



Memory as Skill

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Abstract

The temporal structure for motivating, monitoring, and making sense of agency depends on encoding, maintaining, and accessing the right contents at the right times. These functions are facilitated by memory. Moreover, in informing action, memory is itself often active. That remembering is essential to and an expression of agency and is often active suggests that it is a type of action. Despite this, Galen Strawson (Proceedings of the Aristotelian Society, 103, 227–257, 2003) and Alfred Mele (2009) deny that remembering is an action. They claim that memory fails to admit of control. Remembering is automatic—once remembering starts, the process can neither be stopped nor intervened on. Moreover, the agent does not initiate remembering. An agent has control over an event or process if and only if she has the capacity and opportunity to initiate and intervene on that event or process. Actions are events over which an agent has control. Since it is automatic, we fail to have control over remembering. Thus, remembering is not an action. In this paper, I draw out an assumption of Strawson’s and Mele’s accounts: an event-type whose tokens exhibit automaticity cannot, for that reason, be an action (§2). Against this assumption, I draw parallels between skilled bodily action and memory. I show that memory exhibits two defining features of skill: it can be learned with practice and it admits of attributions of excellence (§3). These features reveal how intelligent control is exerted in the exercise of skill despite apparent automaticity—control is gained over time (§4). Since exercises of skill are by definition actions and since memory exemplifies the defining features of skill, memory is a skill and instances of remembering are actions too.

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1 Introduction

Acting intentionally depends on ordering our lives. We must not only know what we intend for the future, we must keep in mind what is pertinent to acting now and understand what in our past informs our actions. The temporal structure for motivating, monitoring, and making sense of agency depends on encoding, maintaining, and accessing the right contents at the right times. These functions are facilitated by memory. Moreover, in informing action, memory is itself often active. When calculating, one often intentionally brings into awareness and manages numerical content through working memory. When responding in conversation, one often intentionally brings to mind the right declarative content from long term memory. And when going about one's day, one often intentionally brings to bear ongoing intentions to φ through prospective memory. That remembering is both essential to and an expression of agency and is itself often active together suggest that remembering is a type of action.

Despite this, Galen Strawson (2003) and Alfred Mele (2009) deny that remembering is an action. They claim that memory fails to admit of control. Remembering is automatic—once remembering starts, the process can neither be stopped nor intervened on. Moreover, the agent does not initiate remembering. An agent has control over an event or process if and only if she has the capacity and opportunity to initiate and intervene on that event or process.¹ Actions are events over which an agent has control. Since it is automatic, we fail to have control over remembering. Thus, remembering is not an action.

In this paper, I draw out a shared assumption of Strawson's and Mele's accounts: an event-type whose tokens exhibit automaticity cannot, for that reason, be an action (§2). Against this assumption, I draw parallels between skilled bodily action and memory as understood by the mind sciences. I show that memory exhibits two defining features of skill: it can be learned with practice and it admits of attributions of excellence (§3). These features are essential to skill precisely because they reveal how intelligent control is exerted in the exercise of skill despite apparent automaticity—control is gained over time (§4). Since exercises of skill are by definition actions and memory shares with skill those features that define it, memory is a skill and instances of remembering are actions too. Thus, remembering is an action.²

¹ I hereafter use 'event' to refer both to occurrences that are synchronous and to those which occur over time, viz. processes, except where context requires speaking of the two separately.

² One might worry that showing that memory meets the conditions essential to being a skill is insufficient to show that remembering is an action. More specifically, it may be enough to show that remembering can be controlled. But being controllable is only *one* necessary condition on action. If I cannot show that memory exemplifies whichever other conditions are individually necessary and jointly sufficient for counting as an action then I have not shown that remembering is an action.

In response, assuming a causal theory of action, showing that memory can be controlled by the agent *is* sufficient to show that it can be caused in just the way other actions are caused, namely, by the agent's intentions. Thus, for instance, if an expert rememberer desires to remember the cards in a deck and knows that she can do so by walking her memory palace then she can intentionally remember the cards. Because part of what is at issue is whether memory can be self-consciously initiated or self-consciously guided and because I think the more interesting cases of mnemonic action are those wherein the process is not self-consciously initiated or not self-consciously intervened on, my argument takes a circuitous

2 Strawson, Mele, and Automaticity

2.1 Strawson's and Mele's Conditions On Action

Strawson (2003) and Mele (2009) argue that remembering is not an action. Starting with Mele, his thought is that, if φ -ing is an action then an agent can try to φ (2009: 18). Call this the trying condition. Some of Mele's examples of action are golfing, raising one's arm, and trying to remember. According to Mele, actions are events that the agent's intention causes such that if she were to give up her intention prior to or during the event then, *ceteris paribus*, she could intervene on that event by forgoing or interrupting it. For Mele, an agent's abilities to abstain from undergoing some event or stop it midway constitute the minimum degree of possible intervention required for that event to count as one that the agent can cause and, thus, as a possible action of hers (2009: 25). By contrast, nonactions are things we cannot try to do precisely because they cannot be caused by us in the relevant sense. Mele's examples of nonactions are sneezing, falling asleep, and remembering. He argues that these are cases of things that "happen to us" in certain circumstances—they cannot be stopped once they are initiated (2009: 19).

Moving on to Strawson (2003), he claims that stage-setting for the coming about of mental states is the only kind of mental action. Like Mele, Strawson's argument hinges on a condition that implies a necessary connection between the possibility of the agent's involvement and the category of action. Unlike Mele, Strawson does not couch his condition in terms of trying—in fact, he does not so much as state it explicitly. Here is a pass at Strawson's condition on action: φ -ing is an action only if the agent can do something in relation to φ -ing alone other than waiting for it to start or run its course (2003: 232–5, 240–4). Call this the something-other-than-waiting condition. According to Strawson, remembering, imagining, deliberating, etc. are all mental events which aim at and, when successful, are the coming about of certain contents in consciousness. Yet, outside of setting the stage for these events, we cannot do anything other than wait for them to start and for the relevant contents to come to mind. Hence, all those events fail to satisfy Strawson's condition on action. Hence, none of them are actions. *A fortiori*, remembering is not an action.

