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The Method of Loci and the Role of Constructive Imagination in Remembering

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1. Introduction

As of the drafting of this chapter, the world record for memorizing the order of a shuffled deck of cards stands at 13.96 seconds. Zou Lujian set this record at the World Memory Championship in 2017.[1] Ryu Song holds the record for memorizing the longest string of spoken numbers, in a competitive event where one number is uttered per second. At the 2019 World Memory Championship, Song recalled 547 digits.

These and other similarly astounding feats are made possible by the use of mnemonic devices. Mnemonics are tools and strategies that aid remembering, an assortment of individually- and collectively-designed tools aimed at training memory for particular forms of retention. Even though they are contrived, mnemonic devices often exploit fundamental and widespread features of cognition, as evidenced by their historical and cross-cultural appeal. The premier example of such a mnemonic is the Method of Loci (MoL), a technique described as "the oldest surviving formal mnemonic" (Worthen and Hunt, 2011, 55). The MoL involves creating a memory palace in one's mind, which can then be used to remember an ordered set of items, such as a shuffled deck of cards or string of digits.

In this chapter, I explore the nature and significance of the MoL. Understanding this technique—how widely effective and available it is, and how integral it can be to the activity of remembering when it is used—is useful and will, I hope, encourage further theoretical and empirical exploration into it and other mnemonic techniques. As I argue, the MoL is a way of remembering via constructive imagination. The MoL's use of our imaginative capacities is interesting—inherently so, but also in relation to recent work in philosophy of memory where episodic memory is understood as a form of constructive imagination (e.g., Michaelian 2016).

[1] http://www.world-memory-statistics.co.uk/disciplines.php

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Comparing and contrasting the role of constructive imagination in the MoL and episodic memory offers insights into both of these aspects of remembering, as well as a richer understanding of the various forms constructive imagination can take.

2. Mnemonics and the Method of Loci

Mnemonics come in many forms. The most familiar are those taught to young children, often in school settings, to support their memory of various sequences—the order of the planets, the notes of the Treble Clef, or the taxonomy of biological life, etc.[2] Mnemonics can also come in the form of rhymes or songs. They may make use of physical/structural features of the rememberer, as when one uses their knuckles and the grooves between them to keep track of which months of the year have 31 days, or they can use features of the items to be remembered, as when the spellings of "their" and "there" are kept distinct by envisioning the "i" of the former as a person. Mnemonics can be public and widely-used, as many of the above are, or created and used by an individual.

For the purposes of this chapter, I focus on a particular mnemonic technique: the *Method of Loci* (MoL), often described as "the oldest surviving formal mnemonic" (Worthen and Hunt, 2011, 55). The origin of MoL as a formal mnemonic method is traced to a story of the Greek poet Simonides (c. 556-468 BCE), as told in *De Oratore*. According to the story, Simonides performed a lyric poem at a large dinner banquet. At some point after the performance, he was called outside and, during that time the roof of the venue collapsed. All of the dinner guests inside were killed and their bodies were unidentifiable in the resultant rubble, much to the distress of the loved ones who came to claim them afterward. Simonides was able to help the mourners, identifying the bodies by envisioning where each person had been seated during his performance. *De Oratore* contains an explanation of how the case of Simonides can be converted into a general mnemonic:

> [Simonides] inferred that persons desiring to train this faculty [of memory] must select

[2] I learned these three as My Very Educated Mother Just Served Us Nine Pizzas, Every Good Boy Deserves Fudge, and Kings Play Cards on Fat Green Stools, respectively.

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> places and form mental images of the things they wish to remember and store those images in the places, so that the order of the places will preserve the order of the things, and the images of the things will denote the things themselves (Cicero, *De Oratore*, II, lxxxvi, translation, Sutton & Rackham 1942).

The MoL has an extensive history; its use is not restricted to Roman rhetoricians (Yates, 1966). Minchin (2001) argues that Homer used this method to compose and perform the *Iliad* and the *Odyssey*. Similar strategies have been documented in the practices of Aboriginal Australians and Meso-American tribes in North America (Kelly 2016). Carruthers (2008) argues that the middle-ages were the time when MoL and related mnemonics reached their peak, as a key component of scholarly and religious practice, while books and other printed materials were scarce. Although scarcity no longer drives most use of mnemonics, the techniques are still employed today, by those who compete in the World Memory Championship and other similar memorization competitions, as well as students of all levels preparing for examinations (Qureshi et al. 2014; McCabe 2015).

