Habits of Collective Memory

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The origins of collective memory studies are usually traced to Maurice Halbwachs (1877-1945), a student of the sociologist Emile Durkheim (1858-1917) and the psychologist and philosopher Henri Bergson (1859-1941). Halbwachs' writings were read by a few psychologists during his lifetime, perhaps the most significant being the British psychologist Frederic Bartlett (1886-1969), who voiced the concern that discussions of collective memory are prone to devolve into nebulous claims about the collective mind or collective consciousness. To avoid this, he argued that the psychological dimensions of collective memory are to be found by focusing on the individual *as a member of a group* and what was at stake was not "memory *of*

the group," but "memory *in* the group." (1995, p.296, italics in the original) These views are reflected in his own studies of remembering verbal and visual information.

Bartlett's formulation continues to provide a foundation for studying the psychological dimensions of collective memory today, but it is now part of a much broader effort involving multiple disciplines in the social sciences and humanities (cf. Erll, 2011; Roediger & Wertsch, 2008; Wertsch, 2002, 2021). As with many such interdisciplinary efforts, this has spawned new silos of productive research, but it leaves much to be desired when it comes to integrating concepts and methods. In our effort to move beyond these silos, we focus on a topic that draws on several disciplines but is often overlooked: habits of collective memory. Our account is built around the notions of narrative, schema, and habit. These are important not only because of their usefulness in identifying points of collaboration, but because they are key to addressing vexing issues of group polarization and confrontation.

In pursuing our inquiry, we draw on ideas from several research traditions that often are not part of a common discussion. In some cases, there seems to be nothing that precludes the integration of these ideas into a larger formulation, but they are often not harnessed in that way because researchers have been so occupied in developing one concept that they have not been inclined to address how it relates to others. For example, notions of narrative and schema are often not overtly called on together in the study of collective memory, but their combined influence lurks in the background. In his early classic work *Remembering: A Study in Experimental and Social Psychology*, Bartlett actually said very little about schemata and did not make narrative a focus of discussion, even though narratives played a key role in his experiments. But his studies are suggestive of how they fit together into a larger picture. In such

cases, what is required is to harness notions that have grown up in one discipline to serve in ways that were not envisioned by those who created them, and in many instances, this means developing an implicit assumption into an overt claim to push the line of inquiry forward.

Collective Memory: Concepts and Methods

Collective memory can be generally defined as an account of the past that is shared by members of a group and is part of their identity project (Wertsch, 2021). Halbwachs noted that there are as many collective memories as collectives, suggesting a dynamic interaction between the two . Memory is often needed for a group to function, and groups often expend great time and effort to maintain collective memory. The groups at issue can range from families to local organizations and from universities to nations.

These claims raise questions about what sort of evidence would support them, and this remains a major topic of discussion in collective memory studies. The effort is made all the more complex because several disciplines, each with its own methodological predilections are involved. A review of the journal *Memory Studies*, for example, reveals contributions coming from sociologists such as Jeffrey Olick and David Cunningham, psychologists such as Henry Roediger and Jeremy Yamashiro, philosophers such as Jan Assmann, literary scholars such as Ann Rigney and Astrid Erll, and anthropologists such as James Wertsch.

In what follows, we try to get beyond the siloes that separate research projects. Our effort which is limited in scope and focuses on narrative habits, is built around a few conceptual building blocks—narrative, schema, and habit. An underlying assumption behind this effort is that humans are “cognitive misers”(Fiske & Taylor, 1984) who gravitate toward ways to handle

large amounts of information in efficient ways. This efficiency provides great cognitive power, but it also involves simplification that can lead to misinterpretations and outright distortion.

Narrative

Since Aristotle, scholars have viewed humans as story-telling animals. The stories we tell can be fictional or nonfictional and are so ubiquitous and ordinary in everyday life that they easily fade into the background and lead us to overlook how powerful they are as "cognitive instruments" (Mink, 1978). Narratives are "natural" in the sense that they are used by every known cultural group and also in the sense that they are learned in the absence of formal instruction. Children develop the ability to understand and tell stories on their own, whereas schooling is needed to learn even the basics of, say, mathematics.

Turning to the structure of a narrative, we take it to be a closed text with a beginning, middle, and end that reports on temporal series of events. As scholars such as Hayden White have noted, it is possible to represent the past truthfully by listing events one after another in the form of "annals" with no effort to "emplot" them (Ricoeur, 1984, p.31) them into a meaningful whole. Annals might take the form, for example, of a list of unrelated events for each year for a century (e.g., the price of wheat for some years, political events for others, local weddings for still others). Such a listing could provide an accurate representation of the past, but without being structured by a plot, it is not a narrative. To qualify as such, it would need to include the most crucial distinctive feature that makes a text a narrative, namely, how events are "grasped together" by a plot (Ricoeur, 1984, p.41).

