Is remembering constructive imagining?

André Sant'Anna
University of Geneva

Forthcoming in *Synthese*

Abstract

The *(dis)continuism debate*—the debate over whether remembering is a form of imagining—is a prominent one in contemporary philosophy of memory. In recent work, Langland-Hassan (2021) has argued that this debate is best understood as a dispute over whether remembering is a form of *constructive imagining*. In this paper, I argue that remembering is *not* a form of constructive imagining because constructive processes in remembering and imagining are *constrained*, and hence *controlled*, in different ways at the level of consciousness. More specifically, I argue that remembering and imagining differ in terms of the interventions we can make on the constructive processes as they unfold. If this is correct, then a form of *discontinuism* is vindicated: remembering and imagining are, on this view, processes of different kinds.

Keywords

Remembering; Imagining; Control; Constructive imagining; Discontinuism

1. Introduction

Remembering, many have argued, is an inherently constructive process.[1] To remember is, on this view, to *reconstruct* representations of past experiences based on various sources of information, which includes, but is not limited to, information originating in the past experiences themselves. This way of thinking about remembering has motivated some authors, most notably Michaelian (2016c), to claim that it is just a form of *imagining* the past (see also Addis, 2020). Given the centrality enjoyed by this view in recent discussions, the question of whether remembering is a

[1] For defenses of this view in the philosophical literature, see, e.g., Sutton (1998), De Brigard (2014), and Michaelian (2016). For a more systematic discussion of the empirical evidence, see Schacter et al. (2012) and Addis (2020).

form of imagining has become a central one for contemporary philosophers of memory.[2] As a result, two types views have been developed in response to it. On the one hand, defenders of *continuism* have argued that, other than their temporal orientation, there is no fundamental difference between remembering and imagining.[3] On the other hand, proponents of *discontinuism* have appealed to various phenomenological, epistemological, and metaphysical considerations to argue that remembering and imagining differ in fundamental ways.[4] The dispute between the proponents of these two views has come to be known as the *(dis)continuism debate* (Perrin & Michaelian, 2017; Michaelian et al., 2020; Michaelian et al., 2022).

Its centrality notwithstanding, there is a lot of ambiguity associated with how we should interpret the central terms used in formulating the question that gives rise to the (dis)continuism debate. What exactly do we mean by 'remembering' and 'imagining' when we ask whether the former *is* the latter? In recent work, Langland-Hassan (2021, 2023b) has attempted to remedy this situation by discussing how 'imagining' should be interpreted.[5] According to him, the (dis)continuism debate is a dispute over whether remembering is a form of *constructive imagining*: namely, a "temporally-extended *constructive process* of assembling mental representations" in novel ways (Van Leeuwen, 2013, pp. 224-5; see also Langland-Hassan, 2021, pp. 238-9). Building on this notion, Langland-Hassan argues that the (dis)continuism debate can be settled by determining whether constructive processes in remembering and imagining are *constrained* in the same way. If they are, then continuists will triumph. Otherwise, discontinuism will prevail.

In addition to clarifying the sense of 'imagining' that is relevant for the debate, Langland-Hassan makes a more concrete suggestion as to how we should go about resolving the dispute. According to him, the question of whether remembering is constructive imagining can be answered by considering the role that *memory traces* play in those processes. More specifically, his view is that looking at the functional role that memory traces have in both remembering and imagining allows us to determine whether they are constrained in the same way. There are, however, two important limitations with this proposal. First, it gives centrality to a notion that is notoriously

[2] See Michaelian et al. (2020, 2022) for a recent overview and Sant'Anna et al. (2020) for a collection of articles exploring the subject.
[3] For defenses of continuism, see De Brigard (2014), Michaelian (2016b, 2016a).
[4] For defenses of discontinuism, see, e.g., Debus (2014), Perrin (2016), Robins (2020).
[5] For an attempt to define 'remembering' in the context of this debate, see Schirmer dos Santos et al. (2023). See also Section 2.

difficult to define and account for, namely, the notion of a 'memory trace'.[6] Thus, if Langland-Hassan is right, the question of whether remembering is constructive imagining can only be properly addressed when we settle the debate about the nature of memory traces.[7] Second, and more importantly, it takes for granted a notion of 'remembering', according it which it is identified with the *unconscious* retrieval of information previously acquired through experience, that discontinuists are not necessarily committed to. According to these discontinuists, remembering is a process that comprises not only unconscious processes responsible for retrieving information, but also *conscious* processes of manipulating retrieved information to represent events in different ways (see Section 2). Thus, similar to 'imagining', there is also an ambiguity in how 'remembering' is used in the (dis)continuism debate that needs to be taken into account.

In this paper, I consider an alternative way of determining whether constructive processes in remembering and imagining are constrained in the same way, one that does not rely on the notion of a 'memory trace' and that takes its conscious dimension into account. More specifically, this alternative consists in looking at the *conscious control* we exercise over those processes. I argue that, unlike imagining, remembering is not under our control when it comes to the interventions we can make on its content. This is because it is *constrained* in a distinctive way at the level of consciousness. Building on this, I argue for a *discontinuist* view of the relationship between the two: because the constraints that operate on mnemonic constructive processes are different from the constraints that operate on imaginative constructive processes, remembering is *not* constructive imagining.

I proceed in the following way. I begin by identifying two distinct ways in which the term 'remembering' has been used in recent discussions and by clarifying the sense that is relevant to my argument (Section 2). I then turn to the main question driving my discussion—that is, whether remembering and imagining are under our control—and explore three different dimensions in which one might be thought to exercise control over those processes (Section 3). After considering each dimension, I argue that there is a fundamental discontinuity between remembering and imagining in relation to the control we exercise over their contents. I then proceed to argue that

[6] For different approaches to the nature of memory traces, see, e.g., Robins (2016), Werning (2020), Hutto (2023) Sutton & O'Brien (2023), Langland-Hassan (2023b, 2022). See De Brigard (2014b) and Robins (2017) for overviews.
[7] Langland-Hassan (2021) is aware of this issue, and while he has developed a more detailed account of traces in recent work (Langland-Hassan, 2022, 2023b), the questions of what memory traces are and what role they play in remembering still remain one of the most controversial questions in philosophy of memory.

the differences in control observed in remembering and imagining can be explained by the type of source evaluations that are involved in them (Section 4). Finally, I consider an important objection to my view based on cases of actuality-oriented and constrained imaginings (Section 5). I argue that those forms of imagining are not problematic because they are not constrained in the same way that remembering is. I conclude by suggesting that looking at how constructive processes in remembering and imagining are constrained at the level of consciousness provides support for a discontinuist view of the relationship between the two (Section 6).

2. Defining 'remembering'

I suggested above that, just like the term 'imagining', the way in which the term 'remembering' is employed in the (dis)continuism debate is also ambiguous. This is an important point that is often overlooked in recent discussions.[8] There are, to be more precise, at least two different ways in which we can understand this notion in light of recent attempts to account for the nature of remembering. On the one hand, some philosophers have adopted a *consciousness-inclusive* notion of remembering, one in which it is defined in terms of (i) the unconscious retrieval processes responsible for producing representations of past events based on our previous experiences of them and (ii) the conscious experiences that we enjoy when we entertain retrieved information.[9] Although different characterizations of (ii) have been offered, proponents of the consciousness-inclusive notion all seem to agree that, to count as remembering, one needs to be aware that one is remembering and that the information entertained in mind originates in the past. On the other hand, other philosophers have adopted a *consciousness-exclusive* notion of remembering, one that focuses on (i) and excludes (ii).[10] On views of this type, one can count as remembering even when one fails to be aware that one is remembering and that the information one is entertaining in mind originates in the past. The notorious painter example discussed by Martin and Deutscher (1966),

[8] See, however, Schirmer dos Santos et al. (2023), who argue that understanding the nature of the relationship between remembering and imagining requires solving metalinguistic disputes about how the terms 'remembering' and 'imagining' should be used. Schirmer dos Santos et al. (2023) offer a discussion of how different ways of defining 'remembering' have implications for how we approach the (dis)continuism debate, but the notions of 'remembering' they have in mind are tied to specific theories on offer in the literature—i.e., the causal theory and the simulation theory, both of which subscribe to what I call the consciousness-exclusive notion below—and hence do not map onto the different definitions of remembering I consider here.

[9] For authors who adopt this definition of remembering, see Debus (2010), Klein (2015), Mahr and Csibra (2018), Fernández (2019), Craver (2020), McCarroll (2023), and McCarroll and Sant'Anna (2023).

[10] For authors who adopt this definition, see Martin & Deutscher (1966), Bernecker (2010), Cheng and Werning (2016), Michaelian (2016b), and Werning (2020).

in which one paints a scene and takes it to be a product of one's imagination, when in fact it is produced by the retrieval of information pertaining to a scene previously experienced by one, provides an illustration of cases of this type.

Distinguishing between these two ways of defining 'remembering' has two important implications for how we approach the (dis)continuism debate, both of which have been largely overlooked in recent debates in philosophy of memory. The first concerns how we understand the claim that remembering is a constructive process. The standard way in which this claim has been interpreted in the existing philosophical literature is that encoding, consolidation, and retrieval processes, all of which are unconscious in nature, are constructive. There are at least two reasons that explain the prevalence of this interpretation. On the one hand, most philosophers who have attempted to make sense of the idea that remembering is constructive have done so in the context of recent empirical research (see Schacter et al. 2012 for a comprehensive overview), which assumes the consciousness-exclusive notion.[11] On the other hand, many philosophers who have theorized about remembering by adopting the consciousness-inclusive notion have dedicated their efforts to understanding aspects of remembering conceived of as a *mental state*; that is, as the outputs of unconscious processes of information manipulation. Thus, when it comes to the conscious dimension of remembering, the focus has been on providing an account of how the immediate products of retrieval processes manifest themselves to consciousness, leaving considerations about how remembering could be characterized as a process at this level aside.