Strawson defends the premise that we cannot do anything outside of stage-setting for events that aim at and, when successful, are the coming about of certain contents in consciousness in §V of his paper (2003: 234–8). There he considers an interlocutor who argues that they can simply intentionally think that p . In response, Strawson presents the following dilemma: assume that one can intentionally think that p . Either p is contained in the intention to think that p or it is not. If p is contained in

Footnote 2 (continued)

route through showing that memory is a skill. The worry that remembering is never intentionally caused because it is sometimes neither self-consciously initiated nor self-consciously intervened on is thus structurally analogous to the worry that a pianist's automatic *glissando* is never intentionally caused because it is sometimes neither self-consciously initiated nor self-consciously intervened on. If so, the former worry should dissipate in light of a recognition that the latter worry is ill-founded. I want to thank an anonymous reviewer for pushing me to clarify how my argument connects to action theory.

the intention then the content must already be available to be the object of that intention. But then the coming to mind of p must happen prior to or concomitantly with the formation of the intention and, hence, is logically prior to the intended act of thinking that p . That the thought that p is prior to intentionally thinking that p and, at the same time, must occur as a result of an intention to think that p together run aground in circularity. On the other hand, if p is not contained in the intention then the intention is to think some thought or other and, once this intention is set, something, ' p ', comes to mind. The coming to mind of p is not something the agent does in or as a result of intending to think some thought or other. In this case, she may actively form the intention to think some thought. But then she must wait for something to come to mind. In both cases, then, contrary to our initial assumption, the thought that p is not something she can bring into consciousness intentionally. Thus, on Strawson's view, p 's coming to mind is something the agent can only wait for. Since remembering is an event-type that aims at and, when successful, is the coming about (from memory) of certain contents in consciousness, it too is vulnerable to the dilemma (we will return to this in §4.1).

2.2 Automaticity and Control

The events excluded from counting as actions by Strawson and Mele have a common element: automaticity. Following Walter Schneider's and Richard Shiffrin's (1977) work, I understand automaticity to be a feature of certain mental events which implies a lack of control (Wu 2013; *cf.* Fridland 2015b, 2016; Arango-Muñoz and Bermúdez 2018; Douskos 2019). Automatic events comprise cognitive or motor processes that are tightly integrated such that they almost always cascade ballistically once they are initiated, and, importantly, initiation is almost never up to the agent (except indirectly) (Schneider and Shiffrin 1977: 2). Automatic events can be neither initiated nor intervened on by the agent; she can only wait for them to start and run their course. Recall the trying and something-other-than-waiting conditions. Something that cannot be abstained from or stopped midway is one in relation to which it is impossible to do anything other than wait for it to start or run its course. Anything that fails to satisfy Mele's trying condition also fails to satisfy Strawson's something-other-than-waiting condition and anything that satisfies the latter will satisfy the former. Though they are not equivalent, these conditions are closely connected by their rightly excluding as nonactions fully automatic mental events. Where Strawson and Mele go wrong is in their assumption that the presence of automaticity in tokens of a type of mental event is sufficient evidence for the claim that the relevant event-type is fully automatic and, thus, not an action.³

³ Wayne Wu (2013) attacks this assumption as well. He asserts that so long as there is some feature of the relevant cognitive process that the agent attends to as a target of intervention, that process counts as controlled and, therefore, an action (253–4). Importantly, since the agent cannot possibly attend to all of the relevant features of any cognitive process (or bodily action) that they have control over, those features of the process which are automatic when not attended to are automatic in act-tokens where the agent exerts control by (in part) attending to some other feature. The limits of attention make it the case that automaticity is pervasive in action generally. This insight of Wu's plays a substantial role in my account (see §4).

Nonetheless, Strawson and Mele are right to point out that automaticity provides an illuminating contrast against which we can understand agency: actions are such that the agent is in a position to initiate and intervene on them. That is, because agents have some control over them, actions are necessarily not fully automatic. An event-type that is not necessarily fully automatic is one whose tokens the agent can, *ceteris paribus*, initiate without having to do any stage-setting. A process-type that is not necessarily fully automatic is one whose tokens are, *ceteris paribus*, open to intervention by the agent. With the contrast class drawn from connecting the trying and something-other-than-waiting conditions to automaticity, we can provide a 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. It is a necessary condition on actions that they be events or processes over which the agent can exert some amount of control. Importantly, this is consistent with some tokens of act-types being such that the agent neither initiates nor intervenes on those tokens. Control is defined not in terms of total or constant agent involvement but rather in the agent's having both the capacity and opportunity to get involved (*cf.* Levy 2013). By contrast, Strawson and Mele erroneously assume that since some instances of remembering exhibit automaticity, remembering must be fully automatic and, so, is such that it is never up to the agent when or how she remembers.⁴ On their accounts, remembering itself is not an event or process over which she can exert any control. Therefore, it is not an action.

3 Skilled Action and Remembering

We should question whether memory is fully automatic. Memory is for the most part fluid. I understand “fluid” memory as memory that the subject experiences as coming about effortlessly or with minimal effort and whose content the subject expects or finds unsurprising.⁵ Fluid remembering is importantly unlike what is sometimes called recurrent and distressing or intrusive memory at least inasmuch as the latter often feels uncontrolled.⁶ Fluid remembering is quite the opposite: not only is the experience totally unsurprising but fluid memory is often accompanied by feelings,

⁴ Some philosophers have argued that full-blown automaticity is insufficient to imply lack of control (Fridland 2015b, 2016; Arango-Muñoz and Bermúdez 2018; Douskos 2019). These philosophers claim that many (skilled) actions are both automatic and controlled. They are automatic inasmuch as they often do not require our attention or effortful intervention. But they are also controlled inasmuch as it is open to us to correct mistakes in performance or inasmuch as those performances are flexible and sensitive to our (high-level) intentions or goals. I agree: some instances of (skilled) action are neither initiated nor intervened on, though they could be. Hence why I say that actions are not necessarily fully automatic. Regardless, if the reader feels uneasy about my use of ‘automaticity’ as a contrast to control, feel free to substitute whatever terminology implies lack of control.

⁵ I want to thank Felipe De Brigard for pushing me to clarify the notion of fluid remembering.

⁶ Though I speak of fluid and intrusive memory as contraries, they actually fall on a wide spectrum of mnemonic activity. On one side of that spectrum are instances of intrusive memories like those experienced by, e.g., PTSD or hyperthymia patients. On the other side, there are instances of intentional remembering. One of the loftier goals of this paper is to provide some groundwork for an explanation of the pathological nature of intrusive memories and episodic amnesia rather than just their being non-agentive (*cf.* Berntsen 2007, 2009). One way to account for the pathologies of intrusive memories and amnesia within the framework proposed by the paper is as follows. In the intrusive cases, if remembering is an action and action is to be understood at least partly in terms of control then a systemic lack of

thoughts, or a high degree of confidence directed at mnemonic events that resemble expectation, knowing, familiarity, resemblance, and a sense of guidance.⁷ The contrast between the agentic feelings characteristic of everyday fluid remembering and the experience of a lack of control characteristic of intrusive memory goes unmarked by Strawson and Mele. This phenomenological contrast should make us worry that their accounts are missing something important and, so, should prompt us to look for a sort of memory that is representative of the common mnemonic experience: skillful remembering. Skillful behavior is by definition action. The exercise of skill is controlled by the agent. Hence, if skill provides a good model for memory then it is plausible that remembering admits of control and, thus, fails to be fully automatic. If so, then remembering is an action after all.

