Current controversies in philosophy of memory

Editors' introduction

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0.1 Introduction

'If philosophy begins with wonder', Edward Furlong tells us, 'then the philosophy of memory should have made a good beginning'. The reason, he continues, is that memory 'offers many topics to draw our attention and whet our curiosity' (1951: 1). Given the range of topics of philosophical interest that fall under the heading of memory, it should perhaps come as no surprise that memory has been an increasingly prominent theme over the last few years in philosophy, a period during which the philosophy of memory has established itself as a distinct field of research (Bernecker & Michaelian 2017; Michaelian, Debus, & Perrin 2018). Memory is a theme that a growing community of philosophers has been wondering over and puzzling about.

The philosophy of memory deals both with questions that were already discussed in older historical works and, driven in part by the influence of neighbouring disciplines—including the psychology and neuroscience of memory—with a range of newer questions. Some of these are ethical or political in character. Do we have a duty to remember the past? How do the ways in which we remember past historical events shape our conception of the world today? But most questions are metaphysical or epistemological in character. How many types of memory are there? What is the nature of the conscious experience of remembering? How does memory give us knowledge of the past? These and related questions are the focus of ongoing controversy among philosophers of memory.

A distinctive feature of recent philosophy of memory has been its close engagement with empirical disciplines, such as psychology and neuroscience, which have memory among their objects of study. Results from these fields have been put to work in addressing various issues pertaining to the metaphysics and epistemology of memory, and, perhaps in consequence, *episodic memory*—memory for the events of the personal past (Tulving 1985)—has come to be the focus of most research in philosophy of memory. When one remembers the first time that one visited Grenoble, or when one remembers one's college graduation ceremony, one remembers episodically. Such memories come with a rich phenomenology, involving both quasi-sensory features, such as 'seeing' the mountain

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ranges that surround Grenoble 'in the mind's eye', and self-involving and temporal features, such as one's awareness of one's graduation ceremony as something that one *oneself* experienced in *the past*. Understood along these lines, episodic memory contrasts with semantic memory, which refers to memory for facts (Tulving 1972, 1985). When one remembers that Wellington is the capital of New Zealand or that Pedro Álvares Cabral was the first European to reach Brazil, one remembers semantically. Because semantic memory is solely concerned with facts, it lacks the rich phenomenology characteristic of episodic memory.[1]

Another consequence of the close interaction between philosophy and the empirical sciences of memory has been the widespread recognition, in philosophy, of the constructive nature of episodic memory (Bartlett, 1932; Sutton 1998; Schacter et al. 2012), as well as the tight connection between remembering and other imaginative processes (Michaelian 2016b; Addis 2020). Empirical evidence has demonstrated that remembering is an active process that draws on various sources of information to construct representations of the past. What one now knows or feels, for example, can affect how one remembers a past event. Due to its constructive character, memory is prone to systematic errors. Yet what may seem like a negative or problematic aspect of memory—its proneness to error—has, in a distinct but related line of research, been construed in a different way: though construction in remembering often results in mistakes or misrepresentations of past events, its role may nevertheless be positive on the whole, in the sense that it allows information to be flexibly recombined so as to enable simulations of counterfactual past events and possible future events (De Brigard 2014). The constructive nature of remembering is thought to be a result of the tight connection between different forms of episodic imagination. The philosophy of memory today takes constructive remembering as an accepted starting point and the relationship between remembering and other imaginative processes as an issue for debate.

The surge of philosophical interest in episodic memory has brought to light a number of controversial questions about that form of memory that have only recently begun to be addressed in detail. Taking recent research as its starting point, this book brings together discussions of six such questions by experts in the field. The book's focus on episodic memory is justified by two factors. First and foremost, it reflects the focus of most current work in the philosophy of memory on episodic memory. Second, given that recent volumes, such as *The Routledge Handbook of Philosophy of Memory* (Bernecker & Michaelian 2017) and *New Directions in the Philosophy of Memory* (Michaelian, Debus, & Perrin 2018), discuss questions concerning other types of memory, there was a need for a volume focussing exclusively on episodic memory.