So what is this technique? As is to be expected of a long-standing, cross-cultural practice, there is no established definition. The characterization I offer here is intended to capture the central features of core cases, although I acknowledge that the boundaries of what counts as an instance of this technique may be blurry. The MoL is used to remember a set of items, often in a particular order or configuration, and the method is especially useful when the set of items is large or the ordering is arbitrary. The method involves two features known to improve retention: imagery and structure. Human are, in general, better at remembering pictures than words (e.g., Shepard 1967; Matthews, Benjamin, and Osborne 2007). Structuring information to be remembered—in a sequence, song, or schema—also improves retention (e.g., Bower and Clark 1969; Bransford and Johnson 1972). In the MoL, these features are combined to create a *memory palace*—a familiar space, place, structure, or route that can be called to mind and used as a mental framework for storing the items to be remembered. Memory palaces are typically familiar to the user: one's childhood home, daily commute to work, or the layout of a favorite museum. The palace could be a smaller place: a single room or desktop, so long as it provides spatial structure that can be used to organize the items one wants to remember. In some cases, the spatial structure is highly organized, as a particular route through a museum or across a city.

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But it can also be achieved more basically via the spatial configuration of a particular space.[3]

With a palace selected, one then designates a mental image to correspond to each item to be remembered. These images can be selected at the time of encoding, or can be determined in advance. Regular users of the MoL often take the latter approach, selecting the images associated with items they expect to encounter with great care. As items appear in the to-be-remembered set, they are slotted into the palace, at intervals along the designated route. Often, and especially in cases with many items, the imaged items are combined or made to interact with one another, and/or woven into a narrative that accompanies the route through the palace. As a result of this elaborate encoding, the act of retrieval is relatively straightforward. One calls to mind the memory palace and then initiates a mental 'walk' through the palace—either following the designated route or by starting with a particular item and then moving through the mental space from there to encounter contiguous items. As one sees the images placed in the palace along the way, the associated items are recalled.

The MoL is best illustrated with an example. Suppose someone is trying to remember the sequence of a shuffled deck of cards, as happens in the 'fast cards' event at the World Memory Championship, the event for which Zou Lujian holds the record. A competitor in this event will have a palace designated for this competition—let's suppose it's their childhood home. The person will also have a designated and distinctive image for each card.[4] Those who use these techniques regularly and competitively advise that the images work best when they not only have a clear link to the item one wants to remember, but are also detailed, multi-sensorial, bizarre, and funny or lewd.[5] The Queen of Hearts could be the Statue of Liberty spray painted with pink and red hearts, the 8 of Clubs could be a family of lemurs singing the Beatles song "Eight Days a Week", The 5 of Diamonds could be a sparkling, diamond-encrusted glove. And

[3] Interestingly, one study has shown that the degree of spatial organization influences the amount of mnemonic improvement the palace provides. Specifically, researchers found that memory palaces work best when there is an obvious or designated route one would take through the palace (Massen, Vaterrodt-Plünnecke, Krings, and Hilbig, 2009).

[4] During a demonstration of his memorization abilities at Washington University in St. Louis in Summer 2012, which I attended, Ben Pridmore explained that a key component to memorizing cards this quickly is creating a distinct image for each possible ordered 3-card sequence.

[5] Foer (2011) describes advice given by memory champions in ch. 5 of *Moonwalking with Einstein*, his book-length memoir of the year he spent learning these techniques and training to compete in the US Memory Championship.

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so on.

Suppose these were the first three cards to appear in the shuffled deck to be memorized. The person using the mnemonic would then envision the corresponding images along the first part of the route through their childhood home. The images could be slotted in one by one. They could envision the Statue of Liberty on the front porch, and then upon opening the front door, could picture encountering the singing lemurs in the entryway. Hanging from the doorway that leads into the kitchen could be the diamond-encrusted glove, spinning around like a disco ball. Alternatively, one could combine the images into something of a narrative structure for the items scattered through the palace. The person could imagine that, in the entryway to their childhood home, the coatrack has been replaced by the Statue of Liberty, which is being spray-painted by the set of singing lemurs—and that, instead of holding a torch, Lady Liberty is donning the diamond glove.