This narrow focus on the outputs of retrieval processes by proponents of the consciousness-inclusive notion has, however, cast shadow on the fact remembering also involves a *conscious process* of information manipulation to represent the world. When we remember the past, we do not just retrieve stored information, we also manipulate that information in various ways at the level of consciousness to represent the past in different ways. As I discuss in detail in Section 3, there are various different ways in which I can consciously manipulate and rearrange the information I retrieve concerning my tenth birthday party to represent that event—I can, for instance, represent the different things that occurred on that occasion in different order, I can focus on some details to the exclusion of others, etc. Importantly, conscious constructive processes in remembering are not reducible to, or explainable in terms of, unconscious retrieval constructive

[11] See Craver (2020) for a similar point, but made from a different theoretical perspective.

processes. Rather, they operate with *retrieved* contents—i.e., with the outputs of retrieval processes.

The idea that remembering is consciously constructive can be further motivated by an analogy to imagining, which will bring into relief the importance of considering their conscious dimension in the context of the (dis)continuism debate. Like remembering, imagining also involves conscious and unconscious constructive processes. When we imagine events, there is a certain way in which we imagine them that is determined by automatic processes of which we are not aware and which draw on a variety of informational sources. However, when the outputs of those processes reach the level of consciousness, they can be manipulated in different ways to represent things. Such manipulations might, among other things, involve changes in the order in which the relevant details are entertained in mind or in the contents of the representations themselves. That imagining allows for such manipulations at the level of consciousness is crucial for understanding what it means to say that it is a constructive process. More importantly, a direct consequence of acknowledging this fact for the (dis)continuism debate is that attempts to answer the question of whether remembering and imagining are constructive processes of the same kind will need to take into account their conscious constructive dimension. And if the initial suggestion, according to which this question can be settled by looking into whether these processes are constrained in the same way, is on the right track, then looking at how constructive processes in remembering and imagining are constrained at the level of consciousness becomes a central task.

This brings us to the second implication that distinguishing between the consciousness-inclusive and the consciousness-exclusive notions has for the (dis)continuism debate. Insofar as remembering is thought to be a process, these different characterizations might be seen as disagreeing about how the process itself should be *individuated*. For proponents of consciousness-exclusive accounts, remembering is just the process of retrieving previously acquired information. For proponents of the consciousness-inclusive notion, it also involves a certain kind of experience and conscious processes of information manipulation. While this individuation strategy does not necessarily follow from thinking that remembering involves a conscious experience of a certain kind, which is how many proponents of the consciousness-inclusive notion have theorized about remembering, it does seem to be, as I argued above, a natural extension of this way of thinking about it. In other words, once we acknowledge that there is a conscious dimension to remembering,

it seems difficult to deny that remembering involves conscious processes of information manipulation.

There is, of course, much more to be said to motivate the claim that remembering involves conscious constructive processes, but offering a full defense of it is beyond the scope of this paper. However, if the remarks made here are on the right track, there does seem to be good reasons for thinking that such is the case. These reasons, as noted above, stem directly from considering a natural extension of the consciousness-inclusive notion to consider the nature of remembering not only as a state, but also as a process. For this reason, my argument in what follows will take a conditional form. I will argue that *if* we define remembering along the lines of the consciousness-inclusive notion, and if we consider the ways in which information is consciously manipulated in remembering, *then* remembering and imagining are discontinuous because they are constrained in different ways at the level of consciousness. While this qualification might make the argument look less appealing for those who are inclined to adopt the consciousness-exclusive notion, I do not think this poses a major problem to my approach. To my knowledge, this is not a point that has been made in recent discussions, and even those who adopt the consciousness-inclusive notion and defend discontinuism have not done so on these grounds. So, even in its conditional form, the argument offers a novel perspective on ongoing disputes. More importantly, this conditional formulation actually makes for a fairer characterization of the dialectics inherent to the (dis)continuism debate. Continuist arguments, insofar as they simply *assume* the consciousness-exclusive notion without further explicit argument in its support, are also conditional in this way. As I discuss in Section 4, it is not at all obvious why, given the current status of the philosophical debate, the burden of proof should be with proponents of the consciousness-inclusive account. So, failing to acknowledge that, just like 'imagining', the (dis)continuism debate also depends on a proper definition of 'remembering' (Schirmer dos Santos et al., 2023), only threatens to obscure where the real points of disagreement lie and what the issues worthy of consideration are.

3. Are remembering and imagining under our control?

With these clarifications in mind, I now turn to the main question that will drive my discussion: are remembering and imagining under our conscious control? Answering this question requires saying more about what is meant by 'conscious control'. As Jennings (2022, p. 5) notes, this notion has received little attention in philosophy, so it is not clear how it should be defined. Recent

discussions on the status of remembering as a mental action do, however, provide a good starting point (e.g., Strawson 2003; Mele 2009; Arango-Muñoz and Bermúdez 2018; Goldwasser 2022). Proponents of what we might call the *mental action view*—the view that remembering *is* a mental action—have argued that the automaticity of cognitive processes does not imply that we lack control over them, a consideration that they take to support their claim that remembering is a mental action (Arango-Muñoz and Bermúdez 2018; Goldwasser 2022). In particular, they have tried to establish that remembering is under our control by showing how it can be *initiated* and *intervened* on by us. Thus, Goldwasser (2022) offers the following definition of control: "ϕ-ing is controlled by the agent, A, if and only if A is in a position to initiate and intervene on token ϕ-ings" (p. 5). Importantly, Goldwasser notes that this definition does not imply that subjects must *constantly* be involved in those processes in order to have control over them, but only that they must have "both the *capacity* and *opportunity* to get involved" (2022, p. 5; emphasis added).

I find Goldwasser's (2022) characterization of the notion of control to be a good starting point for thinking about how we can exercise control over remembering and imagining. In addition to providing an insightful way to approach the question of whether remembering and imagining are mental actions, the definition aligns well with phenomenological facts about how we seem to exercise control over those processes. There are, however, at least two other ways in which we might exercise control over cognitive process that are particularly relevant in the case of remembering and imagining and that are not directly covered by the definition. One refers to whether the *termination* of processes of remembering and imagining are under our control. Another refers to whether their *subject matter*—i.e., the event that will be represented in remembering and imagining—can be determined prior to the initiation of the processes. Thus, in what follows, I will consider the relationship between remembering and imagining in relation to the control we exercise over their *initiation* and *termination*, their *subject matter* prior to initiation, and also in relation to the *interventions* we can make on them once they have been initiated.

3.1. Initiation/termination

Let us begin by considering the question of whether we have control over the initiation and termination of remembering and imaginative processes. The fact that we can voluntarily remember and imagine various events suggests that their initiation is at least sometimes under our control. I can, for instance, bring myself to remember different events from my past, such as my last birthday

party, what I had for dinner yesterday, or the class I taught last Thursday. Similarly, I can bring myself to imagine many events in the future, such as the concert I will attend on the weekend, the important job interview I have next week, or my next trip to a conference.[12]

Similar to their initiation, the termination of remembering and imaginative processes also seems to be, at least sometimes, under our control. For instance, if I bring myself to remember my tenth birthday party now, I can typically decide how long I will entertain that memory and when I will stop doing so. Likewise, if I now imagine the concert I will attend on the weekend, I typically have control over how long and whether I will entertain that imagining. Thus, both remembering and imagining seem to be under our control in similar ways when it comes to whether we can initiate/terminate those processes.

Note that the claim here is neither that being under our control in this way is *necessary* nor that it is *typical* of remembering and imagining. Some memories, such as memories of traumatic experiences (McNally, 2005), are not under our control in either of these ways. They can come to us unbidden *and* terminating them is sometimes not under our control. Other memories will be under our control in just one of these ways. For instance, it is not uncommon for us to involuntarily remember events from our past upon some environmental stimulation, such as hearing a song or smelling a certain type food (Berntsen, 2010). These memories, too, come unbidden to us, but they can be typically terminated at our own will. Likewise, although perhaps not very common, it also seems possible for some memories to be voluntarily recalled, but for some reason or another, for us to be unable to terminate them after they have been recalled.

The same seems to be true of imaginings. Some imaginings will come to us unbidden and they will not be easily terminated by us, such as when I keep imagining the important job interview that I have next week. Other imaginings will come to us unbidden, but whether we terminate them will be under our control, such as when I involuntarily imagine the concert I am attending on the weekend and decide to terminate this imagining because I do not want it to deviate my attention from the talk I am listening to. And, like remembering, it also seems possible for some imaginings to be initiated voluntarily, but for us to fail to terminate them for some reason or another.

[12] In what follows, I will restrict my discussion to cases of imagining that are oriented to the future, as these have been at the center of the (dis)continuism debate. My discussion is, however, meant to apply to all forms of constructive imagining, including those that are oriented to the past, as well as those concerned with actual events (see Section 5 for a more detailed discussion).

Overall, it seems that, on the face of it, there is no major difference in the relative frequency with which voluntary/involuntary remembering and imagining occur. This suggests that, if there is a discontinuity between those processes in terms of the control we exercise over them, such a discontinuity is not to be found in how we initiate and terminate them.

3.2. Subject matter

Next, let us consider the question of whether the *subject matter* of processes of remembering and imagining is under our control prior to their initiation. Can we, to be more precise, decide *which* event is going to be remembered and *which* event is going to be imagined? Here, too, it seems that remembering and imagining are at least sometimes under our control. As discussed above, we can voluntarily recall different events from our past. To mention another example, when reminiscing about the past with childhood friends, I can voluntarily remember various events about that period of life, such as when we won the neighborhood football competition or when we went to a famous amusement park on a school trip. Similarly, I can voluntarily choose the subject matter of many imaginings before initiating them, such as when I deliberately imagine the talk I am giving next week or my next trip back home.