The relationship between this and other recent volumes also played a role in our selection of particular controversies for inclusion in the book. Given that other volumes do discuss episodic memory, we have avoided overlap where possible, giving priority to controversies not discussed elsewhere. While we believe that our selection reflects some of the main topics driving research in

contemporary philosophy of memory, we emphatically do not intend it to be an exhaustive list of topics that figure in the rich work currently being done by philosophers of memory. Rather, we hope that, by highlighting particular controversies, the book will help to promote and consolidate research on some of the most exciting topics in the field.

0.2 The book

The book is divided into six parts, each including two contributions responding to the same controversial question about episodic memory. The two contributions in each part offer different perspectives on the question, providing the reader with the means to come to a balanced assessment of the controversy. We expect the book to constitute a valuable resource for researchers, teachers, and students alike. For researchers, it provides an up-to-date discussion of some of the main theories, arguments, and problems in the area. For teachers, the book can provide the readings for an entire course, or particular sections can provide the readings for specific units within a broader philosophy of memory course. For students, the book offers accessible discussions of some of the most recent topics in the philosophy of memory, which, when taken together, serve as a well-rounded introduction to the area. Moreover, each part contains a list of further readings and a list of questions for further study designed to supplement the chapters.

0.3 The controversies

The six controversies discussed in the book are the following.

Part I: What is the relationship between memory and imagination?
Part II: Do memory traces have content?
Part III: What is the nature of mnemonic confabulation?
Part IV: What is the function of episodic memory?
Part V: Do non-human animals have episodic memory?
Part VI: Does episodic memory give us knowledge of the past?

In this section, we briefly introduce these controversies and provide a summary of each part of the book.

0.3.1 Part I: What is the relationship between memory and imagination?

The ongoing controversy between the causal theory of memory (Martin & Deutscher 1966; Bernecker 2010), on which remembering necessarily involves an appropriate causal connection to the remembered event, and the simulation theory of memory (Michaelian 2016b, 2021), on which remembering is a kind of imagining and therefore does not necessarily involve a causal connection to the remembered event, has triggered a controversy between discontinuists and

continuists about the relationship between episodic memory and forms of imagination such as episodic future thought (Perrin & Michaelian 2017; Michaelian, Perrin & Sant'Anna 2020). On the one hand, discontinuists (e.g., Debus 2014; Perrin 2016; Robins 2020) maintain that, while there may be important similarities between remembering the past and imagining the future—such as the fact that both processes depend on a common brain system—there are fundamental metaphysical or epistemological differences between them. On the other hand, continuists (e.g., Addis 2020; Michaelian 2016a) maintain that, while there may be interesting differences between remembering the past and imagining the future—such as the fact that certain parts of the brain system on which they both depend may be more or less active in one or the other process—there is no fundamental metaphysical or epistemological difference between them.

Discontinuism, at least at first glance, would seem to align with the causal theory. Because causalism treats remembering as necessarily involving an appropriate causal connection to the remembered event, whereas imagination does not necessarily involve a causal connection to the imagined event, and because the presence or absence of a causal connection might naturally be thought to have important metaphysical and epistemological consequences, it is natural to suppose that causalists must be committed to discontinuism. By the same token, continuism would seem to align naturally with the simulation theory. Recent work, however, has tended to call these alignments into question, with some authors arguing that the continuism–discontinuism debate ought, strictly speaking, to be treated as distinct from the causalism–simulationism debate (e.g., Langland-Hassan 2021; Sant'Anna 2021). Both Langland-Hassan's chapter and Schirmer dos Santos, McCarroll, and Sant'Anna's chapter in this volume exemplify this tendency.

