemology of memory will turn out to be a special case of the epistemology of imagination (see Myers 2024). It would appear to follow, in other words, that epistemological continuism is right.⁶

2.3 Metaphysical arguments

Whereas *epistemological* continuism holds (and epistemological discontinuism denies) that there is no fundamental epistemic difference between episodic memory and episodic future thought, *metaphysical* continuism holds (and metaphysical discontinuism denies) that there is no fundamental metaphysical difference between episodic memory and episodic future thought. Epistemological continuism and epistemological discontinuism, as we saw in the previous section, appear to be intimately related to simulationism and causalism respectively, and something analogous would seem to hold with respect to metaphysical continuism and metaphysical discontinuism. Perrin and Michaelian, in fact, go so far as to suggest that the

⁶ There are other potential epistemic discontinuities that might in principle have been discussed here. In particular, stimulated in part by the idea that immunity to error through misidentification (IEM) might constitute an important epistemic difference between episodic memory and episodic future thought (Perrin 2016; Perrin & Michaelian 2017; Michaelian 2016a), there has been renewed interest in recent years in the question whether memory is immune to error through misidentification. Because this interest has been stimulated not only by the problem of IEM in future thought but also by the problem of IEM in observer perspective memory (Fernández 2019, 2021; García-Carpintero 2024; Lin 2020; McCarroll 2018; Michaelian 2021; Perrin & McCarroll 2023) and because different contributors to the debate have employed different definitions of IEM, this literature is complex, and reviewing it here would take us too far afield.

continuist-discontinuist debate as a whole “seems to boil down to a disagreement over the necessity of causation for episodic memory” (2017: 235). Their suggestion is reasonable, in that causalists have, until recently, uniformly endorsed discontinuism, while simulationists have been alone in endorsing continuism. We will see in this section, however, that there have been a number of attempts recently to pry the continuist-discontinuist and simulationist-causalist debates apart from each other.

Before considering those attempts, let us see why the debates have tended to be lumped together. The metaphysical continuist-discontinuist debate has focussed primarily on what Michaelian et al. (2022, 2024) refer to as “processual (dis)continuity”, that is, on remembering the past and imagining the future understood as cognitive processes. The empirical evidence reviewed in section 2.1 is naturally understood as pertaining primarily to processual (dis)continuity, as are a number of metaphysical arguments that have been advanced by continuists and discontinuists. Many of these arguments focus on the question of the role of representations in remembering. The two basic answers that are available to that question—representationalism and relationalism—are analogous to familiar positions in the philosophy of perception. According to representationalism, remembering an event involves representing it; the representation, rather than the event, is a constituent of the memory. According to relationalism, remembering an event does not involve representing it; the event itself, rather than a representation of it, is a constituent of the memory. Various arguments for and against representationalism and relationalism about memory have been proposed. Sant’Anna (2022), for instance, argues that the occurrence of memory errors (such as confabulation, in which the event that one apparently remembers did not occur) supports representationalism. Debus (2008), meanwhile, argues that the phenomenology of remembering (which characteristically involves feeling as if one is revisiting the past event itself, rather than contemplating a representation of it) supports relationalism. The details of

these arguments are unimportant for present purposes. What is important is that, whereas representationalism is at least compatible with continuism, since there is nothing to prevent representations from playing the same role in episodic remembering and in episodic future thinking, relationalism would appear to entail discontinuism, since it is implausible to suppose that the events at issue in future thinking, events with which the subject has not been (and might never be) in contact, are constituents of future thoughts; relationalism thus appears to imply a fundamental metaphysical difference between episodic memory and episodic future thought.

