

## BOOK REVIEW

*Mental Time Travel: Episodic Memory and Our Knowledge of the Personal Past.* By KOURKEN MICHAELIAN. (Cambridge, MA: MIT Press, 2016. Pp. xx + 291. Price: £35.95)

Episodic remembering returns us to events in our personal past. This crisp and impressive book addresses three main questions about it: What exactly is it? How does it enable human knowledge? Why did we evolve to have it? Chapter 1 previews the book's intertwined answers: episodic remembering is a reliable and evolutionarily adaptive kind of imagining.

The next two chapters stage-build. Chapter 2 argues that, given the human memory systems that science recognizes, memory is not a natural kind. So, naturalistic philosophy best approaches memory piecemeal. Michaelian focuses on episodic remembering in particular because, he claims, epistemologists have neglected it, yet it specially distinguishes the human mind.

Chapter 3 plots the book's naturalistic, pluralistic foray in applied epistemology. Michaelian aims to explain how episodic remembering is reliable, but reliability is one among many epistemically valuable properties. 'Knowledge' is just a term of approbation, flagging beliefs with many of these properties. Even to value reliability, however, is to court the generality problem. Any belief is formed by multiple process types, varying in reliability. How then are we to evaluate beliefs? Here Michaelian fires both the naturalist and the pluralist pistols. The sciences reveal which memory process types are natural. Naturalists will appeal only to those in evaluating beliefs, and pluralists will not privilege any one over the others. Consequently, belief has no unqualified epistemic status. We may evaluate belief only relative to an operative process and contextual interest. The process of interest in this book is 'episodic remembering in cognitively normal adults' (p. 50).

The next two chapters detail influential accounts of episodically remembering. Chapter 4 carefully explains the Common Sense Theory, which very roughly says that remembering is having, and having *had*, a decent representation of an experienced episode. Unfortunately, the Common Sense Theory

counts some imagining as remembering—when, for example, your imagination now delivers by chance a representation of an experienced, previously represented, but forgotten episode.

Chapter 5 lays out the Causal Theory, designed to improve on the Common Sense Theory. The Causal Theory adds that remembering requires a suitable causal connection between your current and past representations, something imagination does not provide. The connection must be via a properly functioning memory system, thereby ruling out remembering from deviant causal chains. And the current representation mustn't be confabulatory, containing more information than the past representation. But even these additions disappoint. Michaelian argues at length that normal human memory is radically constructive. As a result, everyday remembering involves representations with content beyond that of past representations.

Chapter 6 is the heart of the book. It presents Michaelian's favoured theory of remembering, the Simulation Theory. Research suggests that our ability to remember episodically is due to a general episodic construction system responsible for mental time travel—remembering the past, imagining the future and imagining alternate pasts. Remembering is *simulating*, a kind of imagining that blends past experiences and semantic information, delivering a new representation of an episode. But not all imagining is remembering. A subject remembers an episode just in case she represents it as a result of a properly functioning episodic construction system aiming to produce a representation of an episode in the subject's personal past. The subject's original experience need not play any causal role.

Many streams feed into remembering. Even learning via testimony shapes the content of episodic remembering; what you have heard about an event can affect your memory of it. Chapter 7, as a case study, checks whether this testimonial stream epistemically corrupts remembering. Michaelian sees no evidence that it compromises remembering's reliability. And it is not blocking knowledge, yielding at best a kind of luckily true belief. Testifiers tend to tell the truth and hearers tend to believe it. So, accurate remembering that incorporates testimony is accurate in nearby worlds and therefore not relevantly lucky in ours.

Still, the streams feeding into episodic memory vary in quality. If remembering is to be reliable, agents shouldn't typically endorse recollected information that originates, for example, in mere episodic imagination. Yet memories generally don't explicitly tag the origins of their information. Chapter 8 explains how, fortunately, through metacognition we identify origins using 'implicit marks' as heuristics; memories originating in imagination tend to be informationally impoverished in certain regards. Subpersonally we infer origins accurately enough, generally preventing us from endorsing recollected episodes that we had merely imagined in the past.

Michaelian thinks the reliability of remembering is not yet shown, however. If a subject cannot typically distinguish *current* remembering from other potentially active episodic imagining processes, she will often form or withhold belief in the wrong cases. Michaelian proposes in Chapter 9 that distinct metacognitive feelings fallibly but reliably signpost different forms of current episodic imagining. The feelings arise due to unconscious inference from various heuristics Michaelian reviews at length, allowing us to fallibly distinguish episodic imagining processes and form belief just when appropriate.

Chapter 10 argues that episodic remembering should be characterized phenomenally, making information available in a special way that involves auto-noesis (consciousness of the self in subjective time) and chronesthesia (consciousness of the subjective time in mental time travel). Episodic remembering appears uniquely human, and the complexity of our general episodic construction system suggests it is evolutionarily adaptive. But it is unclear what makes it adaptive. Chapter 11 rejects the available explanations. Michaelian then proposes that several aspects of the episodic memory system together ensure remembering's reliability despite its simulational nature, and reliable episodic remembering is adaptive.

Chapter 12 concludes with a refreshing flouting of sensationalism. Science impugns common sense thinking about how memory works. But common sense is nonetheless right to trust memory.

Unsurprisingly, philosophers who do not naturalize their epistemology or who shy from pluralism will not take Michaelian's exact route to his conclusions. Even so, this outstanding book is a new pillar in the philosophy of memory. Philosophers in and beyond graduate school will find that it helpfully organizes and integrates heaps of empirical findings into long-standing philosophical debates, debates Michaelian moves forward. Sceptics of the Simulation Theory will find Michaelian's case for it uncomfortably compelling. Michaelian makes clear that epistemology has, to its detriment, neglected metacognition in human memory.

Michaelian could slightly further align parts of the book. If 'knowledge' is just a term of approbation, then accounting for our episodic memory knowledge loses charm. Pluralism limits the urgency of showing that episodic remembering forms belief reliably; on pluralism, episodic remembering is just one among many unprivileged natural processes responsible for the formation of belief, and other responsible natural processes will be reliable. Also, it's unclear how confusing remembering with other potentially active imagining processes could threaten the reliability of remembering. If a subject mistakes an ongoing process of merely imagining for remembering, she might falsely believe what she is imagining. This tarnishes the track record of merely imagining, but not of remembering—by stipulation it is inoperative. If she mistakes remembering for merely imagining, she might needlessly withhold belief. That

hurts remembering's *power* (tendency to produce many true beliefs) but not its *reliability* (tendency to produce true rather than false beliefs).

But these are just specks on a still clean achievement.

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