Beginning by pointing out that both continuists and discontinuists have failed to give an adequate description of the particular form of imagination with which episodic memory might or might not be continuous, **Langland-Hassan** argues that the form of imagination in question is best understood as what philosophers of imagination have referred to as 'constructive imagination'. He then suggests that the continuism–discontinuism debate can be resolved by determining whether the traces that are involved in remembering impose constraints on remembering in virtue of which it cannot qualify as a kind of constructive imagination. After setting out two incompatible conceptions of traces, the 'prop theory' and the 'replay theory', he argues that the prop theory tends to support continuism and the replay theory to support discontinuism. While he does not think that the available empirical evidence settles things in favour of one or the other of these conceptions—and so in favour of either continuism or discontinuism—he goes on to suggest that it may be possible to formulate a continuist version of the causal theory that combines the prop theorist's conception of traces with the causalist's understanding of remembering as necessarily involving appropriate causation.[2]

Taking a different tack, **Schirmer dos Santos, McCarroll, and Sant'Anna** argue that causalists and simulationists may simply be working with different concepts of memory, so that they end up talking past each other. They do not, however, mean to suggest that the causalist–simulationist debate is merely

verbal, for we are entitled to ask which concept of memory we ought to employ. They thus suggest that the causalist–simulationist debate be reinterpreted as a debate about which concept of memory we should employ—that it be understood, in other words, as concerning a normative question, rather than a descriptive question: causalists, they claim, prescribe a concept of memory on which it necessarily involves appropriate causation, whereas simulationists prescribe a concept of memory on which it does not necessarily involve causation. They go on to argue that if this understanding of the causalist–simulationist debate is right, then the continuist–discontinuist debate need not be understood as concerning the necessity of appropriate causation: it can, instead, be understood as concerning the attitudes that characterise remembering and imagining.

0.3.2 Part II: Do memory traces have content?

Memory traces figure centrally in most current philosophical theories of remembering.[3] The causal theory of memory (Bernecker 2010), which treats appropriate causation as the defining feature of genuine remembering, sees them as making the difference between an appropriate and an inappropriate causal connection between an apparent memory and the corresponding apparently remembered event. Only if the causal connection between the apparent memory and the apparently remembered event is sustained by a memory trace is the apparent memory a genuine memory—otherwise, the apparent memory is merely apparent. Consider, for example, a case of relearning in which the subject experiences an event, tells a friend about it, completely forgets about it, is told about the event by his friend, completely forgets being told about it, and then apparently remembers it on the basis of what his friend told him (Martin & Deutscher 1966). There is, in this case, a causal connection between the apparent memory and the event, but, according to the causal theory, the subject does not—given that the trace of his experience of the event is lost and therefore does not contribute to his apparent memory of it—genuinely remember the event. The simulation theory of memory (Michaelian 2016b), which holds that remembering is a matter of reliably imagining the past, disagrees with the causal theory in that it denies that appropriate causation is necessary for genuine remembering but agrees with the causal theory in that it accepts that remembering centrally involves traces. On the one hand, simulationists maintain that relearning can, if the process that produces the apparent memory is reliable, amount to remembering. On the other hand, they assume that the kind of imagination that is at work when we remember itself draws on traces: there is no requirement, according to simulationism, that a genuine memory derive from a trace originating in the subject's experience of the remembered event, but traces nevertheless provide the raw materials for our imaginings, both when we are imagining the future and when we are imagining (that is, remembering) the past.

There is thus a broad consensus on the importance of traces to a philosophical account of memory. Despite this consensus, traces have been and continue to be controversial. Whereas older controversies tended to concern the very existence

of traces (Sutton 1998), current controversies tend to focus on their nature. One current controversy concerns the format of traces, with some treating traces as local entities, while others conceive of them as being distributed (Robins 2016a). Another current controversy concerns the content of traces: there is increasing tendency, among both causalists (Perrin 2018; Werning 2020) and simulationists (Michaelian & Sant'Anna 2021), to see traces as being contentless in character. It is in this controversy that Hutto's and Sutton and O'Brien's chapters intervene.