The representationalist-relationalist debate might strike one, at first glance, as being quite distinct from the simulationist-causalist debate. On closer inspection, however, the question of the role of representations in remembering might well reduce to the question of the necessity of appropriate causation for remembering. Debus (2008), in particular, argues that relationalism aligns with causalism, characterizing the constitution relation that she sees as obtaining between a memory and the event that it is about as reducing to the appropriate causation of the memory by the event. Aranyosi (2020), in response, has argued that relationalism should be understood as an alternative to causalism rather than as a form of causalism. Moran (2022), however, has argued, against Aranyosi, that the constitution relation with which relationalists are concerned can indeed be seen as supervening on the appropriate causation relation with which causalists are concerned. If Moran is right, then, insofar as the metaphysical continuist-discontinuist debate turns on the question of the role of representations in remembering, that debate may indeed boil down to the simulationist-causalist debate.

Be that as it may, there have, as noted above, been a number of attempts recently to show that the continuist-discontinuist and simulationist-causalist debates are orthogonal to each other. We note two such attempts here. First, urging a shift in focus from processual

(dis)continuity to “attitudinal (dis)continuity”, Robins (2020) and Sant’Anna (2021) have suggested that the continuist-discontinuist debate should be understood as concerning not remembering and imagining understood as processes but rather as concerning the attitudes involved in remembering the past and imagining the future (cf. McCarroll 2022). Given that there does not, on the face of it, seem to be a particular attitude that is involved in all cases of remembering the past, much less a particular attitude that is involved in all cases of imagining the future, the viability of Robins and Sant’Anna’s suggestion remains to be determined. We will nevertheless consider the attitudinal approach in more detail in section 3.2 below.

Second, Langland-Hassan (2023b; see also 2021, 2022) and Álvarez (under review) have, while continuing to focus on processual (dis)continuity, argued that the continuist-discontinuist and simulationist-causalist debates cut across to each other. On the one hand, Langland-Hassan argues for continuist causalism, a view on which memory does not fundamentally differ from imagination and thus does not require an appropriate causal connection underwritten by traces but on which memory does require appropriate causal connection underwritten either by belief or by metacognitive feelings. On the other hand, Álvarez argues for discontinuist simulationism, a view on which memory does fundamentally differ from imagination in the sense that it is the product of a dedicated cognitive system but on which the system in question operates in such a way that memory nevertheless does not require appropriate causal connection. If either Langland-Hassan or Álvarez is right, then the continuist-discontinuist debate might ultimately not boil down to the simulationist-causalist debate.

2.5 Linguistic arguments

The viability of views on which appropriate causation or the absence thereof makes no metaphysical or epistemological difference remains to be determined. We therefore turn to linguistic arguments for continuism and discontinuism. While linguistic considerations have

historically tended to favour discontinuism, recent arguments have tended to favour continuism.

An important linguistic motivation for discontinuism is the hypothesized factivity of the verb ‘remember’. The factivity hypothesis says that there is an intimate lexical relationship between the verb or its use and the truth of its complement sentence. Philosophers typically explain this relationship in terms of entailment: if S remembers that p, then p. Linguists, meanwhile, prefer to account for it in terms of presupposition (Kiparsky and Kiparsky 1970).⁷ Given that ‘to imagine’ is clearly not factive in either of these senses, the factivity of ‘remember’—and philosophers widely assume that ‘remember’ is factive (Williamson 2000, Bernecker 2010)—would lead naturally to discontinuism. Some have, however, recently questioned the factivity of ‘remember’.

Inspired by Hazlett’s (2010) analogous treatment of sentences involving ‘know’, De Brigard (2017) has argued that the intuitive infelicity of the sentence ‘I remember that p, but not p’—often cited as evidence for the factivity of ‘remember’—may arise not from the sentence’s inherent contradictoriness but instead from pragmatic considerations. This observation, together with the acceptability of discussing false memories (Dranseika 2020), suggests that the widespread intuition behind the factivity claim might be better explained in terms of, for instance, Gricean conversational implicatures. While it would be premature to dismiss the possibility of providing an account of factivity intuitions pertaining to ‘remember’ along such pragmatic lines, a pair of important problems for any such account ought to be noted. On the one hand, if infelicitous utterances like the one mentioned were indeed noncontradictory, this would directly undermine only the entailment-based understanding of