Note that, similar to the discussion of initiation and termination, the claim here is neither that being under our control in this way is *necessary* nor that it is *typical* of remembering and imagining. When remembering and imagining are initiated involuntarily, their subject matter will not be under our control in this way. Moreover, as noted above, given that there does not appear to be a major difference in the relative frequency with which voluntary/involuntary remembering and imagining occur, this suggests, once again, that if there is a discontinuity between these processes in terms of the control we exercise over them, such a discontinuity is not to be found in how we choose their subject matters before their initiation.

One might worry that the claim that there is no major difference in the relative frequency with which voluntary/involuntary remembering and imagining occur is contentious, and hence not a good reason for thinking that it is unlikely that remembering and imagining are continuous in terms of the control we exercise over their initiation/termination and their subject matter. In response, I think that this issue cannot be settled on purely theoretical grounds. If, for instance, it turned out that voluntary remembering was relatively more frequent than voluntary imagining, this would give us good reason for thinking that there is a discontinuity between remembering and

imagining along the lines discussed here and in Section 3.1. However, on the face of it, it does not look like there are major differences in the relative frequency in which we engage in those processes. Thus, whether there is a discontinuity worthy of consideration here can only be determined empirically. Regardless, even if it turned out that remembering and imagining were discontinuous in one of the ways discussed above, that would only come in support of the overall view defended in the paper, which is that they are discontinuous in terms of the control we exercise over them. While my focus below is on a discontinuity that manifests itself in relation to how we intervene in those processes, the argument developed in subsequent sections is compatible with remembering and imagining being discontinuous in the ways discussed here.

3.3. Intervention

Finally, let us consider the question of whether can we (and if so, how do we) *intervene* in the processes of remembering and imagining as they unfold. This is where, I submit, there is a crucial difference between the two. To better see this, it is important to distinguish between two ways in which we might try to intervene in the relevant constructive processes. One is by determining the *order* in which a subject matter is represented. Another is by choosing the *content* that will figure in the representation of a subject matter. Let us start with the former.

3.3.1. Intervening in the *order* in which a subject matter is represented

Consider an example to illustrate how we can intervene in the order in which a subject matter is represented. Suppose that I set out to remember my tenth birthday. There are different ways in which I can represent this subject matter, all of which will equally count as a memory of that event. For instance, I can start by representing myself playing football with my friends, then representing myself having chocolate cake, and finally representing Aunt Betty singing karaoke. Alternatively, I can start by representing Aunt Betty singing karaoke, then myself playing football with my friends, and finally represent myself having chocolate cake. As long as my goal is not to accurately represent the temporal sequence of those events, it seems unproblematic to say that the order in which they are represented is under my control.

That such is the case is not surprising given the fact that memories of the same event can be triggered by different types of cues, such as a question we are asked or our personal interests and goals in a certain context. If, for instance, I am asked about what kind of cake I had on my

tenth birthday party, I will likely remember this event by initially entertaining a representation of myself having chocolate cake. However, if I am asked whether I had fun at the party, then I will likely remember this event by initially representing myself playing football with my friends. Furthermore, even though these memories may have the same *subject matter*, they need not always convey the same *information* to me. It is possible, for instance, for me to remember my tenth birthday party by only representing myself playing football with my friends. I need not recall having chocolate cake, or Aunt Betty singing karaoke, to count as remembering that event. Thus, having a memory with a certain subject matter does not require recalling *all* the details one could recall about that subject matter.

Imagining is, I suggest, like remembering in this respect. Unless one's goal is to represent specific temporal relations, the order in which we represent the various features of an event does not matter in how we represent a subject matter. To quickly illustrate the point, consider a parallel case to the case of remembering discussed above. Suppose that I set out to imagine the next time I will have lunch with a colleague at a local restaurant. Just like remembering, there are different ways in which I can represent this subject matter, all of which will equally count as an imagining of that event. I can, for instance, begin by representing the dish I am going to order, after which I could imagine the topic of our conversation. But I can also imagine things in the reverse order. Again, like remembering, this is an unsurprising feature of imaginings given that they, too, can be triggered by different types of cues. If the reason I am meeting my colleague for lunch is that we will discuss an idea for our next paper, then it is very likely that I will engage in the act of imagining that event by first representing our conversation. If, however, the reason we are eating at that restaurant is that we have been told that it is the best in town, then it is more likely that I will imagine that event by representing what dish each of us is going to have. Furthermore, imaginings that have the same subject matter need not always convey the same type of information to us. It is possible for me to imagine the event of having lunch with my colleague by merely representing the conversation we will have. Similarly, it is possible for me to represent that same event by merely representing the dishes we will have.

In summary, the control we exercise over how information concerning a subject matter is ordered in remembering and imagining is the same. It thus seems safe to conclude that they are not discontinuous in this respect.

3.3.2. Intervening in the *content* of a subject matter

Let us now turn to the second way in which we might be said to intervene in the content of remembering and imagining. This is by choosing the *content* that will figure in the representation of a subject matter. By 'content' I mean the sensory information used to represent an event;[13] in other words, the building blocks of what is often called 'episodic' or 'scene' construction (Schacter & Addis, 2007; Hassabis & Maguire, 2009).[14] Understood in this way, it is not the case that we have control over the contents of remembering. Rather, the information that figures in remembering is *given* to us at the time of retrieval, and, more importantly, it cannot be altered by us after it has been retrieved. That is, if, when I set out to remember my tenth birthday party, what I remember is Aunt Betty singing karaoke, I cannot voluntarily remember her reciting a poem. I can, of course, imagine how things would have been if Aunt Betty had recited a poem, but the fact that we are no longer willing to call this process 'remembering', but rather 'imagining', already highlights the fact that the absence of control over the contents of the former is a crucial feature of it.

It is important to distinguish here between two senses in which we can be said to 'choose' the content that will figure in the representation of a subject matter. One is by adding information that is stored and available for recall or by subtracting information that has been recalled. This relates to the previous discussion about the different ways in which we can represent the same subject matter in remembering (Section 3.3.1). I claimed there that having a memory of a subject matter does not require recalling all the details one could recall about that subject matter. To make things more concrete, consider again my memory of my tenth birthday party. Suppose that when I remember it, I recall myself having chocolate cake and playing football with my friends. On the one hand, I can include more content in the representation by actively recalling more stored information about my tenth birthday party—e.g., by remembering having chocolate cake. On the other hand, I can 'ignore' some of the information recalled by focusing on specific bits of content—e.g., I can decide not to entertain Aunt Betty singing karaoke and focus exclusively on the details pertaining to my playing football with my friends. In both cases, the interventions that I make on the content of my memory are under my control.

[13] Thus, in what follows, I will use 'content' and 'information' interchangeably.

[14] The content of memory does not, therefore, fix its 'reference'. For a similar view, see Robins (2020a), who distinguishes between the 'target' (which fixes its reference) and the 'content' of remembering.

This is not, however, the sense in which I claim that we cannot 'choose' the content of remembering. On another way of interpreting this claim, the suggestion is that we cannot alter the content of remembering by consciously including information that is not available for retrieval in representing a subject matter. Thus, the sense in which I cannot remember Aunt Betty reciting a poem is that the content required to represent things as being that way is *not* available for retrieval when I set out to represent my tenth birthday party. Conversely, the reason that I can remember Aunt Betty singing karaoke is that the content required to represent things as being that way *is* available for retrieval when I set out to represent my tenth birthday party. Interpreted in this way, the claim that we cannot intervene in the contents of remembering is not at odds with the claim that how we represent a subject matter is under our control.

While remembering works in this way, the same is not true of imagining. When we imagine, we can either select a content that is going to be retrieved to become a part of a representation, or, if a content is just given to us as a result of retrieval, we can choose whether to include it in the representation of a subject matter or simply to represent things in a different way altogether. More specifically, the contents of imagining are under our control even if, at the time of their initiation, they are determined by retrieval processes that were not under our control. Thus, for instance, when I imagine my next birthday party, I may wonder if, decades later, Aunt Betty will still insist to sing karaoke. As a result, I may imagine her singing karaoke because this is what she has done in all past family birthday parties. However, even if this is what is initially given to me when I imagine this event, I may still decide to imagine things differently. That is, because I no longer like karaoke, I might, before forming a representation of the event in question, decide not to represent any individuals singing karaoke. Unlike remembering, then, the *contents* of imagining *are* under our control.[15]

Note that the account I am offering here does not imply that content specification in imagining has to be *direct*—i.e., that it cannot happen by means of intermediary epistemic or causal processes, such as reasoning based on practical interests (Dorsch, 2012, pp. 388-90). As I discuss in Section 5, I am willing to grant that cases of 'actuality-oriented' and 'constrained' imaginings are genuine cases of imaginings, but that they still differ in important ways from remembering. Moreover, I think that there can be content specification—in the sense intended by Dorsch

[15] Robins (2023) has made a similar claim in recent work. I discuss the relationship between her view and my own in Section 4.

(2012)—in imagining which is neither the result of conscious deliberation nor of intermediary epistemic or causal processes. Imagining, just like remembering, involves the retrieval of information stored in the brain to construct representations of the relevant scenarios. In many cases of imagining, then, the content that will be made available to us by retrieval processes will be determined by associative and automatic processes that are not under our control. While, as I have argued, consciously altering those contents after they have been retrieved is something that is under our control in imagining but not in remembering, it is not necessary that those alterations take place for one to count as imagining. This is particularly evident in cases of involuntary imaginings: they come to us unbidden and their contents are at least sometimes specified in Dorsch's (2012) sense.