It takes a considerable amount of time to set up such a memory palace, especially when someone is new to this activity. But the effort makes subsequent retention remarkably easy, even in these initial and effortful instances. Studies have shown that the MoL provides substantial benefits to retention from the first introductory use (Roediger 1980; Wang and Thomas 2000). With extensive practice, less effort is required and the benefits to retention become substantial. It is use of a memory palace like the one initiated above that made it possible for Zou Lujian to memorize the order of a shuffled deck of cards in less than 14 seconds.

Setting such records or achieving other, similar memorization feats requires dedication to this task, but there is no further, in-principle barrier to reaching comparable levels of performance for most of us were we to do the same. That is to say, there are no systematic cognitive or intellectual differences between memory champions and the rest of us, only differences in the hobbies we choose to pursue (Ericsson 2003; Wilding and Valentine 1997). A series of neuroimaging studies provide further support for this, as well as insight into how mnemonic training makes these improvements possible. When comparing memory champions to persons matched on age, researchers found no significant differences in intellectual ability or structural brain features (Maguire et al. 2003). A case study of a person who memorized 50,000 digits of pi revealed similar results—i.e., this mnemonist was of average intelligence and neuroimaging

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reports revealed standard structural brain features (Raz et al 2009). This is not to say there are no differences between expert mnemonic users and the rest of us. Instead, these differences reveal themselves in *functional* brain activity. In their comparisons between age-matched mnemonists and controls, Maguire and colleagues (2003) showed that there were differences between these two groups in terms of which brain areas were involved during memorization tasks. Trained mnemonists recruited more brain areas than controls; specifically, they made more use of the hippocampus and surrounding structures, which support spatial learning. A further study by Dresler and colleagues (2017) showed that these functional changes could be achieved by mnemonic training. In their study, after 6 weeks of practice with mnemonic techniques, control participants showed activity comparable to memory champions.

Aside from this handful of neuroimaging studies, there has been considerably little research done on the MoL and the factors that contribute to its efficacy—especially considering the long-standing and widespread use of this technique. Studies that have been done offer some suggestion as to the relative important of various features. For example, the technique has been shown to work better at improving retention for individual items than for longer passages or text (De Beni and Moe 2002, 2003). Similarly, researchers have demonstrated superior retention when the items to be remembered are presented orally, rather than in writing (Cornoldi and De Beni 1991; Moé and De Beni 2005). The MoL is effective for improving retention even when the palace and corresponding images are given to the rememberer, but retention is better when the palace and other images are self-generated (Belezza and Reddy 1978; Legge, Madan, Ng and Caplan 2012).

Mnemonics like the MoL are often used in classroom and competition settings, so it would be easy to assume that such techniques work only for those with standard or above-average cognitive abilities. This is not the case. The MoL has been shown to improve retention with persons suffering neurological impairment (Canellopoulou and Richardson 1998). It has also proven effective in studies with adults over 65 (Gross et al 2014), and in treatment for persons experience severe depression (Dagleish, Navrady, Bird, Dunn, and Golden 2013).

3. The Method of Loci as a way of remembering

With the basic structure of the MoL now clear, I turn to a defense of the MoL as a *way of*

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remembering. I intend something specific—ontologically mild, but still substantive—when I use this phrase. The MoL is not a type of memory; it does not belong in a taxonomy of memory systems. Nonetheless, it is inextricably part of the activity of remembering in the instances when it is used. I elaborate on and defend these claims below.