Noting that there is an increasing tendency to treat traces as contentless, **Hutto**, building on the radical enactivist approach to cognition that he has defended elsewhere (Hutto & Myin 2012, 2017), argues that, rather than seeing traces as contentless, we should go one step further, abandoning any reference to traces in our theories of remembering. The basic strategy of Hutto's argument is straightforward. He begins by pointing out that any account of the nature of traces on which they have representational content faces the 'hard problem of content', the challenge of providing a naturalistically respectable theory of content, a challenge that, he argues, likely cannot be overcome. He then singles out Werning's (2020) trace minimalism, a causalist approach that he sees as the most detailed effort to date to provide an account of traces on which they involve only noncontentful information, and argues that even this account does not avoid the hard problem of content. He therefore concludes that we should leave traces behind entirely, focussing instead on developing an enactivist approach on which remembering does not involve even minimal traces, an approach that, he suggests, aligns naturally with simulationism.

Though **Sutton and O'Brien** are sensitive to the kinds of considerations that drive Hutto's argument, they are more optimistic about the prospects of both the causal theory and the idea of contentful memory traces. In earlier work inspired by the connectionist approach to cognition, Sutton and O'Brien argued for a distributed conception of memory traces. Here, they respond to recent charges that the distributed conception of traces is incompatible with the causal theory (e.g., Robins 2016a) and leads inevitably to a contentless conception (see Michaelian & Sant'Anna 2021), seeking to combine an account of traces as distributed but contentful with an updated version of the causal theory designed to take research on the reconstructive character of remembering into account. They begin by setting out a general account of content for distributed representations and applying it to the particular case of memory. They then argue that the resulting account of traces as distributed but contentful is compatible with the causal theory of constructive memory, responding to worries that distributed traces are ill-suited to account for the transmission of content from experience to retrieval and that distributed traces are unable to underwrite the sort of unique causal history that is required by the notion of appropriate causation. While they are confident that their account of traces can overcome the former worry, they acknowledge that more work needs to be done in order to show that causalists who employ a distributed conception of traces can provide a satisfactory account of appropriate causation. Providing such an account will be an important challenge for causalists going forward.

0.3.3 Part III: What is the nature of mnemonic confabulation?

Questions about the relation between memory and imagination, and whether remembering necessarily involves contentful memory traces, speak to the issue of what is at stake in successful remembering. They tell us about the conditions that must be satisfied for genuine memory. Yet a different way of approaching and enriching the debate is to focus on the ways in which remembering can go wrong (Robins 2016b). Accounting for errors in memory may shine a light on the nature of remembering and guide our theorising about episodic memory more generally. In this sense, the question of the nature of mnemonic confabulation is a crucial one (Bernecker 2017; Michaelian 2020).

In his contribution, **Bernecker** suggests that the current debate about the nature of mnemonic confabulation has reached an impasse. Mirroring the debate about the nature of the relation between memory and imagination, theorising about mnemonic confabulation is primarily articulated in terms of the causal theory of memory (causalism) or the simulation theory of memory (simulationism).[4] In these terms, the question of mnemonic confabulation becomes the question of whether confabulation is best explained by the absence of an appropriate causal connection or an unreliable process. Bernecker points to structural issues with the debate as framed in this way. He outlines a dual-faceted problem that the current dispute faces. The first issue, according to Bernecker, is what he calls the *bootstrapping problem*. The worry here is that there is an inherent circularity to the debate as it stands. The criteria used to determine whether a given case qualifies as mnemonic confabulation rely on the very theory of confabulation that the case is supposed to provide evidence for. The second worry is what Bernecker calls the *red herring problem*: because accounts of confabulation are derivative of accounts of (successful) memory, the debate about confabulation is really just a proxy battle between the two leading accounts of memory—causalism and simulationism. For Bernecker, once the controversy between causalism and simulationism about memory is resolved, the debate about confabulation will also be resolved.

Bernecker then proposes a new way of framing the debate, which, he claims, breaks the causalist–simulationist stalemate. He proposes an explanationist account of memory. On this view, a subject's truly representing that P via the memory system in the given circumstances qualifies as remembering if it is better explained by the fact that P itself, than by some statement referencing coincidental factors. For Bernecker, causalism and simulationism are distinct ways of fleshing out the explanation relation constitutive of remembering, and hence the explanationist model can uncover issues that lie at the core of the dispute and reconcile rival causalist and simulationist intuitions.