A figure in psychology who studied narrative in recent decades was Jerome Bruner (1986, 1990). He discussed the centrality of plot in his account of how "narrative thinking" differs from "logico-scientific" thinking. These are two distinct "modes of cognitive functioning" and involve "distinctive ways of ordering experience, of constructing reality" (1986, p. 11), which are "irreducible to each other" because "the structure of a well-formed logical argument differs radically from a well-wrought story" (p. 11). Bruner noted that the two forms of thinking may be similar in taking information and putting it into statements that imply causality, but "the types of causality . . . are palpably different" (p. 11).

The type of causality found in narrative thinking involves what Ricoeur called the "emplotment" (1984) of temporally sequenced events. In contrast, logico-scientific thinking relies on abstract logic, often using abstract objects that have no temporal dimension. Thus, equivalence relationships such as 2+3=5 or in a dictionary definition such as "a cat is a feline mammal" exist outside of time and deal with objects where temporal sequence is irrelevant. Furthermore, the causation involved in logico-scientific thinking allows for hypothesis testing, prediction, and scientific explanation, whereas narrative thinking involves interpretation rather than explanation in a strong sense.

For historians such as Mink (1978) and psychologists such as Bruner, narratives are viewed as "cultural tools" (Wertsch, 1998) that provide indirect, "mediated" access to events and objects. They typically operate without our being aware of their role, making them a sort of silent "co-author" of what we say and think. These narrative tools are shaped by the sociocultural context into which individuals as members of a group are socialized, and they have

"affordances" and "constraints" (Wertsch, 1998) that have been built into them as they have evolved across a group's history.

In his study of memory, Bartlett did not explicitly examine narratives, but he presupposed their existence in his classic studies of remembering folktales. There he examined the difficulties his English subjects, with their mental habits based on Western narratives, encountered when asked to remember and repeat a story from a quite different narrative tradition in Native American societies. Other psychologists have addressed issues of narrative in a much more direct fashion. For example, Dan McAdams (1993, 2006) has done this in his studies of how the "stories we live by" shape identity in individuals, and Jeremy Yamashiro (2022) has examined links between individual and collective memory from the perspective of political values.

At least since 1986, when Theodore Sarbin (1986) published *Narrative Psychology: The Storied Nature of Human Conduct*, there have been calls for redirecting the discipline of psychology in general to the study of narrative. Analogous efforts have been made in other disciplines such as Robert Shiller's (2019) outline of "narrative economics." In psychology, this move has taken the form of an ongoing discussion rather than a sweeping programmatic proposal, and it has gained more traction in recent decades as reflected in the writings of Bruner (1990) on cultural psychology and more recently of Brian Schiff (2017) in his proposal for "a new narrative for psychology." This tradition has focused largely on the psychological processes of individuals as they understand and use particular narratives. In order to address issues of how individuals *as members of groups* function with the help of narrative tools, it is useful to consider more generalized forms of narratives, which brings us to the issue of schema.

Schema

Ideas about schemata (plural of schema) can be traced to the writings of Immanuel Kant (2008). In the twentieth century they took on new life in psychology with Bartlett's study of remembering and Piaget's study of human development. Even though he actually wrote very little about schemata, Bartlett's impact on their formulation has been quite powerful in memory studies. As Roediger (2000) has noted, at the time of Bartlett's death, he was already considered a major figure in twentieth century psychology, but some of his followers judged his comments on schema to be of little importance and not likely to have much of a future. In reality, however, it became a notion that continues to have a major place in the discipline nearly a century later.

Piaget (1986) devoted much more attention to the notion of schema and used it to trace human understanding of the world starting with sensorimotor schemata such as grasping in infancy to abstract patterns of thought found in the stage of formal operations. His early studies in biology influenced Piaget in developing the idea of a schema as a very general pattern of action that serves both to "assimilate" new experiences and information into an existing schema and to "accommodate" by evolving in the face of new information. Applied to the grasping schema of the sensorimotor stage, for example, this means that early forms assimilate an increasing range of objects such as a ball, a toy rattle, and an adult's finger. At the same time, the grasping schema also becomes increasingly "differentiated" by accommodating to new objects. What started out as simple, undifferentiated grasping develops into different specialized forms as it accommodates to new experiences.

Ulric Neisser (1967, 1976) drew on both Bartlett and Piaget in elaborating the notion of schema as part of his formulation of cognitive psychology in the 1970s, and in what follows, we draw on all these figures and others in our attempt to build a bridge between the notion of schema and that of narrative. Our approach narrows the focus from all sorts of schemata to those that are organized around narratives. As such, it does not go into issues sometimes discussed under the general heading of schemata or related notions such as "frames" or "scripts," all of which have been used to examine action, perception, comprehension, and memory. Narrative schemata, or what we term "narrative templates," are abstract (i.e., schematized) underlying codes that contrast with specific narratives about particular events (Wertsch, 2021). Narrative templates still involve the temporal and emplotment aspects of narrative, but they are schematic in the sense of being a sort of "cookie-cutter" (Bruner, 1990) that can stamp multiple copies specific narratives that depict concrete events.