Should the MoL receive a spot in our taxonomy of memory? Memory taxonomies often start from the intuitive, tripartite distinction between memory for skills/habits, memory for facts, and memory for experiences. In psychology and neuroscience these are often labeled as procedural, semantic, and episodic memory, respectively, whereas philosophers have sometimes labeled them habitual, propositional, and experiential (or personal) memory. The MoL is not aligned exclusively with any one of these forms, nor is it a viable candidate for its own endogenous type. It would be easy to suppose that the MoL corresponds to semantic memory, since the technique is used for memorizing ordered lists of items. There are at least two reasons to resist thinking of the MoL as restricted to semantic memory. First, the MoL can be used for remembering sequences that occurred at a particular time. The 'fast cards' event at the World Memory Championship, used as an example in the previous section, illustrates such use. Here the MoL user is not memorizing a fixed sequence like the order of the planets or US Presidents. Instead, the MoL user is remembering the order of cards in a shuffled deck as presented during the fast cards event. It is a memory of a particular past experience, closer to episodic than semantic remembering. Second, the items placed in the memory palace can be semantic items—names of US Presidents, miscellaneous words, digits of pi. But these items can also be episodic memories. In the Dagleish and colleagues (2013) study referenced in the previous section, for example, the MoL was used as a form of treatment for people experiencing depression. Depressed persons often have difficulty calling positive life events to mind, which can compound depressive symptoms. In this study, the researchers found that training participants to fill a memory palace with positive episodic memories facilitated their recall.

The MoL is not an apt candidate for being an endogenous type or form of memory. It's wide use and effectiveness tells in favor of its potential as a general cognitive tool, but there is no sense in which it is a required or automatic form of memory. In the *Rhetorica ad Herennium*, the MoL and such techniques are referred to as "artificial memory" in recognition of their contrived nature.

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Given MoL's artificiality, it is common to think of it and similar such techniques as incidental to memory, occurring alongside remembering, but not a part of the activity of remembering itself. Hopkins (2018) makes an offhand claim of this sort, as part of his argument that episodic memory is the only form of memory that involves imagery. In so doing, he acknowledges that there are cases where images can accompany semantic memory. Here he appeals to cases where one uses a mental image as a visual mnemonic to make a fact more memorable:

> The idea is that paradigm cases of episodic remembering essentially involve mental imagery. If I can picture in memory my first university exam, summon an auditory image of the instruction to begin, or recall the accompanying nervous feeling in the pit of my stomach, chances are that I am episodically remembering that event. (Note that imagery need not be visual or event restricted to the traditional senses). Of course, imagery can be bound up with factual memory too. Perhaps I remember the chemical composition of salt by forming an image of two substances being combined, one labelled 'sodium' and the other 'chlorine.' But here the image plays the role of mere accompaniment or *aide-memoire*. The imagistic state of mind is not itself the memory, not even in part—unlike in the examination case (46).

I do not take issue with Hopkins' characterization of the factual memory he describes, nor am I interested here in his more general project of characterizing the nature of episodic memory. Instead, I want to challenge the distinction he invokes between mental images as *part of* the memory and as mere accompaniment *to* memory, using the mnemonic he discusses as a foil for the MoL. I grant that mnemonics often play this accompanying role. They make remembering easier, or faster, or more fun to do—but can easily be set aside while leaving the memory intact. In this way, they serve as a support to memory that nonetheless remains distinct.

In the case of MoL, however, this is not what happens. This technique is deeply integrated into the act of remembering in a way that warrants attributing to it a more substantial role. This is because MoL is a mnemonic technique that employs not only imagery, but *structure.* It is a method of elaborative encoding; it improves retention by providing a structure for otherwise unstructured information. Given the relative scarcity of research into mnemonics, there is no

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established account of precisely *how* the structure of the memory palace contributes to retention. Is it the inclusion of space that's most important? The connection to physical movement/egocentric space? The combination with imagery? Even without settling this question, we can see that the structure it provides during encoding is grafted on to the information to be remembered in a more permanent way than a fleeting image that accompanies a retained fact. A series of items that is memorized via use of a memory palace is not generally memorable afterwards without (mentally) revisiting the palace. In other words, the MoL is not generally removable from the memory once the memory is secure. It is part of what is encoded and thus critically involved in what is stored and later remembered. If the palace is forgotten, then the sequence of items is too.

There may be other mnemonic techniques that are similarly engrained into what's remembered. If so, it may turn out that there are multiple mnemonic ways of remembering, or the way of remembering here may grow to include them. And, conversely, there may be some instances where use of the MoL allows for the eventual retention of a set of items, without the accompanying structure of the memory palace. In acknowledgement of both of these points, it could turn out that the embeddedness I am gesturing at here varies along a continuum, with various instances and types of mnemonic differing in the degree to which they are fused to what is remembered. Nonetheless, the bulk of MoL cases remain characaterizable as a way of remembering in which the mnemonic structure available at encoding becomes integrated firmly, if not ineliminably, from the content that is remembered.