Building on his previous work on the simulation theory of memory (Michaelian 2016b), **Michaelian** outlines a very different way of thinking about the nature of mnemonic confabulation—one that directly challenges existing accounts and explanations of the phenomenon. Motivated to adopt a naturalistic approach and align his account with empirical evidence, Michaelian begins

by introducing two key features of confabulations. First, even though he leaves room for veridical confabulation, Michaelian observes that confabulations are typically false. Second, Michaelian notes that confabulations are not restricted to remembering but can also occur when imagining the future. Michaelian then proceeds to review extant philosophical theories of confabulation—false belief, causalist, simulationist, epistemic, and explanationist accounts—and articulates problems for each view. Of particular relevance here is how he tackles Bernecker's explanationist model. According to Michaelian, the apparent circularity found in the bootstrapping problem is illusory because the empirical sciences offer us independent evidence of the types of phenomena that an adequate account of confabulation must cover: causalists and simulationists must then offer competing accounts of these phenomena. Addressing the red herring problem, Michaelian recognises that a theory of remembering does amount to an account of successful remembering, while denying that it determines an account of memory error. He then suggests that a given account of memory error may rule out particular versions of a theory of remembering. Far from being a proxy battle, Michaelian suggests, the confabulation debate affords progress in the ongoing dispute between causalism and simulationism.

With the existing accounts of confabulation each facing problems, Michaelian argues in favour of his own virtue-theoretic version of the simulationist classification of memory error. This approach introduces an *accuracy-because-reliability* condition, which requires that, in successful remembering, an apparent memory be accurate *because* it was produced by a reliable process. On this view, it is important to recognise the dual-layered role that luck can play in errors and confabulation. Falsidical confabulation occurs when the accuracy and reliability conditions are not satisfied and the inaccuracy-because-unreliability condition is satisfied. Veridical confabulation occurs when the accuracy condition is satisfied and the reliability condition is not satisfied. In the end, for Michaelian, confabulation is classed as a clinical error, distinct from cases of mere false memory and misremembering, and an error that can also be future-oriented.

0.3.4 Part IV: What is the function of episodic memory?

What is episodic memory for? This question lies at the heart of the inquiry into the function of episodic memory. Yet, the question partially obscures an important ambiguity in the notion of function (Schwartz 2020). The function of a mental state or process can be understood in at least two important ways: etiological function, or causal role function (Cummins 1975; Millikan 1984). Determining episodic memory's etiological function involves adopting a teleological perspective, which is concerned with the features and factors that led to its selection and retention in evolution (Suddendorf & Corballis 1997). In describing episodic memory's causal role function, we want to understand its role in the cognitive economy of the subject, as one component in a broader system (Schacter 2012). These two perspectives may be related in interesting ways, but they are separate questions. Articulating their views about the

function of episodic memory, the two authors in this section each employ a different sense of function.

Why do we remember the past in the way we do? And why does remembering play such a prominent role in our lives and relationships? **Mahr** describes a theory of remembering that provides answers to these questions. Adopting an etiological perspective on the function of episodic memory, Mahr provides an account of why episodic memory has been selected to have the features it has in contemporary human adults. To arrive at a view of the evolutionary function of episodic memory, Mahr employs form-to-function reasoning. In evolutionary biology, we can make inferences from phenotypic form to evolutionary function (Cosmides & Tooby 1997). For example, we can look the shape and size of an animal's teeth and make an inference as to their evolutionary function or what they were selected for (e.g., eating meat). Mahr employs a similar methodology, accounting for the evolutionary function of episodic memory based on the form it has.