Now, one potential concern with my proposal is that it is unclear what I mean when I say that a content is *not available* for retrieval in remembering. For on one reading of this claim, it is clearly false. When I remember my tenth birthday party and entertain information about Aunt Betty singing karaoke, I can, on this same occasion, imagine how things would have been if she had recited a poem. But if imagining things in this way is a possibility, then there is a sense in which the information used to represent Aunt Betty reciting a poem *is* available for retrieval on that occasion.

This is not, however, the sense in which I say that the relevant contents are not available for retrieval in remembering. Remembering, as the consciousness-inclusive definition introduced in Section 2 has it, is in part defined by the conscious experience one has when one entertains retrieved information and by conscious processes of information manipulation. That experience, as I discuss in more detail in Section 4, is characterized by a metacognitive evaluation that the information entertained in mind originates in the past. Such an evaluation is what explains why remembering is not under our control in the same way that imagining is (see Section 4). Thus, the sense in which I claim a content is not available for retrieval in remembering is that it cannot be retrieved *as* a content that will be attributed to the past on a specific occasion. So, while the information relevant for representing Aunt Betty reciting a poem is available for retrieval in the sense that I could bring it to mind when constructing representations of scenarios that are not evaluated as originating in the past, it is *not available* for retrieval in cases in which I am constructing representations of scenarios that are evaluated as originating in the past. There is, in this sense, a normative dimension to the proposal here, but this is not incompatible with the claim

that the differences highlighted are differences in the *process* of remembering. Again, as it will become clear in Section 4, what accounts for the presence of this normative element is itself a constitutive feature of the process of remembering, namely, the fact that it involves a metacognitive evaluation with a specific type of content.

3.3.3. Semantic incorporation, vicarious memories, and perspective switching

There are three potential challenges to the claim defended in this section that require further consideration. The first refers to the apparent possibility of incorporation of semantic information acquired by testimony in episodic remembering. To see the challenge, suppose that I am trying to remember whether my friend Pedro attended my tenth birthday party, but am unable to retrieve any information that settles the question. Furthermore, suppose that I ask my mother and she confirms that he was there. It seems plausible enough that I can, after hearing my mother's testimony, *consciously* incorporate that information as a part of the representation of that event, even if that information was not given to me at retrieval. So, the fact that the incorporation in question involved a conscious decision seems to suggest that we can sometimes voluntarily intervene in the content of our memories.

The case above is not problematic because it inadvertently conflates two different types of remembering that occur in those situations. My argument is concerned with cases of *episodic* remembering, which are characterized by the recall of contextually-specific information about an event and a rich sensory phenomenology. Episodic remembering contrasts with *semantic* remembering, which is characterized by the recall of general information about the world and lacks a rich sensory phenomenology. In the case just discussed, it is not the case that I episodically remember Pedro being at my birthday party. Rather, because I am told that Pedro was there by my mother, I come to form a belief to that effect, which I can now remember semantically. In other words, rather than *remembering* Pedro being at my tenth birthday party, I remember *that* Pedro was there. So, it is not that the information in question was consciously incorporated into my episodic memory, but rather that I am engaging in two different forms of remembering when attempting to access information pertaining to my tenth birthday party.

One might respond here by saying that there could be a scenario in which, right after talking to my mother, I form an episodic memory of Pedro being there. But cases like this also fail to challenge the claim that intervening in the content of remembering is not under our control. One

way to make sense of them is to think of testimony as *prompting* the episodic recall of the relevant details. So, the fact that that piece of information now becomes a part of my episodic memory is not a result of any conscious decision to include it in the representation, but is rather due to unconscious processes that occur in the presence of a prompt and that trigger retrieval processes, which are in turn responsible for bringing the relevant information to mind. In other words, the information is, in this case, 'given' by episodic retrieval process.

The second potential challenge builds on the possibility of *vicarious memories* (Pillemer et al. 2015; Werning 2020)—that is, memories of events experienced by others that have contextually-specific information and a rich sensory phenomenology. Since vicarious memories are about events experienced by others, the information that figures in them is obtained through testimony, which appears to challenge the claim that semantic information cannot be consciously incorporated in episodic remembering. There are, however, a couple of problems with this suggestion. One is that it is not obvious whether consciousness-inclusive accounts of remembering should classify vicarious memories as occurrences of remembering. As Pillemer et al. (2015) note, "adults reporting vicarious memories are *fully aware* that the episode *happened to someone else*" (p. 234; emphasis added). Thus, if one thinks that the relevant conscious experience involved in remembering is one in which one must entertain the information retrieved as having originated in one's *own* experience (see, e.g., Fernández, 2019; Perrin et al., 2020), then vicarious memories will not count as remembering.

But even if we set this concern aside, a more important problem is that the sense in which vicarious memories are thought to incorporate semantic information is different from the sense in which such incorporation is envisaged in the scenario discussed in the context of the first challenge. The original suggestion was that semantic information acquired by means of testimony can be *sychronically* incorporated into the content of episodic remembering; in other words, that it can be remembered episodically without it being encoded and retrieved as episodic information. In cases of vicarious memories, in contrast, semantic information is incorporated *diachronically*. More specifically, on such cases, a piece of semantic information *i* that is acquired through testimony at time t_1 is first encoded as episodic information, such that, when one vicariously remembers at time t_2, *i* is part of the information that is 'given' to one by episodic retrieval processes.[16] What I deny

[16] Werning (2020), who has expressed sympathy for the view that some vicarious memories count as episodic memories, holds a diachronic view of information incorporation. Since, for Werning, episodic memories must have

here is only that the former type of incorporation is possible, for those are the cases in which we could be plausibly described as exercising control over the content of remembering. Thus, given that vicarious memories involve diachronic but not synchronic incorporation of semantic information, the occurrence of this type of memory (assuming they are memories) does not pose a real challenge to my argument.

The third and final potential challenge concerns the possibility of *perspective switching* in remembering (Rice & Rubin, 2011; McCarroll, 2018; St. Jacques, 2019). In particular, it seems clear from introspection that we can remember events from both a *field* and an *observer* visual perspective—that is, from the perspective that we originally experienced the event (field perspective) and a perspective different from that of the original experience (observer perspective). In an investigation on the proportion in which these perspectives occur, Rice and Rubin (2011) report that about 65% of participants related an observer perspective as being the dominant one in their memories. Crucially, recent studies have investigated the impacts that *voluntarily* switching perspectives during retrieval has on how the resulting memories are experienced (St. Jacques, 2019).[17] Thus, the fact that perspective switching appears to be common and, at least sometimes, voluntary*,* seems to contradict the claim that we cannot intervene in the content of remembering.

Although plausible on the face of it, it is not the case that perspective switching involves voluntary manipulation of the *content* of remembering. Content, as I defined the notion in Section 3.3.2, is understood in terms of the sensory information used to represent an event. Understood in this way, it is not true that when one switches perspectives, one changes the content of one's memory. An observer-perspective memory of Aunt Betty signing karaoke has the same content as a field-perspective memory of Aunt Betty singing karaoke. They involve the same sensory information; the only difference is that this information is entertained from a different *spatial* perspective. More importantly, the information that is entertained under the new perspective is not under our control. I cannot remember Aunty Betty reciting a poem merely because I have decided to change the perspective from which that event is represented.

---

an experiential basis, occurrences of vicarious memories will count as episodic memories only if they, too, have an experiential basis. On Werning's account, such an experiential basis is provided by simulative experiences of linguistic understanding which, on certain occasions, will match the content of regular experiences.

[17] This is not to deny that perspective switching can, and many times do, happen involuntarily. See, e.g., McCarroll (2018), who argues that observer perspectives may sometimes be a result of unconscious constructive processes at play during encoding.

To this, one may reply that we do sometimes remember things from quite different perspectives—e.g., one can remember oneself giving a talk from the perspective of a person sitting in the audience—which suggests that perspective switching sometimes involves adding new information to the event representation—e.g., information about how one's face looked on that occasion. I do not deny that such additions are possible when they result from the operation of unconscious constructive processes that are not under our control; in other words, when an observer-perspective representation is already given to us by retrieval processes. What I deny is that we still count as remembering the relevant event when the new content is voluntarily added as a part of the process of voluntarily switching perspectives. More specifically, when such additions are made voluntarily, the resulting representation is no longer entertained as one that originates in the past, but is rather attributed to the past by conscious stipulation—e.g., one remembers feeling nervous, one infers on that basis that one's face looked nervous on that occasion, and one stipulates that the representation is responsive to how the past was. However, as I argue in Section 5, remembering differs from actuality-oriented imaginings in precisely that way, namely, in terms of whether the constraints on what information can be used to represent an event are established by conscious stipulation. And since cases of voluntary switching where information is voluntarily added involve such stipulations, it is mistaken to treat them as genuine cases of remembering. Thus, the possibility of voluntary perspective switching does not pose any special challenges to the argument developed here.

4. Constructive remembering and source monitoring

I argued that constructive processes in remembering are not under our control in the sense that we cannot choose the content that will figure in the representation of a subject matter. One question that is likely to occur at this stage is *why* is it the case that we cannot intervene in the content of remembering in the way just specified. More specifically, it might be argued that this claim is difficult to reconcile with the existing empirical evidence suggesting that remembering and imagining engage highly overlapping neural resources, and that for this reason, they are products of a *single* neurocognitive mechanism that operates according to the *same* principles (see, e.g., Michaelian, 2016c; Addis, 2020).