⁷ There is a significant difference between the philosophical and linguistic approaches. The linguistic approach holds that the relationship between factive predicates and their complement sentences persists—owing to the projection tendencies of presuppositions—even when these predicates are embedded under certain operators, such as negation. In other words, while the linguistic approach implies that a sentence like ‘S does not remember that p’ entails the truth of p, the philosophical approach does not.

the factivity of ‘remember’ favoured by philosophers, not the presupposition-based understanding favoured by linguists. On the other hand, even assuming that Hazlett’s efforts to construct an account of ‘know’ that explains factivity intuitions along pragmatic lines are promising, he himself rightly notes that his argument—based on the different types of uses to which ‘know’ is commonly put—does not naturally extend to other allegedly factive verbs, such as ‘remember’ (Hazlett 2010). These two problems raise serious doubts about the prospects for a successful nonfactive analysis of ‘remember’.

Another sort of linguistic motivation for continuism is provided by Liefke (forthcoming). Liefke’s argument starts from the observation that the truth-conditional and grammatical profile of the verb ‘remember’ is a restricted case of that of ‘imagine’. Liefke supports her claim by arguing, first, that ‘remember’-reports never come out true in circumstances in which their ‘imagine’ counterparts would be false, and, second, that the distributional profile of these verbs—including the licensing of tense, mood, and accepted complements—is such that the profile for ‘remember’ is uniformly stricter than that for ‘imagine’. The idea behind this approach appears to be that if the two preceding claims indeed hold, there is no circumstance in which a ‘remember’-report would be true without a corresponding true ‘imagine’-report also being available. If we take true ‘remember’- and ‘imagine’-reports to indicate circumstances involving, respectively, cases of remembering and imagining, then this pattern entails the continuist conclusion that cases of remembering form a subset of cases of imagining.

Liefke’s arguments have, however, been critiqued. Rudnicki (under review b) notes that her method of collecting truth-conditional data may unfairly disadvantage discontinuists, owing to the assumption that the truth values of ‘remember’- and ‘imagine’-reports are insensitive to factors whose centrality discontinuists emphasize—such as the presence or absence of appropriate causal connections. He also argues that Liefke’s treatment of apparent

counterevidence to the truth-conditional data is problematic. In particular, to avoid a discontinuist conclusion, she is forced to analyze infelicitous ‘imagine’-reports in cases in which a representation perfectly mirrors a subject’s prior experience as not outright false but merely pragmatically defective. It is doubtful, however, whether the pragmatic account she offers, which appeals to generalized implicatures, can successfully explain away what would otherwise be a discontinuist datum.

3 The meta-level debate

The alert reader will have noticed that the continuist-discontinuist debate has suffered from a lack of clarity about how the crucial terms—‘imagination/imagining’ and ‘memory/rememering’—of the (dis)continuity question are to be understood. Even the brief overview provided thus far has revealed several important divergences. For instance, the epistemological debate has largely centered on comparing episodic remembering with episodic *future* thinking. In the empirically-driven debate, in contrast, episodic remembering has been compared not only to episodic future thinking but also to episodic *counterfactual* thinking (see De Brigard 2014). Moreover, as noted above, the metaphysical debate has begun to drift away from the orthodox processual construal of episodic remembering and episodic future thinking and towards an attitudinal construal. Finally, given the technical nature of the construals of imagining and remembering that figure in the literature, the linguistic approach is inapplicable to them and has consequently focused on the sole alternative available—the verbs ‘imagine’ and ‘remember’. In light of this lack of conceptual consistency across the debate and its various subdebates, it is tempting to conclude that the participants are, at least to some extent, talking past one another.

This lack of clarity has already been noticed by a number of authors, who have put forward a range of proposals about how to clarify our understanding of the terms. In this

section, we discuss, in turn, proposals that focus on imagining (section 3.1) and proposals that focus on remembering (section 3.2).