What is the form of episodic memory? To answer this question, Mahr first distinguishes between *memory*, understood as a diachronic capacity to store information, and *remembering*, understood as a synchronic capacity to construct representations of certain kinds of events. The latter is crucial to Mahr's project: in order to understand the function of episodic memory, we need to understand what it means to remember. The relevant features upon which to infer an etiological functional account of episodic memory are the features of the episodic memory representation. According to Mahr, episodic memory representations are about particular, past, actual, and personal events. In addition to this, episodic memories are metarepresentational: they represent that they were caused by one's past experience of the event. By explaining how these features of episodic memory representations might have been selected for, Mahr arrives at an account of the function of episodic memory. He rejects the idea that the function of episodic memory is purely preservative—that it is (merely) for accurately representing the past. He also distances himself from the idea that the function of episodic memory is to imagine the future. Instead, Mahr proposes that episodic memory serves a communicative function: episodic memory allows us to track and claim epistemic authority about the past. Indeed, this epistemic authority, Mahr shows, has social benefits, enabling individuals to influence what others take to be the case in the present social world (e.g., in eyewitness testimony). Mahr's account hence shows the rich ways in which remembering is stitched into the texture of our social world.

In her contribution, **Robins** explores the striking claim that the function of episodic memory is not to remember the past but to imagine the future. Focussing on the Constructive Episodic Simulation Hypothesis (CESH) (e.g., Schacter & Addis 2007), Robins argues that the evidence for this hypothesis does not establish a future-oriented function of episodic memory. Robins demonstrates that when CESH theorists talk about the prospective function of episodic memory, they have in mind the causal role sense of function: they are concerned with how episodic memory works, and what role it plays in a larger

system. The CESH claim about episodic memory's future function has two steps: first, that the process of construction is the same for all forms of episodic simulation; and second, that future-oriented episodic thinking is the primary activity of the neurocognitive system responsible for constructive episodic simulation. Robins tackles the first step of the move. She delineates three pivotal claims of the CESH, in which episodic remembering and imagining are (1) subserved by the same brain system, (2) act on the same information, and (3) are governed by the same rules of operation. Robins discusses each criterion and evaluates their relevance for determining the causal-role function of episodic memory.

Assessing the first claim, Robins notes that sharing a brain system is not sufficient for sharing a function. There are many examples of different cognitive functions (e.g., language processing and musical appreciation) sharing an underlying mechanism or brain region, and it may even be the case that neural systems are multifunctional. Considering the second claim, Robins provides examples of different cognitive activities with different functional profiles that nonetheless share an information base. For Robins, it is the third criterion—shared operations—that best speaks to questions of function. What is this shared operation between remembering and imagining? It is the notion that both involve processes that are constructive. Robins grants that both remembering and imagining involve construction, but argues that this is not sufficient to warrant claims about functional parity. The claim about construction, Robins observes, is typically cashed out in terms of associationist networks. But, as Robins shows, this associative characterisation of construction proves problematic in different ways for remembering and imagining. Indeed, for Robins, remembering and imagining are constructive in importantly different ways, with differences manifesting between the two in awareness of construction, control over construction, and response to error discovery. The function of episodic memory is not, Robins concludes, for the future.

0.3.5 Part V: Do non-human animals have episodic memory?

The question of whether non-human animals have episodic memory is a central one for both the philosophy and the psychology of memory. It has important implications for how we approach other controversial questions in those areas, such as whether memory and imagination are of the same kind (Part I) and what the function of episodic memory is (Part IV). Despite its theoretical importance, there is little agreement as to how the question should be tackled. On the one hand, those who favour a negative answer have appealed to the conscious experience of remembering (e.g., Tulving 2005) and the continuity of episodic memory with future-oriented episodic thinking (e.g., Suddendorf & Corballis 1997, 2007) to make the case for their views. On the other hand, those who favour a positive answer have relied on an increasing body of empirical evidence suggesting that non-human animals are capable of retrieving event-specific information (e.g., Clayton & Dickinson 1998) and that they possess the relevant

neurological structures responsible for episodic memory in humans (e.g., Corballis 2013). There is no consensus, however, about which of these features should play a central role in our theorising on the matter. Building on this limitation, the two chapters in this part make important contributions towards clarifying what is at stake in the dispute over whether non-human animals have episodic memories.