Skill has become a popular topic in the philosophy of mind recently (Stanley and Williamson 2017; for an overview see Pavese and Fridland 2021). There are

Footnote 6 (continued)

control in memory due to prior injury or insult constitutes a disruption of one's agency. Call instances of intrusive memory mnemonic spasms. Mnemonic spasms, like their bodily counterparts, obstruct opportunities for exerting control in a way that is symptomatic and, so, are cause for concern regarding the patient's health. In the case of amnesia, if control is to be understood at least partly in terms of the having of a capacity to initiate and intervene on the relevant process then amnesiacs lack that capacity due to some malfunction (Levy 2013: 714–5). I want to thank Colin Allen for pushing me to consider episodic amnesia and hyperthymia.

⁷ The contrast I draw between fluid and intrusive memory does not map neatly onto what some might call voluntary or involuntary memory. More specifically, Dorthe Berntsen (2007, 2009), a pioneering scholar and researcher on involuntary memory, defines voluntary autobiographical memories as those episodic memories that are initiated by the agent's consciously deciding to remember and that consist in a negative feedback loop of specifying or revising a verbal cue followed by searching for mnemonic content that matches the original or revised cue, until a satisfactory match is found (2009: 21, 39, 86, 113–114). By contrast, involuntary autobiographical memories are episodic memories that are initiated without the agent's conscious decision. Often, they are brought about by a cue's being salient to the agent such that a memory is discriminated by that cue (2007: 20; 2009, *passim*). Whether and when a cue triggers an involuntary autobiographical memory depends on a host of factors, including whether and how much the agent is attending to other tasks, how congruent the memory is with the agent's current mood, whether the cue is of something relevant to the agent's current life-concept or goals, etc.

My notions of fluid and intrusive memory cut across Berntsen's voluntary and involuntary autobiographical memory on at least two dimensions. First, I am not limiting myself to episodic memory. Second, I do not restrict fluid remembering to remembering that is initiated by a conscious decision to remember, lest I beg the question. As such, many instances of so-called involuntary autobiographical memory may well be exercises of mnemonic skill on my account despite not being initiated by a conscious decision to remember. At the same time, I grant that some instances of non-intrusive memory may nevertheless be nonactions. On my account, whether a bit of mnemonic activity which was not so initiated constitutes an act-token depends on whether the agent *can* assume control over that activity after it has been initiated, e.g., by interrupting it (§4.2). That remembering is an act-type is implied by the agent's enjoying being in a position to initiate and intervene on token-rememberings (§3). Thus, I find the term "involuntary" inapt and possibly question begging. Moreover, by my lights, Berntsen does not give a plausible account of the pathological nature of intrusive memories in cases of, e.g., PTSD or hyperthymia beyond their distinct phenomenological profile (2009: 162–181). By contrast, my account provides the groundwork for a unified explanation of the pathological nature of PTSD, hyperthymia, and episodic amnesia (fn.6). In any case, my account is consistent with Berntsen's ecological approach to involuntary autobiographical memory (2007: 40–44). I want to thank Felipe De Brigard for informing me of Berntsen's work and for pushing me to clarify my account relative to hers.

common elements among the accounts of skill in this new literature. For instance, most agree that skills are fundamentally practical capacities or dispositions. It is also agreed that their practicality is grounded in their enabling and application conditions—viz. the agent's learning and practicing the relevant principles and activities, respectively, as well as her performance in various contexts. Likewise, most accounts of skill agree that skills are gradable along a normative spectrum. They are the sort of thing one is better or worse at.

I propose we focus on these two data in the new philosophy of skill literature as defining features: skills are, at bottom, things we can learn to do with practice and are such that their exercise admits of attributions of excellence. Acquiring a skill is, among other things, learning how to behave thus-and-so. Learning how to behave thus-and-so is a process towards the acquisition of control over the relevant cognitive and motor processes. Attributions of excellence are recognition of one's satisfaction of norms beyond mere success. With respect to skills, those attributions recognize exceptional and flexible control over the (correct) way(s) of behaving in the relevant domain(s) (Geeves et al. 2014; Fridland 2015a, 2019). Being learnable with practice and admitting of attributions of excellence define skill precisely because they illuminate the nature of control exerted in the exercise of skill—control is gained and increased over time. We will return to the phenomenological contrast between fluid and intrusive memories and how, with respect to skill, control evolves over time in §4.

In this section, I provide evidence that memory exemplifies the two defining features of skill. Drawing from the empirical literature on training working and episodic memory, I show that one can learn to remember with practice (§3.1). More specifically, the empirical literature suggests that improving working and episodic memory (at least in adulthood) depends on meeting the conditions for skill acquisition. Looking to the training and techniques used by expert rememberers (hereafter mnemonists), I show that memory admits of attributions of excellence (§3.2). Mnemonists exemplify the same normative and practical properties indicative of mastery of any skill. Assuming that being able to be learned with practice and admitting of attributions of excellence are the defining features of skill, the exemplification of those features in memory suggests that it is a skill. As such, its exercise admits of control in just the way the exercise of any skill does. Hence, remembering is an action. Call this the account of memory as skill.

3.1 Learning Through (Deliberate) Practice

It is an old adage that doing something well requires doing that thing till it is second nature. Consider playing piano. A novice pianist will not improve by forever practicing scales or using each hand without coordination. She will likewise fail to improve if she is never challenged. Finally, she will not improve if the various tasks she engages in when practicing are not somehow systematically related to each other. To improve, then, the novice pianist should engage for many hours in a variety of tasks of increasing difficulty that are integrated by being combined and ordered with one

another in specific ways, presumably by being related to some style(s) or methods of play, e.g., classical or jazzy or the Suzuki or Faber and Faber methods.⁸

The psychologist K. Anders Ericsson calls this kind of engagement ‘deliberate practice’ and spent his career persuasively arguing that it is an essential ingredient in skill acquisition (2008). We can break deliberate practice down into the following four conditions on skill acquisition: time spent regularly engaging in tasks, variation in task, continuous increase in the difficulty of tasks, and integration of tasks under some guiding principle(s).⁹

The efficacy and domain generality of deliberate practice provide further evidence that being learned with practice is an essential feature of skill. Learning is undergoing relatively permanent behavioral and cognitive changes in virtue of one’s experience. Acquiring and improving a skill induces relatively permanent behavioral and practical cognitive changes as a result of deliberate practice. More specifically, those changes come about by the novice’s satisfying—and continuing to satisfy—the four conditions on skill acquisition. And skills exist only as far as they are acquired. Hence, it is an essential feature of skills that they can be learned with practice.