3.1 Imagination

We begin with two proposals that focus on imagining. The first, by Langland-Hassan (2021), provides support for discontinuism. The second, by Munro (2021), provides some support for discontinuism and some for continuism.

Langland-Hassan attempts to develop an understanding of imagining that both makes the continuist-discontinuist debate worthwhile and satisfies both continuists and discontinuists by not making either view turn out to be trivially false. He is content to treat remembering as *episodic* remembering, since continuists and discontinuists agree about which cases—namely, cases that involve mental imagery of past events in which the subject was involved—are paradigmatic of the relevant form of remembering, even if they might disagree about borderline cases, such as cases in which there is no appropriate causal connection between the past event and the present mental image. Given the general thrust of the debate, moreover, he is confident that the relevant contrast class is composed of cases of episodic future thinking and other relatively uncontroversial examples of imagining. The question is how *imagining* must be understood in order for it to make sense to ask whether both episodic remembering and episodic future thinking are subkinds of the kind imagination.

Drawing on the imagination literature (especially Van Leeuwen 2013), Langland-Hassan considers three concepts of imagining that might, in principle, be invoked here. The first, *imagistic* imagining, describes a perception-like state that involves the use of internally generated mental imagery, as opposed to imagery triggered by sensory stimulation (Nanay 2018). As Langland-Hassan observes, this concept cannot be the one at issue in the continuist-discontinuist debate, simply because both parties to the debate agree that both episodic remembering and episodic future thinking involve mental imagery and thus qualify as kinds

of imagistic imagining. The second concept, attitudinal imagining, describes a state in which one is related to a content in a manner characteristic of imagining. While the relationship in question is supposed to share the mind-to-world direction of fit found in attitudes such as belief, attitudinal imagining differs from belief by incorporating fictionality (Van Leeuwen 2013) or make-believe (Kind 2016). As Langland-Hassan sees it, this concept cannot be the one at issue in the continuist-discontinuist debate, simply because, if it were, then the falsity of continuism would be obvious, for paradigmatic episodic memories straightforwardly do not exhibit the fictional or make-belief dimension characteristic of imaginings understood in the attitudinal sense: if a memory, as opposed to an attitudinal imagining, diverges from the event that it purports to depict, we treat it as defective and in need of revision. Given the obviousness of this point, both continuists and discontinuists are bound to agree that treating both episodic remembering and episodic future thinking as kinds of attitudinal imagining is a nonstarter.⁸ The final concept considered by Langland-Hassan is that of constructive imagining. It is this concept that he identifies as being appropriate relative to the continuist-discontinuist debate. Following Van Leeuwen (2013: 221), he defines the form of imagination in question as “a constructive process of assembling mental representations”. The key merit of this concept is that adopting it would lead us to adopt a negative answer to the (dis)continuity question if episodic remembering were to turn out to be merely a passive replaying of stored representations. This is a welcome consequence, given that the shift from seeing memory as a passive storehouse to seeing it as an active, constructive process was one of the main motivations for the emergence of continuism (De Brigard, 2014; Michaelian, 2016).

With this conceptual housekeeping out of the way, Langland-Hassan argues for discontinuism, suggesting that, in contrast to episodic future thinking, episodic remembering

⁸ Note that Langland-Hassan’s view is in tension with the approach proposed recently by Robins (2020, who interprets imagination along attitudinal lines and (unsurprisingly) reaches discontinuist conclusions. We say more about this approach in section 3.2.

is not a kind of constructive imagining. His argument ultimately rests on functionalist considerations (cf. Fernández 2019). He contends that both a standard (causalist) discontinuist and a standard (simulationist) continuist would agree to a description of episodic remembering as a process whose *typical* instances are appropriately caused by the subject's experience of the remembered event and whose *typical* effects include the subject's tending to judge that he experienced that event. This description in terms of typical causes and typical effects defines the functional profile of episodic remembering. On the basis of this allegedly ecumenical characterization of remembering, Langland-Hassan concludes that—even if appropriate causation might, as simulationists insist, be absent in *some* instances of remembering—discontinuism turns out to be the correct view, given that episodic imagining, which does not share episodic remembering's typical causes and typical effects, has a distinct functional profile.