In her contribution, **Boyle** offers a novel perspective on the debate over whether non-human animals have episodic memory. She argues that the disagreement between 'optimists'—i.e., those who think that nonhuman animals have episodic memory—and 'kind sceptics'—i.e., those who think that there are differences of kind between human and non-human memory—is best understood as a disagreement about what episodic memory should mean in the relevant contexts. As Boyle points out, different definitions of 'episodic memory' will become attractive depending on the kind of questions we are trying to answer and on the methodologies we adopt. For instance, she argues that if our goal is to understand the evolutionary origins of episodic memory, then a sparser and more abstract definition of the term, which is not overly tied to how episodic memory is manifested in humans, is likely to be preferable to conceive of its occurrence in simpler and older forms of life. In contrast, Boyle notes that if we are interested in finding out the effects of a certain drug on humans by studying how it affects rats' memories, then a stricter definition of 'episodic memory', which highlights the resemblances between memory in rats and humans, is going to be more useful. Building on these considerations, Boyle advocates for a form of pluralism, in which the question of whether non-human animals have episodic memory does not allow for a simple 'yes' or 'no' answer, but is rather dependent on contextual considerations pertaining to scientific practice. This novel way of looking at the debate raises important questions of interest at the intersection of the philosophy of memory and the philosophy of science that future work on the subject will need to consider in more detail.

Diverging from the pluralism defended by Boyle, **Keven** argues that episodic memory consists in a uniquely human capacity. His strategy consists in distinguishing between *event memories*, which are sensory-like representations of discrete events, and *episodic memories*, which are representations of multiple discrete events organised in temporal, causal, and teleological relations. While Keven accepts that event memory is shared across species, he thinks that episodic memory is restricted to humans, for we are the only species capable of representing certain temporal, causal, and teleological relations. To establish this, Keven considers each type of representation in turn. Concerning temporal representations, he argues that while animals may be able to represent how long ago an event took place, which on Keven's view is sufficient to explain why they perform the way they do in the relevant experimental tasks, they are incapable of representing events as standing in a before–after relationship to one another. The latter, he argues, is what is central for episodic memory. Similarly, when it comes to causal representations, Keven argues that evidence showing that animals' rather limited capacity to represent causal relations among objects provides strong

reason for being sceptical of their capacity to represent causal relations among events, for the latter appears to be a much more demanding cognitive capacity. Finally, Keven argues that two central features of teleological representations—namely, that they are recursive and that they require mind-reading abilities—gives us reason for being sceptical that non-human animals are capable of entertaining such representations. Thus, he concludes that the evidence available suggests that non-human animals do not possess episodic memory.

0.3.6 Part VI: Does episodic memory give us knowledge of the past?

Episodic memory is one of the main sources—if not *the* main source—of many of the claims we make about our personal pasts. It thus plays an important role in our communicative and social practices. But do the claims that we make on the basis of episodic memory constitute knowledge? Their importance notwithstanding, discussions about the epistemology of episodic memory have been overlooked in the literature until very recently. This is, in part, due to the widespread acceptance of archivalist views of memory (or what Langland-Hassan, in this volume, calls the 'replay theory'), where memories are viewed as being mere copies of past experiences. However, with the advent of constructive views (e.g., Sutton 1998; De Brigard 2014; Michaelian 2016b), on which memories are no longer viewed as copies of the past, but rather as reconstructions of it based on information currently available to our memory systems, the question of whether we can claim to have knowledge of the past on the basis of episodic memory has been brought back to the fore. Taking different stances on the issue, the two chapters in this part discuss new questions and problems concerning the epistemology of episodic memory.