To begin responding to this worry, a few words on how the (dis)continuism debate has unfolded in the literature are required. As Michaelian et al. (2022) note in their recent review,

continuists and discontinuists disagree over what the relationship between remembering and imagining is in two different ways. One refers to whether they are *processes* of the same kind. Another refers to whether they are *attitudes* of the same kind. There is, however, another way in which (dis)continuists might disagree among themselves, and this has to do with whether remembering and imagining are products of the same neurocognitive *mechanism*. On the one hand, those who subscribe to mechanistic continuism would hold that remembering and imagining are products of a *single* neurocognitive mechanism. On the other hand, those who subscribe to mechanistic discontinuism would hold that remembering and imagining are products of *distinct* neurocognitive mechanisms that, due to being different from one another, operate according to different principles.

As with the relationship between process and attitudinal (dis)continuism, further work is required to specify the exact way in which the mechanistic (dis)continuism debate relates to the former two. For my purposes, what matters is that mechanistic continuism is *not* incompatible with process discontinuism. Remembering and imagining may be outcomes of the *same* neurocognitive mechanism and still be processes of *different* kinds. More precisely, the fact that remembering and imagining are products of the same neurocognitive mechanism does not imply that they are—or should be—*constrained* in the same way.[18] How that can be the case is, however, a question that needs to be answered if my approach is to succeed.

I will argue that remembering and imagining are constrained in different ways because they involve different types of *source evaluations* (Johnson et al., 1993; Mitchell & Johnson, 2000, 2009). Remembering, on the one hand, involves a source evaluation that the information entertained in mind originates in the *world*—more specifically, in the *actual past*. Imagining, on the other hand, involves a source evaluation that the information entertained in mind originates not in the world, but rather in our own *minds.* Remembering and imagining involve such evaluations because they are monitored by metacognitive processes whose function is to keep track of the origin of the information that is used to construct representations of events.[19]

The different types of source evaluation involved in those processes explains why they are

[18] This assumes, of course, that differences in how those processes are constrained are differences of kind. I address this point in more detail below.

[19] See Johnson et al. (1993) and Mitchell and Johnson (2000, 2009) for a discussion of the relevant metacognitive processes that are responsible for making source evaluations. They refer to their account as the *source monitoring framework.* See also Michaelian (2016c) for discussion in a philosophical context.

constrained in different ways. Because remembered information is entertained as originating in the world, we treat that information as being *responsive* to how the world *was*. And given that how the world was is *not* under our control, remembered information is experienced as not being under our control. In contrast, imagined information is entertained as originating in our own minds, a result of which is that we treat it as being responsive to our minds.[20] And given that how our minds are is, to a large extent, under our control, imagined information is experienced as being under our control.

A few of clarifications are in order here. First, when I say that remembered information is experienced as not being under our control *because* the way the world is is not under our control, and that imagined information is experienced as being under our control *because* the way our minds are is under our control, I should not be read as inferring a psychological claim—i.e., a claim about how our minds work—out of a metaphysical one—i.e., a claim about the nature of things. A more precise (but less economical) formulation would be that remembered information is experienced as not being under our control *because* our experience of the world is such that it does not present itself to us as being under our control. Similarly, imagined information is experienced as being under our control *because* our experience of our minds is such that they present themselves to us as being under our control. These are psychological claims, namely, claims about how we experience things, which are metaphysically neutral.

Second, the claim that remembering involves a source evaluation that the information entertained in mind originates in the actual past does not require adopting a *factive* conception of remembering. In other words, one need not be committed to the idea that information does, as matter of fact, originate in the actual past to accept the claim remembering is constrained by source evaluations in the way I have just described. False memories, or confabulations (Loftus, 2005; Michaelian, 2016b; Robins, 2020), are experienced as being constrained by the actual past, even though it is not the case that they are *actually* constrained by the actual past. Thus, how we experience the constraints applied to remembering at the level of consciousness is independent of whether the world actually was the way we represent it as being in memory.

[20] Note that the claim here is not that we may not treat imaginings as being responsive to the world. As I discuss in more detail in Section 5, some of our imaginings aim to accurately represent the world. However, the constraints in those cases are not due to there being source evaluations which say that the information entertained in mind originates in the events represented. Rather, they are a result of deliberate conscious stipulations that we make in certain contexts that make us treat those imaginings *as if* they are responsive to the world. So, the fact that we sometimes treat imaginings as being responsive to the world is not incompatible with the account offered here.

Third, the claim that remembering is responsive to the actual past is not incompatible with the fact that source evaluations sometimes flag information as originating in past mental states, such as dreams, emotions, or even hallucinatory experiences. Unless one is committed to some form of dualism, there is no reason to suppose that past mental states are not parts of the past world. As such, when we remember those states, we experience the information entertained as being responsive to how those states were experienced. For instance, if what I remember is having dreamed that the Spurs won the Premier League, it is not under my control to remember things differently—e.g., to remember having dreamed that Arsenal won the Premier League. The same goes for hallucinatory experiences. Even if I know that an experience that is remembered was hallucinatory, as long as the memory in question is entertained as a memory of the experience itself, it is not under my control to remember having hallucinated things differently. Thus, for instance, if what I hallucinated was Harry Kane winning the Ballon d'Or, I cannot remember having hallucinated another player winning the same prize.

Fourth, I am not claiming that source monitoring processes *are* the constructive processes of which we are aware in remembering, but only that source monitoring processes constrain conscious constructive processes in remembering. In line with the consciousness-inclusive notion, the idea is that remembering involves manipulation of information at the level of consciousness and that this process is constrained in different ways in remembering and imagining because they involve different types of source evaluations.

In summary, if we take into the account the different types of source evaluations that are at play in remembering and imagining, we can make sense of how remembering and imagining may be products of the same neurocognitive mechanisms while still being processes of different kinds.

There are, however, two important objections that can be raised to my argument at this stage. The first relates to my attempt to account for how remembering is constrained in metacognitive terms. One might argue that metacognitive processes are *not* constitutive of remembering, but rather that they are second-order processes that occur on top of remembering. They are, to be more precise, *meta*remembering or *meta*memory processes (Metcalfe & Dunlosky, 2008). But if that is the case, then it does not follow that remembering and imagining are processes of different kinds because they involve different types of source evaluations.

This objection can be avoided by appealing to the distinction between consciousness-inclusive and consciousness-exclusive notions of remembering introduced in Section 2. If the

notion of remembering at hand is the consciousness-exclusive notion, then the objection has it right that source evaluations are not constitutive of the processes of remembering. However, if the relevant notion at hand is the consciousness-inclusive notion, then it does not follow that source evaluations are processes that occur on top of remembering. In other words, the consciousness-inclusive notion has it that source evaluations are not, properly speaking, metaremembering processes, but rather constitutive of remembering processes themselves. As noted in Section 2, this is because remembering is partly defined in terms of the conscious experiences we have when we are remembering. Moreover, the claim that source evaluations are not metamemory processes is not at odds with the fact that source monitoring is metacognitive in nature—i.e., that it involves the monitoring of other cognitive processes. What is denied by the consciousness-inclusive notion is not that such monitoring happens, but only that the processes that are monitored are *remembering* processes.[21] In other words, the consciousness-inclusive definition accepts that the retrieval of information originating in past experiences can be the subject of metacognitive monitoring, but denies that remembering *just* is the retrieval of information originating in those experiences. Thus, given that the consciousness-inclusive notion is the notion with which I have been concerned, the objection does not succeed in dismissing my argument.

One reaction to this response is that for it to work, proponents of the consciousness-inclusive notion need to say more about why metacognitive evaluations *should be* viewed as constitutive of remembering. An important reason for thinking that this is the case is that *metacognitive feelings* are thought to be constitutive of the phenomenology of remembering. Recently, this idea has been articulated in many forms in the literature. Dokic (2014), for instance, speaks of a "episodic feeling of knowing" as being distinctive of the experience of episodic remembering. Perrin (2018), Perrin, Michaelian, and Sant'Anna (2020), and Perrin and Sant'Anna (2022) have argued that such feeling is best characterized as a "feeling of pastness". Similarly, Sant'Anna (forthcoming) argues that the experience of first-handedness in remembering is best explained in metacognitive terms. So, although it is not my goal here to directly argue for the adoption of the consciousness-inclusive notion, one strong motivation in its favor is that it aligns well with empirically-informed accounts of the phenomenology of remembering.

[21] In this sense, my view is not incompatible with the idea that source monitoring can be directed at other mental processes. The fact that source monitoring processes are constitutive parts of remembering processes does not entail that source monitoring occurs exclusively as a part of remembering or only in relation to retrieval processes.

All of that being said, one might still object that if these considerations are on the right track, then rather than supporting my argument, they provide us with reason for rejecting the consciousness-inclusive notion and to endorse the consciousness-exclusive notion. I do not think that is right, or at least that the burden of proof is with proponents of the consciousness-inclusive notion. The question of whether we should call the retrieval processes that are monitored 'remembering' processes is a substantial question that, surprisingly enough, has not been addressed explicitly in the literature. More importantly, given that, as discussed in Section 2, the consciousness-inclusive notion has been endorsed by different philosophers and psychologists in recent discussions, it would be a mistake to treat the consciousness-exclusive notion as the standard one in this debate.

Finally, the second objection, which is more general in nature, is that that even if we accept that remembering is not under our control in the sense discussed in Section 3.3.2, it does not follow from this that remembering and imagining are discontinuous in terms of how we exercise control over them. More specifically, an objector might point out that if I am right that there are many ways in which remembering and imagining are continuous with one another in terms of the control we exercise over them—i.e., the various ways discussed in Sections 3.1, 3.2, and 3.3.1—then the difference identified in Section 3.3.2 only highlights a difference of *degree*, but not one of *kind*, between remembering and imagining.[22] Given, however, that the (dis)continuism debate is a dispute over whether there are differences of *kind* between remembering and imagining (see Perrin & Michaelian, 2017), one could argue that my argument actually supports a *continuist* view.