Whereas Langland-Hassan's proposal provides support for discontinuism, Munro's (2021) provides some support for discontinuism and some for continuism. Like Langland-Hassan, Munro considers multiple concepts of imagining. The first is that of hypothetical imagining, under which he includes episodic future thinking. If this concept were the appropriate one, Munro argues, then, given that there are significant epistemic differences between episodic remembering and those forms of imagining, discontinuism would be the right choice. One difference noted by Munro is that, whereas hypothetical imagining can, at best, generate new beliefs, remembering involves retrieving existing beliefs. For example, when one considers whether the bags packed for a trip will fit into the trunk of one's car, one is not retrieving a previously-acquired belief but generating a new belief. Another difference is that remembering involves retrieving beliefs that result from perceived situations, whereas such retrieval cannot possibly occur in hypothetical imagining, simply because future

situations have not (yet) occurred and thus have not been perceived and cannot have led to belief formation.

Munro contends, however, that there is another relevant concept of imagining, one such that, if it is the appropriate concept, then continuism is the right choice. This second concept is that of actuality-oriented imagining. Actuality-oriented imagining involves constructing a representation intended to capture an actual situation. For example, one might mentally picture the location of a pair of pliers in order to help one's son locate them at home. Munro suggests that the construction of a mental representation in this case counts as imagining but, given that one is not attempting to represent a particular past situation in which one observed or interacted with the pliers, falls short of remembering. He argues that, because episodic remembering does not epistemically differ from actuality-oriented imagining in the ways mentioned above—one's imagining the location of the pliers intuitively amounts to retrieving an existing belief, and one's belief about the location of the pliers does stem from past perceptions—the two ought to be taken to be continuous.

3.2 Memory

We turn next to two proposals that focus on remembering. Both proposals—one by Robins (2020) and one by Sant'Anna (2023)—favour discontinuism.

Robins, though she acknowledges that the empirical research reviewed in section 2.1 above does offer some support for continuism, argues that discontinuism is not necessarily incompatible with a naturalistic approach to memory. She suggests that the tendency to depict discontinuism as being in tension with naturalism is due in part to the fact that discontinuists have tended to understand remembering as *successful* remembering, a notion that, because it is success-involving, is naturalistically suspect, and goes on to present what she takes to be a naturalistically-respectable understanding that might replace the understanding traditionally adopted by discontinuists. This understanding treats the relevant state as that of *seeming to*

remember, a state that “occurs when a person has an occurrent mental representation, the content of which targets a representation in her personal past” (477). In paradigmatic instances of seeming to remember, the subject is disposed to behave in certain familiar ways—acting as if the event occurred in his personal past, affirming, if asked, that he remembers, and so on. The crucial difference between this understanding of remembering and that typically employed by discontinuists is that, unlike the latter, it does not presuppose success. Robins thus takes it to be compatible with naturalism.

The next steps of Robins’ argument are to attempt to show, first, that “seeming to remember” is fundamentally different from imagining and, second, that this difference can be vindicated in naturalistic terms. She carries out the first step by appealing to the distinction between the attitude involved in seeming to remember and the attitude involved in imagining, pointing out that “[s]eeming 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” (481). She carries out the second step by pointing out that the very research that continuists typically emphasize—namely, research in cognitive neuroscience that employs imagining methods to investigate the relationships among various kinds of episodic thinking—relies on the distinction between seeming to remember and imagining, given that it involves asking subjects to engage in episodic thinking of different kinds, including remembering past events and imagining future events. This methodology appears to presuppose the existence of a difference between the relevant attitudes. That presupposition, moreover, appears to be vindicated by the fact that subjects have no difficulty selectively engaging in these kinds of episodic thinking.⁹