Adopting a reliabilist approach, **Senor** sets out to develop an account of the epistemology of episodic memory. He begins by noting that episodic memories, which he calls 'memory seemings', are characterised by quasi-sensory and non-propositional contents that represent past experiences. This raises the question of whether they can be objects of epistemic evaluation. As Senor points out, given the non-propositional nature of memory seemings, that is unlikely to be the case at least on traditional ways of thinking about epistemic evaluation. So, the challenge for any attempt to account for the epistemology of episodic memory is to identify what (if anything) in episodic memory is an object of epistemic evaluation. To answer this question, Senor appeals to Michaelian's (2016b) account of episodic memory. Building on mental time travel research, Michaelian argues that episodic memory and other forms of imagining are all products of the same cognitive system, which he calls the 'episodic construction system'. What distinguishes episodic memory from other forms of imagining is, on Michaelian's view, the fact that the former is produced by a reliably functioning episodic construction system that aims to represent an event in the subject's personal past. These representations do not, however, automatically lead to beliefs. According to Michaelian, for this to be the case, the outputs of the episodic construction system need to be 'endorsed' as memories by a

metacognitive system. The products of this endorsement process, or simply 'episodic memory beliefs', are, according to Senor, the objects of epistemic evaluation in episodic memory.

Despite helping us identify what is epistemically evaluable in episodic memory, Senor finds Michaelian's 'two-fold' account of the epistemology of memory to be incomplete. This is because it does not explain how memory seemings, whose contents almost invariably outstrip the contents of the beliefs we form on their basis, are responsible for the formation of certain beliefs that are compatible with them, as opposed to other beliefs that are equally compatible with those seemings. Senor's solution to this problem consists in amending Michaelian's original proposal. He argues that another system, perhaps one involving metacognitive monitoring too, is required to ensure the reliability of the process responsible for the formation of episodic memory beliefs out of memory seemings. The addition of this new system leaves us with a 'three-fold' reliabilist account of the epistemology of episodic memory. On this view, a subject's episodic memory belief will count as prima facie justified iff: (a) the original experience that grounds a memory seeming is a reliable depiction of the past event, (b) both the episodic construction system and the metacognitive endorsement system reliably produce a memory seeming, and (c) the process responsible for extracting a particular propositional content from a memory seeming is working in a reliable manner.

Taking a more critical stance on the epistemology of episodic memory, **Frise** argues for the surprising thesis that episodic memory does not usually give us knowledge of the past. Despite the idea seeming counterintuitive at first glance, Frise raises important challenges for any attempt to establish that episodic memory is indeed a source of knowledge. He develops two arguments that come in support of his thesis. The first argument says that the beliefs generated by episodic memory, even if they turn out to be justified and true, are often based on falsehoods. According to Frise, the falsehood in question refers to the belief held by subjects that episodic memory functions as an archive where content originating in experience is preserved without being altered. Given, however, that episodic memory is not an archive but is rather reconstructive, it follows that the beliefs we form on the basis of episodic memory cannot constitute knowledge. As Frise puts it, we are often 'Gettiered' when forming beliefs on the basis of episodic memory.

Frise's second argument has the form of a dilemma. It starts with the observation that, given the constructive character of episodic memory, it is not surprising that it often misrepresents the past. Frise then states that either subjects have evidence that memory often misrepresents the past or they do not. In either case, he argues that the beliefs formed on the basis of episodic memory will not constitute knowledge. More specifically, the first horn of the dilemma has it that if subjects have evidence that episodic memory often misrepresents the past, the beliefs they form on the basis of episodic memory will not be justified. This is because the belief that memory often misrepresents works as partial defeater. In contrast, the second horn has it that if subjects do not have evidence that episodic memory often misrepresents, then the beliefs they form on the basis of

episodic memory will depended on a falsehood: i.e., that episodic memory rarely or never misrepresents. Given that both horns lead us to scenarios where at least one defining feature of knowledge is not satisfied, Frise concludes that episodic memory does not usually give us knowledge of the past.

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Notes

1 For a more detailed discussion of the episodic/semantic distinction, see Michaelian and Sutton (2017). While this distinction is becoming standard in philosophy, alternative distinctions have been proposed, including a distinction between propositional memory (corresponding roughly to semantic memory) and perceptual, experiential, personal, or recollective memory (corresponding roughly to episodic memory).
2 Cf. Sutton and O'Brien's contribution to this volume.
3 There are exceptions: the functionalist theory of memory (Fernández 2019) makes no explicit reference to memory traces.
4 In his chapter, Bernecker refers to 'simulationism' as 'reliabilism'.

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