If it is part of the essence of skills that they can be learned with practice and if the account of memory as skill is correct then memory must in some sense be learnable with practice. To see whether this is the case, let’s turn to the empirical literature on training working and episodic memory.¹⁰ Working memory is our mental sketchpad. For instance, when we are given a phone number to write down, we use working memory to keep in mind and process the numerical information.¹¹ Episodic memory, on the other hand, imaginatively reconstructs past events as they

⁸ More specifically, when I say that a condition on skill acquisition is that tasks be integrated with one another, I mean that the relevant activities are performed with a view to acting as the relevant principles prescribe (§4.2). The agent need not be aware of those principles, so long as someone training her is sufficiently aware of them. For instance, a novice piano teacher, having just found explicit instructions developed in the Faber and Faber method, may help her student engage in practicing extending her fingers outward as she rests her hands on the keyboard and pressing her fingers into ‘O’ shapes against her thumb with a view to getting the student to automatically assume what the Faber and Faber method prescribes as the correct hand position for play. Alternatively, a novice player may find these techniques and practice them herself. What makes these activities “integrated” is that they are organized in a particular way, namely, the way prescribed by the guiding principle(s). I’d like to thank an anonymous reviewer for pushing me to clarify integration of tasks under guiding principles.

⁹ One of the necessary conditions for deliberate practice in Ericsson (2008) is the subject’s being motivated to improve. I leave this condition off because it is arguably the one that distinguishes everyday skills from expertise (Ericsson 2008: 991). But the distinction between everyday skill and expertise is controversial (Christensen et al. 2016, 2019; cf. Montero 2016). And since remembering is in most contexts an everyday activity, if it is a skill then it is among those whose acquisition does not require the agent’s being motivated to improve.

¹⁰ There is evidence that episodic and semantic memory are systematically interdependent at least with respect to encoding and retrieval (Greenberg and Verfaellie 2010). If so, and if the exercise of episodic memory is indeed skillful, then, to the extent that the exercise of semantic memory is informed by the skillful aspects of the exercise of episodic memory (or vice versa), the exercise of semantic memory is likely also skillful. Thus, it is plausible that at least all of the declarative division of the classical Tulving taxonomy of memory is captured by the account of memory as skill (Tulving 1972).

¹¹ Though there is some disagreement about what exactly the faculty comprises (Miller, Galanter, and Pribram 1960; Baddeley and Hitch 1974; Cowan 1999; Miyake and Shah 1999; Oberauer et al. 2003; Postle 2006; Carruthers 2015), the consensus is that its main function is to maintain and process in consciousness information that is drawn from both current experience and long-term memory.

were experienced (De Brigard 2014; Michaelian 2016; Schacter and Addis 2007). Everything from the tune stuck in your head to the painstaking, intentional recall of what the weather was like on a given day is the work of episodic memory. The goal of studies addressing whether we can improve working or episodic memory is to show whether training leads to persistent, i.e., long-term, improvement.¹² Again, acquiring a skill induces long-term change in the behavior and practical cognition of the acquirer. Though an expert pianist out of practice may struggle some when picking up the instrument again, other things being equal, much of her skill should remain. Some degree of persistence, then, is a good measure for whether working and episodic memory are like skills at least in terms of improvement.

There is an interesting trend in the literature on training working and episodic memory. Training appears to reliably produce fleeting improvements in most conditions but fails to reliably produce persistent improvements when the duration of training is shorter than a couple of months or the tasks trained on are few in number, are not adaptive,¹³ or are only tenuously connected to the subject's goals or to the everyday contexts in which their working and episodic memory are normally exercised (Rabipour and Raz 2012; Clark et al. 2017; Hampshire et al. 2019).¹⁴ By contrast, studies in which some amount of persistent improvement is observed tend to train their participants for longer periods of time on a variety of adaptive tasks that subjects are motivated to complete and that more closely resemble those they come across in everyday contexts. This contrast suggests that studies in which training results in persistent improvement have their subjects satisfy the conditions on skill

¹² Another goal of such studies is to test for what is called 'far transfer.' Transfer is far when a subject who has improved on a specific task does significantly better than controls on tasks that are unlike the trained task but are thought to rely on the same cognitive process(es). Acquiring a skill often leads to improvement in tasks that depend on the same motor or cognitive processes. Hence, skill acquisition tends to induce far transfer. As the novice pianist improves, she may well find herself better able to, say, discern changes in pitch in spoken Mandarin given prior familiarity with the language (Nan et al. 2018).

¹³ Tasks are adaptive if they increase in difficulty when subjects answer correctly and decrease in difficulty when subjects answer incorrectly.

¹⁴ Improvement can be measured on a number of behavioral dimensions and is most often related to increases in the efficacy, reliability, and style with which one acts in accordance with guiding principles as a result of practice (§3.2). Improvement may also be measured in terms of the efficacy or reliability of isolable cognitive processes relative to some baseline (see discussion of the Smith et al. 2009 study below). This means that improvement can be measured in terms of greater accuracy, vividness, chunking or parsing capacity or concatenation (see the case of SF below and fn.16, fn.22; cf. fn.18), core narrative structure, valence, etc. depending on the context. Empirical studies often focus on improvements in the exercise of dissociable cognitive capacities, e.g., auditory recall, relative to some baseline and use stimuli simple enough that experimenters can control for the relevant dimension(s) of improvement, e.g., number of items recalled. By contrast, mnemonists (§3.2) infer improvement on a number of dimensions relative to performance. More specifically, they focus on any and all of the dimensions listed in this footnote with the possible exception of valence and with the plausible inclusion of the development and mastery of novel techniques—some techniques allow one to remember (only) 999,999 individual items while others might allow one to remember 999,999,999 items (Foer 2011: 163–168). Achieving mastery of the latter system (or developing and mastering an even more impressive one) would count as improvement by the mnemonist's lights, however one achieved it. I want to thank Felipe De Brigard for pushing me to clarify how improvement is measured.

acquisition by means of deliberate practice (Beatty et al. 2015; Alloway et al. 2016; Flegal et al. 2019).

Let's start with working memory. Consider the case of SF. Chase et al. (1980) found that SF improved his working memory through consistent deliberate practice over the course of 20 months on increasingly difficult digit span¹⁵ tasks. SF started improving once he realized he could group strings of digits into, e.g., running times. A sequence like '4-3-5' could be grouped together as an exceptional mile time of 4 minutes and 35 seconds. SF's working memory steadily increased from being able to reliably recall 7 (± 2) digits at a time to being able to reliably recall 79.¹⁶ These improvements persisted for upwards of 30 years (Yoon et al. 2018). Finally, SF's improvement has parallels with persistent improvements in other areas of working memory through the use of related tasks, e.g., word span, dot span, pattern span, etc. (Hilbert et al. 2017). Evidence of improvement in working memory that persists thanks to satisfying the conditions on skill acquisition extends beyond SF's case.

In contrast with working memory, episodic memory exhibits improvement even with short training sessions on singular tasks and even with a single bout of exercise or mindfulness training (Weinberg et al. 2014; Brown et al. 2016). However, whether training occurs for a long enough period of time, is adaptive, and is well-enough integrated all mediate the degree of improvement and how long improvements last (Banducci et al. 2017). Like working memory, what seems most effective for persistent improvement in episodic memory is training over a significant stretch of time with the use of a variety of adaptive tasks that are tightly integrated, e.g., by targeting isolable cognitive processes like auditory recall (Belleville et al. 2006; Ranganath et al. 2011; cf. Zehnder et al. 2009; Owen et al. 2010).