This objection touches on a crucial problem surrounding the (dis)continuism debate: that of defining what counts as a difference of degree and what counts as a difference of kind. While those involved in the debate have indeed talked in this way when formulating the debate, very little work has been done to address this more basic question. So, a first thing that can be said in response

[22] See, e.g., Goldwasser (in progress), who defends continuism by arguing that remembering and imagining are alike in terms of the control we exercise over them. There are many similarities between Goldwasser's and my own proposal—e.g., we agree that remembering and imagining are both under our control when it comes to the initiation/termination of those process, the selection of their subject matter, and the order in which those subject matters are represented. We disagree, however, on whether there is a difference in terms of how we intervene in the contents used to represent a subject matter. For Goldwasser, remembering is a constructive imaginative project similar to 'actuality-oriented' and 'constrained' imaginings. As I discuss in more detail in Section 5, I do not think that is the case. Remembering differs from actuality-oriented and constrained imaginings in that only the former is necessarily constrained at the level of consciousness. And given the consciousness-inclusive definition of remembering adopted at the outset, which Goldwasser himself seems to accept, this constitutes a fundamental difference between these processes (see Section 5 for more detail).

to the objection is that worries of this type are not, at least at this stage, restricted to my own approach, but will arise in connection to all attempts to intervene in the (dis)continuism debate.

A second, and perhaps more convincing thing that can be said in response to the objection, is that the way in which the (dis)continuism debate was formulated in Sections 1 and 2 allows us to give a principled answer to the questions of what counts as a difference of kind and what counts as a difference of degree. I proceeded on the assumption that answering the question of whether remembering is constructive imagining requires determining whether these processes are *constrained* in the same way (Langland-Hassan, 2021). Thus, one plausible way to read this claim, and one that I endorse here, is that any differences in how these processes are constrained correspond to differences in kind between them. Although a full defense of this claim cannot be provided here, one reason that can be offered in its support is that if constructive imagining is indeed the relevant sense of 'imagining' at play in the (dis)continuism debate (Langland-Hassan, 2021), and if to imagine in this way is a process of combining information in novel ways over a period of time (Van Leeuwen, 2013, pp. 224-5; see also Langland-Hassan, 2021, pp. 238-9), then whether remembering and (constructive) imagining are constrained in the same way is crucial to determine whether the process of remembering in particular is plausibly described as one in which we combine information in *novel* ways. Now, I argued in this section that remembering is not under our control because it constrained by a source evaluation that attributes a content entertained in mind to the past. Thus, insofar as the differences in the control we exercise over those processes is due to their being constrained in different ways, it follows that not having control over remembering in the sense discussed in Section 3.3.2, but having control over imagining in that same sense, consists in a difference of kind between them.

This discussion also helps to address a related worry that some readers might have. More specifically, it might be argued that if remembering and imagining both involve source evaluations produced by the same source monitoring mechanism, then that seems to suggest that they are actually processes of the *same* kind. The concern is, to be more precise, that it is not obvious why the *content* of the source evaluations involved in remembering and imagining should matter for their individuation as kinds of processes. This concern can be avoided if the process (dis)continuism debate is interpreted as being about the relationship between remembering and constructive imagining, which, again, concerns whether constructive processes in remembering and imagining are constrained in the same way. More specifically, since, due to its content, the

source evaluation that constitutes remembering imposes *constraints* on mnemic constructive processes that are absent in imaginative constructive processes, it follows from how the debate is set up that they are processes of different kinds.

To conclude this section, I will consider the relationship between my view and that of Robins (2023), who has recently claimed that remembering and imagining differ in terms of whether we can select their contents and hence that we lack control over the former. Although similar on the surface, Robins' attempt to articulate this idea faces several problems that my view does not.[23]

Perhaps the main problem, and also the main difference between the approaches, is that Robins takes remembering processes to be entirely unconscious, and she assumes that construction in remembering processes is merely construction at retrieval (Robins 2023, p. 177). This makes it difficult to square with her claim that the involvement in remembering of an attitude of "seeming to remember"—defined in terms of the entertainment in mind of a content as something that was previously acquired (Robins 2020, p. 479)—is what explains why remembering and imagining are different constructive processes (2023, p. 176). The notion of an attitude, as Robins (2020) acknowledges in several passages, is traditionally used to characterize mental *states*, so an account of how they are related to the processes underlying those states, especially if those processes are unconscious, is required. Robins (2020) offers no such account, focusing instead on considerations about how mental states involving the relevant attitudes are useful in experimental settings.[24] The same is true of Robins (2023), which, despite trying to make a claim about the nature of remembering as a process, remains silent on the matter. It is therefore difficult to assess the implications of the view without further elaboration on Robins' part. There are, however, two ways in which we could make sense of the relationship between the attitude of seeming to remember and the process of remembering that could be used to motivate Robins' proposal.

The first, which is suggested by how Robins (2020) uses the notion, consists in taking the relevant attitude to accompany the outputs of remembering processes—that is, the mental representations we enjoy when we remember the past. The problem with this proposal is, however, that it is hard to see how the attitude in question can constrain the relevant constructive processes

[23] I am grateful to an anonymous referee for making very detailed suggestions of how elements of Robins' view could be further elaborated and for requesting that I discuss those developments.

[24] In fairness, Robins' (2020) goal is that of showing that talk of attitudes is compatible with a naturalistic approach to remembering, and not specifically that of showing how talk of attitudes relates to talk of processes.

if the attitude targets the *outputs* of those processes—i.e., if the attitude only occurs when the relevant processes have already been completed. This seems to suggest that the constraints that attitudes set on processes is applied *retroactively*, which, for obvious reasons, is implausible.

Thus, a second characterization has it that seeming to remember attitudes accompany the processes themselves, such that they constrain the way in which retrieval processes unfold. While this alternative might appear more promising at first glance, it also faces a serious difficulty. In the absence of further clarification, it is not at all obvious what it means to say that attitudes accompany processes, and, in particular, that they target *unconscious* retrieval processes, such that they can *constrain* those processes. This way of talking becomes particularly puzzling when we consider how the notion is introduced and motivated by Robins (2020, pp. 478-80); that is, as a key component in defining the nature of *mental states*, one that explains the way in which we entertain contents *in mind*. This suggests not only that what attitudes target—i.e., mental contents—lie in the realm of consciousness, but also that any constraints set by attitudes apply to the contents of remembering, and not the processes that produce those contents. But if that is the case, then we are back to the retroactivity problem faced by the first characterization of the relationship between attitudes and processes: attitudes cannot constrain the relevant processes if what they target are the outputs of those processes.

These are not, of course, knock-down objections to Robins', but given that she has not elaborated on these points, these issues pose themselves as significant ones to her project as it is currently articulated in print. More importantly, the view I advocate here does not face these problems. Because I distinguish between conscious and unconscious constructive processes, I am not committed to the claim that the way in which we entertain contents in mind—which I prefer to characterize in terms of metacognitive evaluations—constrain unconscious retrieval processes. All my view requires is the claim that metacognitive evaluations that accompany retrieved contents constrain conscious constructive processes in remembering. In other words, it is in virtue of those evaluations that we cannot consciously manipulate the contents of our memories in the same way that we can consciously manipulate the contents of our imaginings. There is not, in this sense, a problem with constraints being applied retroactively. The relevant evaluations are applied to retrieved contents, which in turn constrain the way in which conscious manipulation of those retrieved contents will unfold from that point onwards. Moreover, if one is inclined to view the type of metacognitive evaluations that I discuss in Section 4 as attitudes in Robins' sense, then it

follows that my view is on much better footing to account for the role of such attitudes in constraining remembering than Robins' view is.

Another important difference between my view and Robins' concerns the scope and explanatory depth of the accounts. Robins focuses on a specific set of cases of constructive imagining, i.e., ones that involve *attitudinal imagining*. Attitudinal imaginings are cases in which we entertain the contents of imaginings as being hypothetical, i.e., as not aiming to represent the actual world. Constructive imagining does not, however, require attitudinal imagining (Van Leeuwen 2013, p. 211). As I discuss in Section 5, there are cases of imaginings in which contents are entertained as actual and which are also plausibly described as instances of constructive imagining. Robins focuses exclusively on 'attitudinal' or hypothetical imaginings, but it is not obvious whether this narrow focus is warranted. More crucially, the fact that Robins overlooks cases of actuality-oriented and constrained imaginings may be seen as a significant weakness in the account. It has been argued that actuality-oriented imaginings involve attitudes that are very similar to the attitude of remembering (see Munro, 2021), which, in the context of a view that places a lot of weight on the attitude of remembering such as Robins', seems to imply that there is no fundamental difference in how constructive processes in remembering and imagining are carried out. In addition, Robins does not consider potentially problematic cases of remembering, such as vicarious memories, perspective switching, and cases of semantic incorporation (see Section 3.3.3). Since my approach is not restricted to attitudinal imagining, but is meant to cover all cases of constructive imagining (see Section 5 for a discussion of actuality-oriented and constrained imaginings), and since it also considers various problematic cases of remembering, it is more fitting to consider the relationship between remembering and imagining more generally.

Yet another major difference between the two approaches is that Robins thinks that we are not aware of constructive processes in remembering, while I argue that remembering is in part defined by conscious constructive processes. Crucially, Robins simply assumes this to be the case, which is a direct consequence of her taking construction in remembering to be restricted to construction at retrieval (Robins 2023, p. 177). However, as I have argued in in this section, there are many ways in which we can consciously manipulate information in remembering—i.e., in which remembering is plausibly characterized as being constructive at the level of consciousness—that are not reducible to, or explainable in terms of, construction at retrieval. In addition, given the fact that remembering and imagining seem to be analogous in this way—

namely, in having conscious and unconscious constructive dimensions (see Section 2)—the fact that Robins does not consider this dimension is an important oversight. In contrast, my own account takes both dimensions on board and argues that the relevant difference of kind between remembering and imagining is to be found at the conscious constructive dimension of those processes.