McCarroll (2018) has argued for increased attention to encoding in our characterizations of remembering. He does so in order to demonstrate that contextual information is available at encoding and could thus give rise to genuine personal memories from an observer perspective. Even if one is hesitant to accept McCarroll's claim of genuine personal memories from an observer perspective, we can still appreciate the way his attention to the richness of encoding expands our understanding of the aspects of experience that can be built into a memory:

> Thoughts, emotions, imaginings, and even memories pervade perceptual *experience*, one can therefore also *remember* such past thoughts, emotions and imaginative episodes: they can be part of the legitimate content of memory, in addition to one's past

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> perceptions of outer objects, external elements, and events (McCarroll 2018, 53, emphasis in original).

The MoL is a highly particular case of this sort. A person using it is combining their experience of outer objects—the cards they are seeing appear in front of them—with an intense and elaborate internal imaginative experience of building a memory palace.

The MoL is a way of remembering availed by some and available to most, if not all, human rememberers. It is a technique for improving retention in certain conditions, a strategy that one can intentionally adopt and deploy by learning to use a set of general cognitive skills for this particular purpose. Many people have made use of it, at least on occasion, and the evidence reviewed in the previous section indicates that the technique can be used effectively by many more, including people from different eras and cultures, and in different contexts and with varying cognitive abilities.

4. The Method of Loci as Constructive Imagination

I have just defended the claim that the MoL is a way of remembering. Here I expand on the claim by exploring this way of remembering in more detail. The MoL makes extensive use of mental imagery and imaginative activity. Given the recent interest philosophers of memory have had in exploring the connections between memory and imagination, it seems worthwhile to consider what kind of imagination the MoL involves. To do so, I make use of Van Leeuwen's (2013) distinction between three senses of imagination: constructive imagining, attitude imagining, and imagistic imagining.

I start by introducing these three forms of imagining and the distinctions between them. I then explore whether and how each is involved in use of the MoL. As I will show, the MoL involves imagining in all three senses. There is one form, however, that is central to the MoL's mnemonic activity: constructive imagining.

As is true of many terms regarding the mind and cognition, "imagine" can refer either to occurrent mental activity (*imagining*) or to a more general capacity (*imagination*). We can talk

about a person imagining something or about that person's imagination. Van Leeuwen's (2013) distinction between three senses of imagination allows for each sense to be understood in both ways; my focus in reconstructing his account below is on *imagining* as my interest is focused on the activity as it occurs during the use of the MoL.

	"x imagines/is imagining *c*"
Constructive sense	Expresses that X is engaged in a process of coming up with mental representations that have *c* content
Attitude sense	Expresses that X's cognitive system represents *c*, though taking it to be non-real
Imagistic sense	Expresses that X's mental representation of *c* is imagistic or mental imagery, i.e., formatted like perception

Recreated from Van Leeuwen (2013), 224

While other philosophers of imagination support this tripartite characterization (e.g., Kind 2016; Langland-Hassan 2020), there are of course on-going debates and further refinements to each sense that could be made. Here I focus on giving a general characterization of each, illustrating their distinctiveness from one another.

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Constructive imagining is the activity of building novel mental representations. It makes use of pre-existing mental images—the sort that arise from imagining in the imagistic sense—to create something new. The newly created mental representation may be one that the subject then takes a fictional stance toward (using imagination in the attitude sense), but they need not. Suppose I am building an elaborate rocket out of LEGO. I can constructively imagine how the rocket will look once various subcomponents are combined.

Attitudinal imagining is a stance toward mental content, comparable at least in some respects to other mental attitudes like belief and desire. The mental content that one takes a stance toward could be imagistic, in either the constructive or imagistic sense, but it need not be. One can take this as-if, fictional stance toward a proposition. I can, for example, imagine that Rio de Janeiro is the capital of Brazil.