Like Robins’ proposal, Sant’Anna’s favours discontinuism. Though he follows Langland-Hassan in understanding imagining as constructive imagining (see section 3.1

⁹ On this point, see Diesel Werberich (2025).

above), Sant’Anna suggests that Langland-Hassan is mistaken in treating remembering as being limited to *unconscious* processes of information retrieval. He argues that remembering ought also to be treated as involving the *conscious* experiences associated with entertaining retrieved representations, as well as with the conscious manipulation of such representations. He argues, further, that neglecting the conscious aspect of remembering—an aspect that, he points out, has been the focus of philosophers who treat remembering as a full-blown mental state and not merely a retrieval process (Debus 2010; Klein 2015; McCarroll 2023)—may lead us to overlook a dimension of comparison between remembering and imagining that is potentially relevant to the continuist-discontinuist debate. Sant’Anna goes on to argue, appealing to the constraints to which remembering and imagining are respectively subject, that, if the conscious aspect of remembering is taken into account, it becomes clear that remembering and imagining are discontinuous.

Sant’Anna considers three types of constraint, beginning with voluntariness in the initiation and termination of acts of remembering and imagining. Both remembering past events and imagining future events can, as a rule, be both initiated and terminated at will. And exceptions similarly exist both in the case of remembering and in the case of imagining. Recall of a traumatic memory, for instance, can be initiated involuntarily and can be difficult to terminate. The same is surely true of certain cases of imagining, as anyone who has worried about the course of an upcoming job interview will attest. Sant’Anna concludes that there is no major difference between remembering and imagining with respect to voluntariness and involuntariness. Turning, next, to voluntariness in the selection of a subject matter, he again argues that there is no major difference between remembering and imagining. In both remembering past events and imagining future events, we do, as a rule, exercise conscious control over what we remember or imagining. And exceptions again exist in both cases—the possibility of involuntary remembering and imagining naturally implies that the subject matter

of such states can also fall outside our control. Turning, finally, to the degree to which the subject can intervene in the process, he identifies an apparent major difference between remembering and imagining: in imagining, we have a significant degree of control over the elements used as building blocks to construct the relevant representations; in remembering, in contrast, we do not. In other words, the range of building blocks available for constructing a mnemonic representation is more constrained than the range available for constructing an imaginative representation. This difference is illustrated by a case in which a subject recalls an event from her past (say, a band playing her favourite song during a concert that she attended) and then attempts to modify the representation to include content not automatically available (such as the band playing a song that they could not have played during the concert). Once the subject begins to attempt to modify the representation, we would no longer classify the mental state as one of remembering but rather as one of imagining. This demonstrates, according to Sant'Anna, that the constraints on the content of the two types of state are fundamentally different.¹⁰

4 A new meta-level proposal

We have seen that a number of authors in recent years have noted that the continuist-discontinuist debate suffers from a lack of conceptual clarity and consistency in defining its central notions, remembering and imagining. We have also seen, however, that existing attempts to remedy this problem—whether by identifying the relevant type of imagining as constructive imagining or as hypothetical or actuality-oriented imagining or by treating remembering as attitudinal or as involving consciousness—are far from convergent. This divergence suggests that further clarificatory back and forth will be necessary before a consensus understanding of the (dis)continuity question can be achieved. Be that as it may,

¹⁰ On this point, see also Robins (2023). For a related argument defending the opposite conclusion, see Goldwasser (2024).

the aim of the current section is to show that the current conceptual disarray need not represent the final word on the issues at hand.

The section begins by reviewing a recent meta-level proposal regarding the nature of the continuist-discontinuist debate and goes on to point out a further conceptual ambiguity in how the (dis)continuity question has been approached.