In summary, Robins' view (1) struggles to make sense of how attitudes constrain retrieval processes, (2) is too narrow in focus, failing to consider problematic cases of imagining such as actuality-oriented imaginings, and problematic cases of remembering, such as vicarious memories, perspective switching, and cases of semantic incorporation, and (3) ignores the conscious constructive dimension of remembering. In contrast, my own view offers (1) an unproblematic way of making sense of the involvement of attitudes in remembering, (2) offers an account of problematic cases of remembering and imagining, and (3) fully acknowledges the conscious constructive dimension of remembering and explains how it differs from conscious construction in imagining.

5. Actuality-oriented and constrained imaginings

The claim that remembering and imagining are constrained in different ways at the level of consciousness is likely to be viewed as problematic in relation to two types of imaginings. In this section, I discuss why, despite appearing problematic on the face of it, these two types of imagining do not challenge my argument.

The first type of imaginings, which we might call *actuality-oriented imaginings*, refers to situations in which we imagine *actual* events, past or present, and try to get things right with regard to those events (Munro, 2021). For instance, I can imagine the Waterloo battle and try to get things right with respect to the historical event. The second, which we might call *constrained imaginings*, refers to cases in which we imagine possible scenarios, but constrain our imaginings in specific ways (Kind, 2016; Badura & Kind, 2021). For instance, when trying to predict how my boss will react to my request for a pay raise, I need to constrain my imaginings in certain ways to take into account his personality, his mood that day, and so on and so forth.

Do actuality-oriented and constrained imaginings challenge the claim that only the contents of remembering cannot be intervened on? I do not think they do. While remembering, actuality-oriented, and constrained imaginings are all constrained by how the world is or was, they differ in

terms of *whether* they are necessarily constrained in this way at the level of consciousness. On the one hand, experiencing a constructive process as being responsive to the past is essential to determining whether that process is one of remembering. I cannot, for instance, engage in the process of remembering and, at the same time, entertain a certain piece of information as *not* originating in the past. This is because, I argued, remembering is constrained by a source evaluation that the information entertained in mind originates in the past. And since it is not under our control that remembering involves such a source evaluation, we experience remembering as being necessarily constrained in this way.

On the other hand, experiencing a constructive process as being responsive to an actual or likely event is not essential to determining whether that process is one of imagining. Representing in mind how the Waterloo battle actually unfolded and how it could have unfolded if certain things had been different *both* count as occurrences of imagining. And such is the case because the constraints that are set on imaginings are not established by source evaluations that the information entertained in mind originates in the events represented, but rather by *conscious stipulations*. More specifically, the reason that my actuality-oriented imagining of the Waterloo battle is constrained by the historical event is that *I* stipulate that, first, some constraints will apply on my imagining, and second, that those constraints will be determined by an actual event. In clear contrast to remembering, then, whether imaginings are constrained is something that is under our control. And, for that reason, we do not experience actuality-oriented and constrained imaginings as being necessarily constrained.

One might respond here by saying that some memories *are* constrained by conscious stipulation. For instance, when I decide to remember what I had for dinner last Saturday, I am consciously stipulating the constraints that apply on my memory in that situation—namely, that it should represent what I had for dinner last Saturday, but not what I had for dinner on Monday, or what I had for dinner on Christmas' Eve. The problem with this suggestion is, however, that it conflates two different ways in which we can say that remembering and imagining are (or are not) constrained by conscious stipulation. One is by saying that the *subject matter* that constrains remembering and imagining is determined by conscious stipulation. Both remembering and imagining can be constrained by conscious stipulation in this sense, for, as discussed in Section 3.2, their subject matters are under our conscious control. This is the sense in which my memory of what I had for dinner last Saturday is constrained by conscious stipulation.

However, another way in which we can say that remembering and imagining are (or are not) constrained by conscious stipulation is in terms of whether we can consciously stipulate whether any constraints will be applied to those processes in the first place. And it is in this sense that, I submit, remembering is not constrained by conscious stipulation. Again, as noted before, it is not under my control to engage in the process of remembering and, at the same time, decide not to entertain the relevant contents as originating in the past. It is, however, up to me whether an imagining will be constrained in this way, or, for that matter, whether it will be constrained in *any* way at all. This becomes clearer when we consider the fact that lifting the constraints of actuality-oriented and constrained imaginings does *not* alter the fact that I am still engaged in the process of imagining, but lifting the constraints of remembering *does* alter the fact that one is remembering—i.e., one ceases to be remembering and engages in imagining.

In summary, the main difference between remembering, actuality-oriented, and constrained imaginings has do to with how they are constrained. Remembering is constrained by source evaluations. Actuality-oriented and constrained imaginings are constrained by conscious stipulation. As such, whether the latter are constrained by the world is not fundamental to determining whether one is engaged in the process of imagining. However, remembering is not like that. Part of what it means to remember is that the information entertained by one is experienced as being constrained by the past. If such a constraint is lifted, then one is no longer engaged in the process of remembering. It is therefore not surprising that, given this fact about remembering, its content is not under our control.

6. Conclusion

In this paper, I argued that despite being a highly constructive process, the way in which remembering is constructive is different from the way in which imagining is constructive. This is because, I suggested, constructive processes in remembering and constructive processes in imagining are *constrained* in different ways. More specifically, they differ in terms of how we can intervene in the contents that figure in the representation of a subject matter. In addition, I argued that these differences can be explained in terms of the source evaluations that are involved in both processes. On the one hand, remembering involves source evaluations that attribute information entertained in mind to how things were in the past. For this reason, remembering is experienced as being responsive to the world, and, consequently, as not being under our control. On the other

hand, imagining involves source evaluations that attribute information entertained in mind to our own minds. For this reason, imagining is experienced as being responsive to our own minds, and, consequently, as being under our control.

This discussion puts us in a position to revisit the question with which we started, namely, is remembering a form of imagining? If what we mean by 'remembering' is, as specified in Section 2, the consciousness-inclusive definition, and if what we mean by 'imagining' is constructive imagining, then the investigation into how those processes are constrained at the level of consciousness shows that remembering is *not* a form of imagining.

Acknowledgements: I am particularly grateful to Seth Goldwasser and Peter Langland-Hassan for their feedback on earlier versions of the manuscript and three anonymous referees for their detailed and very helpful suggestions. I would also like to thank the members of the internal seminar of the Centre for Philosophy of Memory at the Université Grenoble Alpes and the audience at the *Imagination & Memory: A Matter of Degrees?* workshop at the Institut Jean Nicod in 2021 for helpful discussion. Work on this paper was partially funded by the Alexander von Humboldt Foundation under the Humboldt Research Fellowship scheme.

References

Addis, D. R. (2020). Mental Time Travel? A Neurocognitive Model of Event Simulation. *Review of Philosophy and Psychology*, *11*(2), 233–259. https://doi.org/10.1007/s13164-020-00470-0

Arango-Muñoz, S. & Bermúdez, J. P. 2018. Remembering as a mental action. In K. Michaelian, D. Debus, and D. Perrin (Eds.), *New Directions in the Philosophy of Memory* (pp. 75-96). Routledge.

Badura, C., & Kind, A. (2021). Introduction: The Epistemic Role of Imagination. In C. Badura & A. Kind (Eds.), *Epistemic Uses of Imagination* (pp. 1–20). Routledge.

Bernecker, S. (2010). *Memory: A Philosophical Study*. Oxford University Press.

Berntsen, D. (2010). The Unbidden Past: Involuntary Autobiographical Memories as a Basic Mode of Remembering. *Current Directions in Psychological Science*, *19*(3), 138–142. https://doi.org/10.1177/0963721410370301

Cheng, S., & Werning, M. (2016). What is episodic memory if it is a natural kind? *Synthese*, *193*(5), 1345–1385.

Craver, C. F. (2020). Remembering: Epistemic and Empirical. *Review of Philosophy and Psychology*, *11*(2), 261–281. https://doi.org/10.1007/s13164-020-00469-7

De Brigard, F. (2014a). Is memory for remembering? Recollection as a form of episodic hypothetical thinking. *Synthese*, *191*(2), 155–185.

De Brigard, F. (2014b). The nature of memory traces. *Philosophy Compass*, *9*(6), 402–414.

Debus, D. (2010). Accounting for Epistemic Relevance: A New Problem for the Causal Theory of Memory. *American Philosophical Quarterly*, *47*(1), 17–29.

Debus, D. (2014). "Mental time travel": Remembering the past, imagining the future, and the particularity of events. *Review of Philosophy and Psychology*, *5*(3), 333–350.

Dokic, J. (2014). Feeling the past: A two-tiered account of episodic memory. *Review of Philosophy and Psychology*, *5*(3), 413–426.

Dorsch, F. (2012). *The Unity of Imagining*. De Gruyter.

Fernández, J. (2019). *Memory: A Self-Referential Account*. Oxford University Press.

Goldwasser, S. (2022). Memory as Skill. *Review of Philosophy and Psychology*, 1-24. Online ahead of print.

Goldwasser, S. (In progress). Remembering as a Mental Action and (Dis)continuism.

Hassabis, D., & Maguire, E. A. (2009). The construction system of the brain. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1521), 1263–1271. https://doi.org/10.1098/rstb.2008.0296

Hopkins, R. (2018). Imagining the Past: On the Nature of Episodic Memory. In F. MacPherson & F. Dorsch (Eds.), *Perceptual Imagination and Perceptual Memory*. Oxford University Press.

Hutto, D. D. (2023). Remembering without a trace? Moving beyond trace minimalism. In A. Sant'Anna, C. J. McCarroll, & K. Michaelian (Eds.), *Current Controversies in Philosophy of Memory*. Routledge.