Imagistic imagining is the use of mental imagery from prior perception. I can visualize my spouse's face, the Tower of London, and the street I grew up on. This mental imagery is available in my mental workspace. It is not novel or actively created, as occurs in constructive imagining. Further, since many of these mental images come from past experience, so they will not often be contents toward which the fictional stance of attitudinal imagining applies.

The MoL involves imagining in each of these senses. The construction of a memory palace relies heavily on imagistic imagining. The palace is a mental image, and there is a mental image tied to each item to be remembered. The MoL also involves imagining in the attitudinal sense. When one uses a memory palace to encode a set of items, this filled palace becomes an elaborate mental image that one can later recall and take different mental attitudes toward. In the final chapter of *Moonwalking with Einstein*, where Joshua Foer describes his year-long experience of mnemonic training in order to compete in the US Memory Championship, he describes the palace he built for the fast cards competition, which included an image of himself moonwalking with Einstein outside his parents' bedroom door (248). In entertaining this image again, Foer does not presumably believe that he has moonwalked with Einstein in his childhood home. He is instead taking a fictional, imaginative stance toward that image.

The MoL also involves imagining in the third, constructive sense. This is, in fact, the central

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imaginative activity at work with this mnemonic technique. The MoL is a technique for creating an elaborate series of novel mental images, combining a familiar place and familiar images in strange and vivid ways that promote their memorability. Even if one relies on the same memory palace for all uses of this mnemonic, each time it is used to encode a memory the process will result in a novel mental image, as the items and locations are rearranged to tell a new story along the route. In short, the MoL begins with imagistic imagining and once completed it can play a role in attitudinal imagining, but the elaborative encoding that structures memory and improves retention, making the MoL the mnemonic technique that it is—an activity of constructive imagining.

5. Remembering and Constructive Imagining

The MoL is a way of remembering via constructive imagining. It is not the only aspect of memory with a link to constructive imagination. An increasing number of philosophers consider themselves *continuists*,[6] arguing for a view of episodic memory as a form of imagination (e.g., Michaelian 2016). Continuism is a view that has developed in response to a growing body of empirical evidence about the similarities the neural structures, cognitive content, and phenomenological features of memory and imagination (see Michaelian, Perrin, and Sant'Anna 2020 for an overview). On this view, remembering past experiences and imagining future ones are activities that are more alike than they are different.

Continuists have been focused primarily on debates with discontinuists regarding the nature of episodic memory. Far less attention has been directed toward the question of how to understand the form of imagination to which episodic memory is being connected. Langland-Hassan (2021), a philosopher who has written extensively on imagination, has stepped in to address this question. Using the same tripartite distinction between senses of imagination that I detailed in Section 4, Langland-Hassan argues that the sense of imagination at work in continuism is constructive imagination.[7] This seems correct. Continuists are not concerned with mere mental

[6] Perrin (2016) initiated use of the terms *continuism* and *discontinuism* to describe the two camps in philosophy of memory: those who think of memory and imagination as related cognitive forms (continuists) and those who think of them as distinct (discontinuists).

[7] It is worth noting that Langland-Hassan does not endorse continuism. In the paper referenced he goes on to defend a unique form of discontinuism.

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imagery, as in the imagistic sense of imagination—the appeal to imagery does not distinguish continuist and discontinuist views. The continuist is also not interested in claiming that episodic remembering involves a fictional stance toward one's memories of past experiences. Instead, continuists want to emphasize the similarities between building a plausible representation of what a future experience might be like and building a representation of what a past experience *was* or *might have been* like. In both cases, continuists claim, the activity involves building a novel representation.

Continiusm is often portrayed as a natural implication of the now widely-accepted view that episodic memory "is not a reproductive but a reconstructive process" (Michaelian and Sutton 2017). This rethinking of remembering is supported by a wide swath of empirical evidence, which shows that episodic remembering is often inaccurate, in ways that go largely unnoticed by the rememberer herself. The nature of these inaccuracies hints at the constructive process that produced them. Our memories of past events often involve elements from other sources—similar past events, elaborations on that event based on schema-driven expectations, information available at retrieval, etc. (Roediger and McDermott 2002). Characterizing episodic remembering as constructive imagination thus helps to make clear the positive claim about this process that has emerged in response to evidence of false memory. Episodic remembering is a process of constructing a representation of a past experience, which makes use of material from a wide range of sources.