Consider a study conducted by Smith et al. (2009) in 2006 that trained over 200 healthy, elderly subjects for two months on six different adaptive auditory memory tasks using bits of English. The experimenters found that, compared to an active control group, the experimental group significantly improved both their auditory and overall memory (Smith et al. 2009: 598–601). Similar experiments and follow-ups with members of the experimental group each suggest that benefits are likely to persist for at least 5 years (Wolinsky et al. 2006). The active control group studied documentary-style educational programs on various topics. They trained for the same amount of time as the experimental group on a variety of tasks that were all of

¹⁵ In digit span, subjects are given a string of digits and then asked to repeat that string back to the experimenter in the order received (forward span) or starting from the last digit (backward span). For an overview of the history and use of digit span and related tasks, see Wambach et al. 2011.

¹⁶ It is worth noting that SF's training did not transfer far (fn.12)—his verbal working memory stayed at around 7 (± 2) elements. It is likely that a lack of variety in SF's training was its undoing with respect to far transfer. It is also worth noting that SF's working memory capacity may well have remained at the normal limit throughout training. That is, at the height of his practice, SF could have been encoding around 7–9 digits into a single chunk and bringing about 7–9 chunks into working memory at recall (≈ 49 –81 digits) (fn.22). What allowed for the increase in the number of digits encoded into single chunks and for the possibility of reliable decoding of chunks was likely the development of knowledge structures or templates for understanding the digits in terms of, e.g., running times (Guida et al. 2012). I want to thank Colin Allen for pushing me to clarify the distinction between number of chunks and number of digits in SF's performance.

the same format. Yet, tasks did not increase in difficulty for the active control group and could have been more tightly integrated. As such, the memory of individuals in the active control group did not improve nearly as much and those improvements are unlikely to persist. As with working memory, persistent improvement in episodic memory is a function of satisfying the conditions on skill acquisition.

The most plausible explanation for the trends in the working and episodic memory training literature is that studies in which persistent improvement occurs are those that effectively treat memory as a skill by having subjects engage in deliberate practice. Like playing piano, working and episodic memory improve and their improvement persists as a function of time spent training, variation in tasks, continuous increase in the difficulty of tasks, and the subject's making those tasks coherent by integrating them under some guiding principle(s). That is, working and episodic memory improve and their improvement persists as a function of satisfying the conditions on skill acquisition. This is a point in favor of the account of memory as skill: deliberate practice is that in virtue of which skills in general are learned. Hence, as the account of memory as skill predicts, working and episodic memory share with skills the property that they can be learned with (deliberate) practice.

3.2 Excellence

Skill is partly defined by its normative dimension. Skills are exercised well or poorly and with distinct style(s). Assessments of skill are therefore made in light of some standard beyond that of mere success. A pianist, though she may succeed in playing Chopin's *Nocturne E Flat Major Op.9 No.2*, may play poorly or may only be able to play in one way purely by rote. Alternatively, she may play well with methodological precision in the classical style or with chaotic ingenuity and playfulness in a jazzy style. There are (accepted) ways to learn, play, teach, and even understand the piano. These ways inform techniques for play which in turn inform the normative and aesthetic standards we assess performances against. Relative mastery of the relevant technique(s) is that in virtue of which performances and performers are attributed excellence. The set of (accepted) ways for learning, playing, teaching, and understanding the piano forms part of an evolving tradition or cumulative culture (Tomasello 1999; Richerson and Boyd 2005). An essential feature of playing piano as a skill is the player's inculcation (however partial) into the more encompassing tradition of musical performance and into the more specific tradition of piano playing.

My claim in this subsection is that the point applies to memory. If the account of memory as skill is correct then we should expect there to be a set of (accepted) ways to learn, teach, understand, and effectively exercise one's mnemonic abilities that whose members can be taught and improved upon. These ways should inform distinct techniques for remembering which in turn inform standards against which we assess token rememberings. Finally, assessments of mnemonic activity should go beyond the epistemic standard of remembering truly to include, for example, quantity of information retained, speed of encoding or retrieval, variation in kind of

information retained, creativity in the methods or systems mnemonists use, etc.¹⁷ If so then, like playing piano, exhibiting some degree of mastery of the relevant techniques should be met with attributions of excellence. This is exactly what we see.

Mnemonists are experts at remembering (Foer 2011). They participate in competitions in which contestants are to remember vast quantities of digits, words, poems, names, faces, playing cards, etc. in short periods of time and usually in some specific order. Most employ imagistic techniques to achieve their mnemonic ability. For instance, at encoding, many mnemonists translate to-be-remembered contents into multi-modal perceptual images and associate those images with spatial features of a place they are familiar with. At retrieval, they ‘retrace their steps’ through the imagined or remembered place to initiate the reconstruction of the images. This technique is known as the method of *loci*. It has a tradition that saw its peak with Medieval scholars and stretches back to Antiquity (Yates 1966). What’s more, it enjoys constant innovation by mnemonists devising increasingly sophisticated strategies for grouping, encoding, consolidation, and retrieval (Foer 2011: 165–8).

What we see in the history and use of the method of *loci* is an element of an evolving tradition—a way of doing things that is consistently improved upon and taught and that informs a technique which, in turn, informs the normative standards against which mnemonists are assessed. Other mnemonists use a more affect-centered strategy, associating to-be-remembered contents with emotions. During encoding, they try to identify a desiderative state of, say, the author of a poem and then simulate that state. At retrieval, they replicate a pattern of simulated affective states to initiate the reconstruction of the relevant lines. This latter technique closely resembles that of Method acting, in which performers parse scripts into ‘beats’ in accordance with specific intentions or goals of the character and then simulate having those intentions or goals when acting (Krasner 2000; Foer 2011: 130–5).

Mnemonists share (accepted) ways of learning, teaching, participating in, and even understanding the sport. These ways are consistently improved upon and taught. What’s more, they inform distinct techniques which, in turn, inform the standards against which performances are assessed. Relative mastery of the techniques is that in virtue of which performances and performers are deemed better or worse. And mnemonists do not just aim to get things right, though this is a substantial part of what they are expected to do. Both the quantity of information retained and the speed at which that information is encoded and retrieved are arguably just as important as accuracy. And the kind of information encoded—digits, limericks, dates, abstract concepts, etc.—and the creativity exhibited in recall constitute further non-epistemic measures along which mnemonists are assessed. There is, then, an evolving tradition of remembering. Within that tradition, exhibiting some degree of mastery of the techniques of *loci* or affect is met with attributions of excellence.

¹⁷ Note: this list is not meant to be exhaustive of the possible non-epistemic dimensions along which assessments of mnemonic activity can be made.