4.1 The continuist-discontinuist debate as metalinguistic negotiation

A recent proposal by Schirmer dos Santos, McCarroll, and Sant'Anna (2022) suggests that the various attempts at conception clarification reviewed in section 3 do not go far enough, for they fail to notice the fact that the ultimate aim of the participants in the continuist-discontinuist debate is to *prescribe* specific ways of using the term 'remember'. Schirmer dos Santos, McCarroll, and Sant'Anna contend that, notwithstanding what might be suggested by a superficial look at the debate, continuists and discontinuists are not seeking a descriptive resolution of questions about the relationship between remembering and imagining; they are, instead, attempting to impose their own preferred understandings of 'remember'. If, for example, we assume that the debate turns primarily around the contest between causalists and simulationists, then it turns out to be a negotiation between partisans of the (causalist) view that, in order for a mental state to fall within the denotation of 'remember', it must be appropriately caused and the (simulationist) view that a state can fall within the denotation even if it is not appropriately caused.

The claim that the continuist-discontinuist debate is, in an important sense, about a word rather than about the nature of the phenomenon denoted by it need not amount to an accusation that the debate is merely verbal and thus ultimately not substantive. Schirmer dos Santos, McCarroll, and Sant'Anna do not mean to suggest that the continuist-discontinuist debate is analogous to James' (1907) "squirrel" scenario (in which campers debate whether a man, running around a tree at the same rate as a squirrel on the opposite side, should be

considered to be going around the squirrel) or to recent internet-wide “metaphysical” ruminations over whether a hot dog is a sandwich. The substantive character of the debate is ensured by the meta-level goal shared by the two sides: to convince the other to adopt its own preferred usage of the term ‘remember’. A dispute with this goal remains substantive even though both sides might share the predicament of James’s campers, in that their disagreement might not be anchored in objective facts about the world.

Schirmer dos Santos, McCarroll, and Sant’Anna’s proposal draws directly from the literature on metalinguistic negotiation—the idea that many disputes are best understood as a conceptual tug-of-war aimed at enforcing a particular usage of a central notion (Plunkett 2015; Thomasson 2017). This approach has been employed in analyzing the nature of a wide range of disputes in philosophy. The key insight of the approach is that, even if the disputes in question are not resolvable by objective facts, they remain relevant because of the importance of the conceptual schemes they seek to influence. For example, even though there might be no fact of the matter about whether large language models are “intelligent” or “conscious,” successfully enforcing particular meanings for those terms might have significant practical implications, shaping regulatory policies and guiding our interactions with the relevant technologies.

This is, however, also where several difficulties arise for Schirmer dos Santos, McCarroll, and Sant’Anna’s proposal. First, their discussion does not specify the practical issues that are at stake in the continuist-discontinuist debate. This omission makes it difficult to see why either side would be willing to engage in metalinguistic negotiation over the meaning of ‘remember’. (Note the clear contrast with the debate over whether LLMs are conscious.) Second, the continuist-discontinuist debate appears, at least on its face, to lack a feature typical of metalinguistic negotiations, namely, the impossibility of resolving the debate through factual discoveries, as well as the mutual agreement among participants that

no future discovery could decisively tip the balance (Thomasson 2017). If, for example, it were to be empirically established that traces indeed serve as vehicles for appropriate causal connections underlying memories, then the typical (simulationist) continuist would simply need to capitulate. Finally, certain moves made by continuists would also appear to count against the thesis that they are merely engaged in metalinguistic negotiation. Michaelian, for example, already seems to affirm an understanding of remembering derived from discontinuist thinking, particularly in “normative” contexts (such as courtrooms) (McCarroll, Michaelian, & Nanay 2024). And De Brigard might be the debate’s first (partial) convert, given that his most recent view (De Brigard forthcoming) is considerably milder than the full-blown continuism he advocated a decade ago (De Brigard 2014). It is noteworthy that De Brigard explicitly states that this shift was at least partly due to new empirical evidence; such a statement is difficult to reconcile with a view of the debate as being a metalinguistic negotiation.