As Langland-Hassan (2021) acknowledges, connecting episodic remembering to constructive imagination is just the beginning. Constructive imagination, construed simply as the process of building novel mental representations, is still a highly general and generic characterization of the underlying cognitive processes, likely to include much of cognition. More work needs to be done to pin down the precise features of constructive imagination, and to explore whether it might come in distinct forms.

The shared connection to constructive imagination between the MoL and continuist view of episodic memory is thus intriguing because it offers an opportunity to compare and contrast the two so as to further understand how constructive imagination is involved in each. The Method of Loci is a way of remembering via constructive imagination. Episodic remembering,

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according to continuists, is a form of constructive imagination. What do these activities have in common? How are they different? Below I identify a key similarity between the imaginative activities of MoL and episodic memory, as well as two differences.

First, let's focus on their similarities. Both the MoL and episodic remembering not only involve the construction of novel mental representations, but novel mental representations of a particular sort—they are both *episodic.* Episodic memory is often distinguished from semantic memory by appealing to a particular form of consciousness (Tulving 2002). While semantic memories involve noetic consciousness, awareness of what is being represented, episodic memories involve autonoetic consciousness, awareness of what is being represented and *what it is like* to be representing. Further elaborating on or defining episodicity has proven difficult and contentious. There is ongoing disagreement about the phenomenological features that make episodic remembering distinctive (see Boyle forthcoming for a fruitful discussion). Even without being able to pin down precisely what is involved in this self-situated way of representing the world, it nonetheless seems clear that this way of representing is distinct. The neuroimaging studies that are used to support continuism show not only overlap in the neurocognitive systems that support episodic remembering and imagination, but differences between the neurocognitive systems involved in episodic imagination and semantic imagination (see Szpunar, Spreng, Schacter 2016 for a discussion). Researchers doing this work often refer to the cognitive activity as simulation, where simulation involves the construction of novel representations under certain constraints – i.e., imagining the future is constructing a representation of what might happen, counterfactual simulation is constructing a representation of what could have happened, but didn't, etc. These simulations can be either episodic or semantic. Suppose I am constructively imagining the events of tomorrow afternoon, trying to make an educated guess as to whether my afternoon meeting is likely to run late. I can simulate this semantically—thinking about the agenda items and issues that will arise, the processes required to address them and the time involved in each. Or I can simulate this episodically, imagining myself at that meeting and how the discussion of that agenda will go. Each form of simulation can be beneficial, and highlights distinct features of the situation. This similarity between the MoL and episodic memory offers an important refinement of our understanding of constructive imagination. Constructive imagination can come in both episodic and non-episodic forms.

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Even if MoL and episodic remembering both involve episodic constructive imagination, there are some important differences in the ways that they engage this form of imagination. I identify and discuss two below.[8]

When a person uses the MoL to remember a set of items they are aware of what they are doing. The MoL is a cultivated technique for encoding, one whose use generally involves training and whose employment is intentional and deliberate. The episodic constructive imagining that it involves is available in awareness. This is not the case for episodic remembering. My memory of a particular past experience may involve constructive processes that combine imagistic components from multiple past experiences and general knowledge, but—importantly—this is not how the process of remembering a past event feels to me. From the perspective of the rememberer, the representation of the past experience arrives in one's awareness more or less intact. I am not denying that remembering past experiences often takes awhile, or occurs piecemeal, or involves effort. This is sometimes the case. But even in such cases the rememberer is not aware of this activity as a form of constructive imagination. Rememberers are generally not aware of inaccuracies that arise in their memories as a result of this constructive process. The details culled from other experiences are taken to be details of the experience in question. If the process were one that the rememberer was aware of, they would not allow extraneous and inaccurate details to be included. In short, the MoL and episodic remembering differ in terms of whether the person engaged in them is aware of the imaginative construction. In MoL they are; in episodic remembering they are not.