Hence, just as the account of memory as skill predicts, remembering shares with skills the feature that its exercise admits of attributions of excellence.¹⁸

4 Memory as Skill

So far, I have tried to show that memory is a skill by providing evidence that it exemplifies features that are defining of skill: mnemonic abilities can be learned with (deliberate) practice (§3.1) and they admit of attributions of excellence (§3.2). In this section, I unpack what control over memory looks like by considering and responding to two objections. To that end, let's briefly address the issue of control as it exists in the exercise of skill. I take it that control in the exercise of skill is exerted not in every instance of the relevant behavior(s) but rather over time in the (often intentional) open-ended shaping of a capacity for behaving thus-and-so. Shaping a capacity to behave thus-and-so is inducing relatively permanent change in the relevant behavior and practical cognition—viz. learning (a skill)—through habituation of a certain kind—viz. deliberate practice. The open-endedness of that shaping grounds the possibility of an evolving tradition and, with it, attributions of excellence.¹⁹ In the case of shaping a skill, one learns through the deliberate practice of

¹⁸ One might worry that mnemonists fail to exhibit far transfer (fn.12). We tend to think of skills as exhibiting some degree of far transfer, that is, improvement in tasks that engage cognitive processes beyond the specific cognitive processes that were trained on. If mnemonists fail to exhibit any degree of far transfer, memory as they practice it may not be a skill at all.

In response, mnemonists exhibit a degree of far transfer comparable to that of several other skills. On the one hand, it is true that some mnemonists cannot easily transfer an ability to recall digits to recalling faces or names or *vice versa* (Foer 2011: 168). But a comparable claim applies to other skills as well: many pianists may well fail to transfer an ability to play some pieces in a particular style to playing some other piece or to playing in another highly specific style. There are often *intrinsic* limits to how much an individual can master (fn.19). On the other hand, mnemonists are tested on a variety of distinct tasks that almost certainly involve some degree of transfer between cognitive processes, e.g., memorizing decks of cards or sets of digits and lines of poems or names and faces. That the same mnemonists can be competitive across these tasks suggests that there is some degree of far transfer. I want to thank Felipe De Brigard for pushing me to clarify how mnemonists likely exhibit far transfer.

¹⁹ One could object that some attributions of excellence do not track the exercise of a capacity that one could shape. For instance, it seems felicitous to say, "Jones is an excellent digester." Digestion is not a capacity over which we have any control and, so, is not one we can shape. It seems, then, that admitting of attributions of excellence is not even a necessary condition for skill, let alone a defining feature.

In response, the felicity of "Jones is an excellent digester" depends on the possibility of shaping other capacities which have downstream effects on digestion, e.g., mental and physical tolerance for, say, spicy foods. After all, one learns to control what, when, how, where, and why one eats. And one can come to control a number of other capacities, e.g., for exercise, which have long term impacts on digestive health. Being an excellent digester, then, means having mastery over capacities the exercise of which redounds well on digestion. Or, at the limit, it means having traits that makes one well suited to such mastery and that to a lesser degree result in better or more tolerant digestion. As Amy Kind (2021) points out, all skills have as part of their enabling conditions biological grounds in, e.g., genes (341–2). Kind's point applies to memory as well (including hyperthymesia, fn.6). What distinguishes memory from digestion is that the control gained through deliberate practice is gained over the mnemonic events themselves rather than just the exercise of other, mnemonic-adjacent capacities. I want to thank Kate Stanton for this objection.

those very behaviors and processes, their parts, what sets the stage for them, what monitors them, and combinations thereof as integrated under guiding principles.

Of note is that, due to the kind of habituation involved in the acquisition of skill, there are instances of the relevant behavior(s) where control is there but not exerted. For instance, a pianist will sometimes find herself rehearsing a chord progression or *glissando*. Finding oneself φ -ing is a ubiquitous phenomenon in skill. Importantly, the phenomenon of finding oneself φ -ing appears to be a case in point of the automaticity that Strawson and Mele take to be indicative of nonactions. But that is no threat to counting the exercise of skill as action. For the automaticity which is pervasive in skill is not total: the agent can still forgo tokening the action and can stop what she is doing once she notices that she is doing it. The agent enjoys control over those event-types even then. Her control exists inasmuch as she is in a position to exert it and she enjoys being in that position inasmuch as she has mastered the skill through deliberate practice. In the rest of this section, I address the lingering issue of Strawson's dilemma from §2.1 and unpack the general insight about apparently automatic processes and the light it sheds on the control of skillful mnemonic behavior.

4.1 Strawson's Dilemma

First, one could object that I have so far failed to address Strawson's dilemma in §V of his (2003) (§2.1). Since it is this dilemma that leads Strawson to conclude that we have no control over the occurrence of states like remembering, my failure to address it means that it still threatens the account of memory as skill.²⁰

In response, it is not the case that if the intention to think that p cannot be an intention that contains p then it can only be the intention to think some thought or other. Strawson's dilemma ignores that different thoughts can be about the same thing in virtue of how each thought presents itself to the agent. Part of the way a

²⁰ Arango-Muñoz and Bermúdez (2018) present Strawson's argument in a way that appears to depend on Mele's trying condition: if φ -ing is a mental action then one can control φ -ing by both intentionally trying to φ and intentionally trying not to φ . But the agent cannot intentionally try not to imagine (Strawson 2003: 240). Since episodic remembering is a reconstructive process that heavily overlaps with imaginative processes, it is a form of imagination. Thus, the agent cannot intentionally try not to episodically remember. Hence, remembering is not under the agent's control. Hence, remembering is not an action.

There are a few reasons to worry about this presentation of Strawson's argument. First, the inference from episodic memory being a nonaction to all remembering being nonaction is too quick. Second, it is not clear that episodic memory is a form of imagination such that the same conditions for counting as, say, daydreaming or mind-wandering apply to it. If anything, when asked to not remember something, the agent can exploit the epistemic norms that govern memory to her advantage. That is, she can intentionally not remember by intentionally *misremembering*. Third, even granting that episodic memory is just a form of imagination, it is not clear that we really cannot intentionally try to not imagine or remember. Both Strawson's (2003) argument and Arango-Muñoz's and Bermúdez's (2018) extension of it are intuition pumps. Neither appeal to what psychologists call the 'white bear phenomenon' or 'ironic processing', wherein attempting to suppress a thought makes its appearance more likely (*cf.* Strawson 2003: 240, fn.30). But even if they had, there is evidence that sufficient practice leads to successful suppression (Cunningham and Egeth 2016). This evidence is a further point in favor of the account of memory as skill. I want to thank Colin Allen for pushing me to consider Arango-Muñoz's and Bermúdez's (2018) presentation of Strawson's argument.

thought presents itself to its bearer with respect to what it is about is the relation that the person having the thought takes to obtain between the content of the thought and its object (if any there be). For example, my belief on Monday, ‘that’s a gold finch’, presents itself to me as being about a particular bird and, if all goes well, my memory-based-belief on Tuesday, ‘the bird I saw yesterday was a gold finch’, presents itself to me as being about that same bird. The way a thought presents itself can thus help an agent coordinate the contents of the thought with its object (*cf.* Proust 2001). Applying this to memory, we can defang both horns of Strawson’s dilemma by acknowledging that what features in the intention to remember and what is remembered are distinct but are presented to the person remembering such that both are determined to be—and are in fact—about the same thing.