4.2 Two readings of the continuity claim

Before concluding, we point out an additional ambiguity in how the (dis)continuity question has been approached. An examination of the literature reveals two basic interpretations of the continuist claim about the relationship between episodic memory and the relevant contrast class. The first interpretation understands the continuist thesis as asserting a simple inclusion: the set of instances of episodic remembering is entirely contained within the set defined by the contrast class. The second interpretation understands it as asserting common inclusion: both the set of instances of episodic remembering and the set defined by the contrast class are contained within a suitable broader category. The latter interpretation thus does not treat continuism as requiring that all episodic rememberings be instances of the type defined by the direct contrast class.

As we saw above, the second interpretation is adopted by Langland-Hassan (2021), who focuses on whether episodic remembering and episodic future thinking are both instances of the more general type constructive imagining. Debus (2014) is naturally read along the same lines, since the two phenomena that she evaluates—recollectively remembering past events and sensorily imagining future events—trivially constitute disjoint sets. Her account is, moreover, explicitly framed in terms of whether these two phenomena belong to a unified class of mental time travel experiences.

The most prominent example of the first interpretation is provided by the linguistic approach to the (dis)continuity question. As noted above, recent work in this area explicitly treats the question as being reducible to the question whether all instances of remembering are also instances of imagining (as seen through the lens of natural language reports). We point out, however, that we have also identified a feature of this approach that arguably renders it incompatible with the common inclusion interpretation of the (dis)continuity question. The incompatibility arises because, as noted above, the linguistic approach is confined to analyzing the relationship between just two verbs—'remember' and 'imagine.' By contrast, the common-inclusion construal of the (dis)continuity question requires three distinct categories and therefore cannot be applied within the linguistic domain. The presence of this fundamental incompatibility casts doubt on the possibility of unifying the future outcomes of the various sub-debates as addressing a single, coherent question.

Recognizing the existence of these two distinct interpretations of the (dis)continuity question is also potentially vital to the debate for another reason. From a purely logical point of view, even a conclusive argument against the continuist claim as understood by the first interpretation—that is, an argument that shows that episodic rememberings are not (all) members of the relevant contrast class—would not necessarily falsify continuism as understood by the second interpretation, given that, on the latter interpretation, the two sets,

though possibly distinct, could both be subsets of a more general third type. To illustrate, even if, for example, Sant’Anna (2023) is correct when he concludes that remembering and imagining, understood as attitudes, are distinct due to differences in the degree of control that subjects exercise in each, it remains an open question whether there exists some more general third attitude type that forms a superset encompassing both remembering and imagining. The existence of this question becomes pressing once we realize that, from the perspective of an obstinate continuist, Sant’Anna’s conclusion will be seen as meaning, at best, that there are different subtypes of the more general suitable type, with the dividing line between them defined by the difference in the degree of subject’s control over them.

In light of the foregoing, distinguishing between the two interpretations of the (dis)continuity question not only exposes an additional conceptual ambiguity within the debate but also leads naturally to a warning: unless participants clearly motivate the selection of the contrast class against which episodic remembering is assessed for (dis)continuity, the debate—which was originally intended to be metaphysically substantial—risks deteriorating into a mere cataloguing of similarities and differences between instances of remembering and imagining.

5 Conclusion

This chapter has described how empirical research on memory as a form of mental time travel has done away with the dissociationist consensus and led to a revitalized debate over the traditional question of the relationship between remembering and imagining. The revitalized debate has opened up entirely new perspectives on the problem. Unfortunately, perhaps owing to the rapidity with which the debate has developed, it has also been plagued by persistent conceptual ambiguity, a situation that raises doubts about whether recent contributions genuinely address the debate’s core question. The chapter has reviewed a range of recent first-order contributions to the debate and examined several meta-level attempts to deal with the

flaws that afflict it. It has also highlighted an additional ambiguity between distinct interpretations of the debate's core question. The chapter will thus, we hope, be of value not only as a survey of the literature but also as a recommendation for remedying the debate's flaws.

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