Jennings, C. D. (2022). *Attention and Mental Control*. Cambridge University Press.

Johnson, M. K., Hashtroudi, S., & Lindsay, D. S. (1993). Source monitoring. *Psychological Bulletin*, *114*(1), 3–28. https://doi.org/10.1037/0033-2909.114.1.3

Kind, A. (2016). Imagining Under Constraints. In A. Kind & P. Kung (Eds.), *Knowledge Through Imagination* (pp. 145–159). Oxford University Press.

Klein, S. B. (2015). What memory is. *Wiley Interdisciplinary Reviews: Cognitive Science*, *6*(1), 1–38. https://doi.org/10.1002/wcs.1333

Langland-Hassan, P. (2021). What Sort of Imagining Might Remembering Be? *Journal of the American Philosophical Association*, *7*(2), 231–251. https://doi.org/10.1017/apa.2020.28

Langland-Hassan, P. (2022). Propping up the causal theory. *Synthese*, *200*(95), 231–251. https://doi.org/10.1007/s11229-022-03635-9

Langland-Hassan, P. (2023a). Remembering, Imagining, and Attitudinal Continuism. In A. Berninger & Í. Vendrell Ferran (Eds.), *Philosophical Perspectives on Memory and Imagination*. Routledge.

Langland-Hassan, P. (2023b). Remembering, imagining, and memory traces: Toward a continuist causal theory. In A. Sant'Anna, C. J. McCarroll, & K. Michaelian (Eds.), *Current Controversies in Philosophy of Memory*. Routledge.

Loftus, E. F. (2005). Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. *Learning & Memory*, *12*(4), 361–366.

Mahr, J., & Csibra, G. (2018). Why do we remember? The communicative function of episodic memory. *Behavioral and Brain Sciences*, *41, E1*. https://doi.org/10.1017/S0140525X17000012

Martin, C. B., & Deutscher, M. (1966). Remembering. *Philosophical Review*, *75*(2), 161–196.

McCarroll, C. J. (2018). *Remembering from the outside: Personal memory and the perspectival mind*. Oxford University Press.

McCarroll, C. J. (2023). Memory and Imagination, Minds and Worlds. In A. Berninger & Í. Vendrell Ferran (Eds.), *Philosophical Perspectives on Memory and Imagination*. Routledge.

McCarroll, C. J. & Sant'Anna, A. (2023). Cryptomnesia: A Three-Factor Account. *Synthese*, 201: 23.

McNally, R. J. (2005). *Remembering Trauma*. Harvard University Press.

Mele, A. (2009). Mental action: A case study. In L. O'Brien and M. Soteriou. (Eds.), *Mental Actions* (pp. 17‑37). Oxford University Press.

Metcalfe, J., & Dunlosky, J. (2008). Metamemory. In J. H. Byrne (Ed.), *Learning and Memory: A Comprehensive Reference* (pp. 349–362). Academic Press. https://doi.org/10.1016/B978-012370509-9.00159-5

Michaelian, K. (2016a). Against discontinuism: Mental time travel and our knowledge of past and future events. In K. Michaelian, S. B. Klein, & K. K. Szpunar (Eds.), *Seeing the Future: Theoretical Perspectives on Future-Oriented Mental Time Travel* (pp. 62–92). Oxford University Press.

Michaelian, K. (2016b). Confabulating, misremembering, relearning: The simulation theory of memory and unsuccessful remembering. *Frontiers in Psychology*, *7*, 1857.

Michaelian, K. (2016c). *Mental Time Travel: Episodic Memory and Our Knowledge of the Personal Past*. MIT Press.

Michaelian, K., Perrin, D., & Sant'Anna, A. (2020). Continuities and discontinuities between imagination and memory: The view from philosophy. In A. Abraham (Ed.), *Cambridge Handbook of Imagination*. Cambridge University Press.

Michaelian, K., Perrin, D., Sant'Anna, A., & Schirmer dos Santos, C. (2022). Mental Time Travel. In V. P. Glăveanu (Ed.), *The Palgrave Encyclopedia of the Possible* (pp. 1–8). Springer International Publishing. https://doi.org/10.1007/978-3-319-98390-5_222-1

Mitchell, K. J., & Johnson, M. K. (2000). Source monitoring: Attributing mental experiences. In E. Tulving & F. I. M. Craik (Eds.), *The Oxford handbook of memory* (pp. 179–195). Oxford University Press.

Mitchell, K. J., & Johnson, M. K. (2009). Source monitoring 15 years later: What have we learned from fMRI about the neural mechanisms of source memory? *Psychological Bulletin*, *135*(4), 638–677. https://doi.org/10.1037/a0015849

Munro, D. (2021). Remembering the Past and Imagining the Actual. *Review of Philosophy and Psychology*, *12*(2), 175–197. https://doi.org/10.1007/s13164-020-00499-1

Perrin, D. (2016). Asymmetries in subjective time. In K. Michaelian, S. B. Klein, & K. K. Szpunar (Eds.), *Seeing the Future: Theoretical Perspectives on Future-Oriented Mental Time Travel* (pp. 39–61). Oxford University Press.

Perrin, D., & Michaelian, K. (2017). Memory as mental time travel. In S. Bernecker & K. Michaelian (Eds.), *The Routledge Handbook of Philosophy of Memory* (pp. 228–239). Routledge.

Perrin, D. (2018). A case for procedural causality in episodic recollection. In K. Michaelian, D. Debus, & D. Perrin (Eds.), *New Directions in the Philosophy of Memory* (pp. 33–51). Routledge.

Pillemer, D. B., Steiner, K. L., Kuwabara, K. J., Thomsen, D. K., & Svob, C. (2015). Vicarious memories. *Consciousness and Cognition*, *36*, 233-245.

Perrin, D., Michaelian, K., & Sant'Anna, A. (2020). The phenomenology of remembering is an epistemic feeling. *Frontiers in Psychology*, *11*, 1531.

Rice, H. J., & Rubin, D. C. (2011). Remembering from any angle: The flexibility of visual perspective during retrieval. *Consciousness and Cognition*, *20*(3), 568–577.

Robins, S. K. (2016). Representing the past: Memory traces and the causal theory of memory. *Philosophical Studies*, *173*(11), 2993–3013.

Robins, S. K. (2017). Memory traces. In S. Bernecker & K. Michaelian (Eds.), *The Routledge Handbook of Philosophy of Memory* (pp. 76–87). Routledge.

Robins, S. K. (2020a). Mnemonic Confabulation. *Topoi*, *39*(1), 121–132. https://doi.org/10.1007/s11245-018-9613-x

Robins, S. K. (2020b). Defending Discontinuism, Naturally. *Review of Philosophy and Psychology*, *11*(2), 469–486. https://doi.org/10.1007/s13164-020-00462-0

Robins, S. K. (2023). Episodic memory is not for the future. In A. Sant'Anna, C. J. McCarroll, & K. Michaelian (Eds.), *Current Controversies in Philosophy of Memory*. Routledge.

Sant'Anna, A. (2021). Attitudes and the (dis)continuity between memory and imagination. *Estudios de Filosofía*, *64*, 73–93. https://doi.org/10.17533/udea.ef.n64a04

Sant'Anna, A. (Forthcoming). Metacognition and the puzzle of alethic memory. *Philosophy and the Mind Sciences*.

Sant'Anna, A., Michaelian, K., & Perrin, D. (2020). Editorial: Memory as Mental Time Travel. *Review of Philosophy and Psychology*, *11*(2), 223–232. https://doi.org/10.1007/s13164-020-00484-8

Schacter, D. L., & Addis, D. R. (2007). The cognitive neuroscience of constructive memory: Remembering the past and imagining the future. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *362*(1481), 773–786. https://doi.org/10.1098/rstb.2007.2087

Schacter, D. L., Addis, D. R., Hassabis, D., Martin, V. C., Spreng, R. N., & Szpunar, K. K. (2012). The future of memory: Remembering, imagining, and the brain. *Neuron*, *76*(4), 677–694.

Schirmer dos Santos, C., McCarroll, C. J., & Sant'Anna, A. (2023). The relation between memory and imagination: A debate about the right concepts. In A. Sant'Anna, C. J. McCarroll, & K. Michaelian (Eds.), *Current Controversies in Philosophy of Memory*. Routledge.

St. Jacques, P. L. (2019). A new perspective on visual perspective in memory. *Current Directions in Psychological Science*, *28*(5), 450-455.

Strawson, G. (2003). Mental ballistics or the involuntariness of spontaneity. *Proceedings of the Aristotelian Society,* 103(1): 227-256.

Sutton, J. (1998). *Philosophy and Memory Traces: Descartes to Connectionism*. Cambridge University Press.

Sutton, J., & O'Brien, G. (2023). Distributed traces and the causal theory of constructive memory. In A. Sant'Anna, C. J. McCarroll, & K. Michaelian (Eds.), *Current Controversies in Philosophy of Memory*. Routledge.

Tulving, E. (2002). Episodic memory: From mind to brain. *Annual Review of Psychology*, *53*(1), 1–25.

Van Leeuwen, N. (2013). The Meanings of "Imagine" Part I: Constructive Imagination. *Philosophy Compass*, *8*(3), 220–230. https://doi.org/10.1111/j.1747-9991.2012.00508.x

Van Leeuwen, N. (2014). The Meanings of "Imagine" Part II: Attitude and Action. *Philosophy Compass*, *9*(11), 791–802. https://doi.org/10.1111/phc3.12141

Werning, M. (2020). Predicting the Past from Minimal Traces: Episodic Memory and its Distinction from Imagination and Preservation. *Review of Philosophy and Psychology*, *11*(2), 301–333. https://doi.org/10.1007/s13164-020-00471-z