Recall the second horn: if p is not contained in the intention to remember then it is an intention to remember something or other. On the contrary, trying to remember ‘what I had for breakfast’ in at least some instances effectively amounts to trying to remember ‘oatmeal’, specifically when the way each thought presents itself to the agent allows her to (successfully) coordinate their contents. In those cases, both concern the same situation—one’s having had oatmeal for breakfast. As noted at the beginning of §3, in the good case, the person remembering is not surprised by what she finds she had for breakfast when she remembers. It is only in the case where she has a lapse in memory or attention that what she intends and what she ends up remembering present themselves to her as unrelated. Hence, it does not follow from the fact that the intention to remember what one had for breakfast does not contain the content ‘oatmeal’ that the intention is to remember something or other. The content of the intention and that of the thought are intimately connected in virtue of the agent’s attempt to direct her attention to some aspect of her past (De Brigard 2012; Wu 2013, 2016).

Now, recall the first horn: if p is contained in the intention then this plus our initial assumption that the resulting memory that p be the result of an intention to remember that p runs aground in circularity. On the contrary, it follows from the connection between the intention and the memory, afforded by the way each presents itself to the agent, that there is a sense in which the content of the intention contains the content of the memory in virtue of being about the same situation. In this case, the content of the intention is determinable, and the content of the memory determines it. If so, no circularity threatens. The intention to remember that p draws attention to one aspect of p —breakfast on a certain day—while memory reconstructs and draws attention to another—oatmeal (Wu 2013). Indeed, another way to put it, albeit crudely, is that Strawson’s dilemma fails to distinguish what is thought about from the aspect under which it is thought. The former is something that may be captured by any number of thoughts whose contents can be related by how they each present themselves to the agent. The latter are those properties of the former that allow it to be captured in thought (*cf.* Proust 2001). The aspect of p that features in the intention to remember that p presents one way of attending to what is ultimately remembered, a way of posing the question whose answer is some other aspect of p , namely, that aspect captured in the resulting memory that p (Hieronymi 2009). The imagistic and affective encoding and retrieval strategies of the mnemonists (§3.2) are examples of how skilled agents are better equipped to

pose those questions so as to elicit correct answers. As will be unpacked further in the next subsection, selective use of attention is a paradigmatic form of control in the exercise of skill generally and in skillful remembering in particular (Wu 2016).²¹ For now, we can conclude that, *pace* Strawson's dilemma, it is possible to remember that p as a result of intending to remember that p without presupposing in the intention what is supposed to be remembered.

4.2 Setting the Stage

A second objection claims that, despite what I've argued, control over memory is illusory. If the account of memory as skill is correct then we should be able to exert control over at least some token rememberings. However, memory is an innate capacity, one that is elaborated only through the exercise of other capacities, namely, those that set the stage for it. This is consistent with allowing that the deliberate practice of stage-setting activities increases the likelihood of that event for which the stage is set. According to the objection, it is the deliberate practice of stage-setting for memory that the empirical literature on training memory (§3.1) *really* shows and that mnemonists (§3.2) are *really* good at. But part of what we look for when inquiring into whether something is an action is not a greater likelihood of its occurring when the agent wants it to or of its being made more sensitive to her goals. Part of what we look for is the agent's being in a position to initiate and direct its trajectory. She does not—nor can—occupy that position with respect to memory. Thus, the parallel between skill and memory fails. Call this the objection from stage-setting.

In response, the objection relies on confusing two ways in which automaticity is apparent in memory. First, we are sometimes in a position to do something automatically or in a ballistic manner which is otherwise beyond our current capacities. Call this untrained automaticity. Second, sometimes actions are performed in an unthinking manner. What's more, agents sometimes find themselves engaged in such actions and decline to intervene on them, letting them run to completion. Call this routine automaticity. The objection from stage-setting conflates untrained automaticity with routine automaticity while rightly claiming of the former that its presence precludes action. Since routine automaticity is the more pervasive kind in mature remembering, identifying it with untrained automaticity suggests that most mnemonic activity is nonaction.

According to the account of memory as skill, routine automaticity is found in skill and contributes to our being in a position to control the exercise of skill in overcoming untrained automaticity where possible. Routine automaticity in the exercise of skill also contributes to the selective use of attention by skilled agents and to the control exhibited in everyday actions. Importantly, routine automaticity is a product of deliberate practice. In the rest of this subsection, I explicate the contributions

²¹ For evidence of the deployment of attention by elite athletes during performance see, e.g., Davids et al. (1999). For a detailed neurophysiological and behavioral account of the role of attending to internally generated information in both top-down (voluntary) and bottom-up (involuntary) conscious episodic recollection, see De Brigard (2012).

routine automaticity makes to control in the exercise of skill generally and in skillful remembering in particular.

Starting with contributions to the selective use of attention and overcoming untrained automaticity, consider playing darts. Playing darts and other, more ballistic-heavy activities put into sharp relief how control is limited in novicehood. The novice dart player may hit the bullseye, but her doing so will (usually) be a matter of luck. By contrast, the expert dart player's hitting the bullseye is arguably an intentional action (Mele 2009: 25; *cf.* Strawson 2003: 242). In both cases, the flight of the dart itself is ballistic.

What distinguishes the expert dart player from the novice such that only the expert's hitting the bullseye is an intentional action? Part of the answer is that the expert has acquired control over her body and immediate environment as a result of developing a certain degree of mastery over dart throwing. She achieves that mastery through deliberate practice. That is, she practices, say, positioning herself and throwing the dart for a sufficient period of time, in a variety of contexts, and in accordance with principles which stem from the rules and techniques for playing the game. Over that period, the agent's practicing automates positioning and throwing. They become routine so that she no longer has to attend to them when she sets about performing the movements. Once that automation has occurred, it is open to the agent to attend to new aspects of the action, e.g., the positioning and angling of her elbow and wrist (Emanuel et al. 2008; Lohse et al. 2013). Her doing so keeps performance challenging; the tasks remain adaptive. Selective use of attention is thus made possible thanks to routine automaticity produced by deliberate practice. Eventually, with enough practice of various aspects of the action, the agent can even attend to reliably hitting the bullseye.²² Thus, through inducing routine automaticity by the deliberate practice of actions that are already available to her, both aspects of those actions as well as actions that were originally beyond reach are made available for control (Wu 2016: 19). Untrained automaticity can be overcome thanks to routine automaticity produced by deliberate practice.