The MoL and episodic remembering differ not only in the person's awareness of the construction, but also in the control they have over the process. The MoL is an explicit and deliberate technique employed by the rememberer. This affords them control over the process. The person using this technique decides not only the palace and images to use, but how they will be combined. With practice and training, they improve. This happens in part because of the control exerted over the constructive process. Mnemonists become more selective about the

[8] In Robins (forthcoming) I identify these as two of the features that can be used to distinguish episodic remembering from episodic imagination, as part of an argument against continuism. There are obvious connections to the claims being made here, although the arguments of the current chapter do not rely on a rejection of continuism.

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images they use and where they are placed in the memory palace. Memory champions sometimes report missing an item on their list because its color blended into the palace background, or having to swap out particular images because they are too similar to one another.[9]

There is no comparable level of control involved in episodic remembering. When attempting to recall a particular past event, a person does not consider various ways this event could have gone and then select from amongst these alternatives – at least not at a level they are aware of and able to consciously control. There are some ways for a rememberer to indirectly influence the process. On occasions when the attempt at remembering is particularly difficult, one may actively seek out additional information to improve retrieval—looking at pictures, talking with a friend who shared the experience, thinking out loud about surrounding information and context, etc. Still, these additional efforts are not thought to alter what information is retrieved, or confer any control over what information is selected. Their role is only to facilitate access to the information available.

The MoL and episodic memory differ in the awareness and control the person involved has over the constructive imaginative process. These differences allow us to refine our understanding of how constructive imagination is involved in each case. Both involve constructive imaginations that are episodic, but they differ in terms of which aspect of the activity is episodic. In the case of MoL, the constructive imagining itself is episodic. A person using this mnemonic technique is aware of and in control of the first-personal simulation of building and walking through their memory palace. In the case of episodic remembering, however, it is only the output or result of this constructive imagination that is episodic. The representation is available from the first-person perspective, but the process of assembling it is not.

If this characterization is right, it puts pressure on the continuist to further explain the constructive imaginative process at work in episodic remembering, so as to distinguish it from mere imagistic imagining. Imagistic imagining involves the mental imagery that is available for one to call up into one's mental workspace. I can, for instance, call to mind an image of my

[9] Foer (2011) discusses several such cases in ch. 5.

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bedroom in the last four places I have lived, determining the number of windows in each room. I do not have access to the process by which these images are made available to me introspectively. They appear intact, which may mean they are stored in this way or simply that the process by which they're constructed takes place subpersonally. Suppose the latter is the case. How does the reconstructive process of episodic remembering differ?

I do not mean to suggest that there is no difference. Instead, I intend to encourage continuists and others interested in episodic remembering as a constructive process to actively take on this question.

By comparing and contrasting the role of constructive imagination in the MoL and episodic memory, we are thus able to triangulate further on the sense in which episodic remembering is constructive. Many philosophers of memory and memory scientists are eager to distinguish the activity of remembering from more straightforwardly archival or preservative processes. But, aside from rejecting this storage-model of memory, the specifics of the constructive claim have been difficult to pin down. The MoL offers us a constraint from the opposite direction. This mnemonic technique is a way of remembering that is *highly* constructive and imaginative, more so than what happens in episodic remembering. Episodic remembering may not be mere reproduction, but it is also not a deliberate and elaborately constructed mnemonic device. The nature of episodic remembering lies somewhere in between.

6. Conclusion

Mnemonic techniques rarely get attention from philosophers of memory or memory scientists.[10] They are often understood to be contrived gimmicks that boost memory artificially or incidentally. There are, however, benefits to giving mnemonics more of our attention. In order to improve memory, they must exploit available features of our memory systems. Even if indirect, they thus offer us a way of seeing how remembering works. The Method of Loci is of particular interest because of its persistent and pervasive role in human remembering. Building a memory palace to house something one wants to remember is, I have argued, a way of

[10] Although see Sutton (2000) and Peeters and Segundo-Ortin (2019).

remembering via constructive imagination. It makes possible astounding feats of memorization, and yet we are not entirely clear how or why constructing a memory palace does so. Nonetheless, we can see that way it engages constructive imagination is importantly different than other aspects of remembering. Episodic remembering and mnemonic techniques share a representational format, but they are otherwise quite distinct. Remembering past experiences is not much like building a memory palace. In this way, remembering via mnemonics offers us an important case from which more standard forms of remembering can be contrasted and, hopefully, better understood.

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