If the account of memory as skill is correct then we should expect the selective use of attention and overcoming untrained automaticity to be parts of skillful remembering as well. This allows that, during normal development, human beings start off with some basic cognitive capacities whose exercise may well result in token remembering that is outside of the control of the remembering subject. Like the novice's hitting the bullseye, those tokens are untrained automatic and, thus, nonactions. Nonetheless, evidence from developmental psychology suggests that remembering is trained and practiced within the first years of life with guardians and peers and that it improves as a function of the quantity and quality of that training and practice (see, e.g., Reese 2002; Ornstein et al. 2004; Fivush 2019). An important part of that training and practice is getting the agent to attend to narrative aspects of her past. As ordering events in narrative structures becomes routine, the agent

²² In the interest of space, this story of the dart player's progress does not discuss the role of what is sometimes called 'concatenation' or 'chunking' and 'parsing' in the empirical literature on the acquisition of motor skills (Verwey 2010; Verwey et al. 2011; Wymbs et al. 2012; Fridland 2019).

becomes more able to selectively attend to specific events, their relations, and their details. Eventually, she can reliably recall and elaborate entire sequences unaided. So, even if mnemonic behavior initially exhibits untrained automaticity, this alone does not show that there is no control over remembering.

Turning to the contributions routine automaticity makes to everyday action, consider taking a daily commute. Routine, everyday actions like commuting have a particular phenomenological character, depending on whether the action is proceeding successfully (Cheng 1985; Dreyfus and Dreyfus 1986; Saling and Phillips 2007; Sutton et al. 2011; Montero 2016; Fridland 2015b, 2016, 2019, 2020, 2021; cf. Douskos 2019). The phenomenological character of routine actions implicates an agentic form of self-monitoring. When all is well, self-monitoring provides a sort of positive feedback in the form of felt fluency. Actions are then recognized or felt as satisfying or as being ‘pulled off without a hitch’. When things are difficult or go wrong, self-monitoring, in the good case, alerts the agent so that she may intervene. Actions are then recognized or felt as ‘off’ and in need of guidance or correction (Rietveld 2008). The agentic form of self-monitoring that is online during routine action allows for attention to be elsewhere when all is well and redirects it when the going gets tough. What’s more, this form of self-monitoring often leads to finding oneself φ -ing, whether the φ -ing in question is going well or not. Monitoring of this kind is agentic because its function is to aid success in action (Milikan 1984; Neander 1991). Self-monitoring with a view to success in action is functional only if the agent can do something about what is being monitored. It is a signal only if it is possible for her to respond to it by at the very least forgoing or abstaining from the behavior that the signal is about or interrupting it if things go wrong. That is, self-monitoring with a view to success works only if what is being monitored at least minimally satisfies the trying and something-other-than waiting conditions.

According to the account of memory as skill, if agents exploit routine automaticity in skilled action with the aid of self-monitoring and if remembering is a skill then we should expect to see the exploitation of routine automaticity in memory with the aid of self-monitoring. If so, then that self-monitoring implies that remembering at least minimally satisfies the trying and something-other-than-waiting conditions. In which case, the objection from stage-setting fails.

We have noted that memory can be deliberately practiced (§3.1) and that such practice starts fairly early on. But does remembering exhibit the same phenomenological character as, e.g., a routine drive? This brings us back to the phenomenological contrast noted at the beginning of §3. Recall that fluid memory is immersive, whereas intrusive memories feel uncontrolled. Fluid memory is the paradigmatic good case: satisfaction at the experience of success in fluid remembering is of the same sort as satisfaction at the experience of success in pulling off routine actions. In both cases, the agent tends to experience fluency in the form of ease, reliability, and a sense of control. In neither case does she need to attend to the minute details of her behavior. Intrusive memories are the paradigmatic bad case: dissatisfaction at the experience is of the same sort as that experienced when routine actions slip or fail beyond repair. In both cases, the agent tends to experience a sense of compulsion or lack of control. And misfires in both routine actions and memory cause attention to be redirected to the problem. Now, there is a range of mnemonic behavior

in between perfectly fluid memory and outright intrusive memory. Everyday mnemonic activity often unfolds over time and, as such, is sometimes experienced as requiring effort or correction. Like taking the occasional detour or correcting for a wrong turn, the agent may experience directed discontent towards her attempt to remember when it is less-than-perfectly-fluid. Discontent directed at effortful or difficult attempts at remembering is of the same sort as discontent directed at effortful or difficult projects (Rietveld 2008). In instances of routine actions that are difficult and in less-than-perfectly-fluid memory, the agent tends to experience herself as struggling, in error, or initially without control. Such experiences redirect attention to the action so as to motivate trying new strategies or different interventions.²³

Memory in its mature, everyday use exhibits all the phenomenological trappings of skill that result from achieving routine automaticity. Since this phenomenological character quite generally implicates a form of self-monitoring whose function is to aid success in action and since that form of self-monitoring has this function only if the agent can do something about what is being monitored, the phenomenological character of mature remembering implies that the remembering subject can do something about her memory. Just as the account of memory as skill predicts, then, memory in its everyday use is open to control by the agent thanks to routine automaticity produced by deliberate practice. She can initiate and intervene on memory, even after she has found herself remembering. Thus, memory satisfies the trying and something-other-than-waiting conditions. Contrary to the objection from stage-setting, control over memory is not absent but, rather, pervasive. Thus, remembering is an action.

5 Conclusion

In this paper, I present the account of memory as skill. I argue against Strawson's (2003) and Mele's (2009) claims that remembering is not an action because automatic. While some token remembering exhibits automaticity, this does not itself threaten the agentic character of memory. In support of this, I presented empirical literature on improving working and episodic memory and the exceptional memory of mnemonists. Together, improvement and excellence suggest that control over remembering is, as with skill, illuminated by taking up point of view according to which control is gained and increased over time. In learning to remember through deliberate practice, one gains control over memory by satisfying the conditions on

²³ Such experiences are grouped under 'metacognitive feelings' or 'metacognitive judgments' in the empirical literature on metacognition and under 'metamemory' in the literature on memory (for overviews, see Dunlosky and Bjork 2008; Proust 2013; Dunlosky and Tauber 2016). I use 'self-monitoring' rather than 'metacognition' or 'metacognitive feelings/judgments' for two reasons. First, unpacking the entirety of the literature on monitoring (and control) in metacognition/metamemory would take us beyond the scope of this paper. So, I use 'self-monitoring' to capture metacognitive monitoring generally. Second, since self-monitoring in skillful bodily action is not usually identified with metacognition and part of the aim of this subsection is to draw a parallel between the use of self-monitoring in skillful bodily action and its use in skillful remembering, I use 'self-monitoring' throughout.

skill acquisition. In making one's memory excellent, one shows the heights of control achievable through continued deliberate practice. Memory is a capacity that is shaped over time. Importantly, as with any skill, that shaping involves and requires making mnemonic processes routine. The routine automaticity we see in memory is not a sign of a lack of agency but rather a sign of its especially elaborate expression.

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