Wertsch (2021) has harnessed the notion of schema—and of narrative—to examine national narratives, especially those of Russia. This approach rests on a distinction between two levels of narrative analysis: one for specific narratives and the other for narrative templates. Specific narratives include concrete dates, places, and actors of events such as World War II, or what is known as the Great Patriotic War in Russia. The standard Russian specific narrative of the Great Patriotic War includes core events such as: the German invasion of 1941, the Battle of Moscow, the Battle of Stalingrad, the Battle of Kursk, and the Battle of Berlin (p.76). This is a list of events in chronological order, but as with all narratives, they are grasped together into a plot, which can be briefly summarized as the "expulsion of alien enemies" narrative template, which can be summarized as: Russia is living peacefully and bothering no one, but then trouble arrives

in the form of an unprovoked brutal attack by a foreign enemy. This results in massive suffering and heroic resistance by Russia before it, acting alone, manages to crush and expel the evil alien force (p.100).

Specific narratives have an explicit surface form in speech, writing, and other media such as film. In contrast, narrative templates, like other schemata, are posited by investigators as they try to understand general patterns of action, speaking, and mental functioning. For example, specific narratives such as that of the Great Patriotic War are discussed and taught in schools in Russia, but there are no chapters in history textbooks that discuss what might be called the "Expulsion-of-Alien-Enemies" narrative template. Instead, this narrative template is something like what Ulric Neisser (1967) called a "nonspecific but organized representation" (p. 298). It derives from countless encounters with specific narratives and the constructive "effort after meaning" involved in making sense of a text or experience. In Neisser's view, "cognition is constructive, and . . . the process of construction leaves traces behind" (p. 287).

These claims focus on the cognitive functioning of individuals, but they have major implications for collective memory as well. Returning to Bartlett's insistence that individuals *as members of a group* are the proper focus for studying the psychological dimensions of collective memory, the issue becomes one of what it is that is shared by these group members. And returning to claims about how different groups have different memories, we need to go beyond studies that examine schemata in general to the analysis of different narrative templates that shape the memory of the individuals of different groups.

These are not matters of cognitive functioning only. "Mnemonic standoffs" (Wertsch, 2008, 2021) between nations become sites of heated contention as witnessed by differences

between Russia and Ukraine over the latter's past or, say, between Israelis and Palestinians over what happened in the formation of the Israeli state in 1948. Such standoffs often exist within nations as well as between national communities as in endless, contentious debates in the U.S. over slavery and the "Lost Cause" narrative (Blight, 2022).

One of the reasons such mnemonic standoffs can become so frustrating and emotional is that the narrative templates that underlie them operate at an unconscious level. In contrast to many disputes over values or opinions, disputes about past events—mediated by narrative tools—are often taken to be over the "truth" of "what really happened," but the existence and power of narrative tools shaping the debate are seldom appreciated. Instead of realizing that the dispute involves different narrative lenses, these narrative lenses are "transparent" (Luria, 1976) in the sense that we look right through them without realizing their existence. Without appreciating the contribution that narrative tools make to our thinking and speaking, we can end up saying things like, "Look, I am not telling you my opinion; I'm just telling you what really happened." And this all to easily leads to accusations of lying, ignorance, or brainwashing on the part of the other. Such disputes suggest that different narrative tools are operating in a powerful, veiled fashion points to the possibility that deeply embedded mental habits are at work.

Habit

The study of habit has a long history in psychology. Perhaps the most influential definition to this day is that presented by William James in his 1890 volume *The Principles of Psychology*. James began with the sweeping statement that "living creatures… are bundles of

habits" (p. 104) and went on to note that while habits of wild animals are largely instinctual, the majority of human habits are learned behaviors.

James emphasized the importance of early experience in the formation of habit, stating that the growing brain has a level of plasticity that allows for habits to be formed. According to James, most personal habits such as gestures, vocalization and pronunciation are formed at a young age, as "hardly ever is a language learned after twenty spoken without a foreign accent" (p. 122). Due to this early plasticity, James stressed that we should build as many useful habits as we can, such that we can free up our "higher powers of mind" (p. 122), much in the spirit of later claims about humans as cognitive misers.

While James did not provide a conclusive account of the initial creation of a habit - in other words, the first instance in which a neural pathway is created - he argued that once a current has traversed a pathway, it will do so again more easily the second time around, and future pulses of the same kind will travel down the same line, eventually leaving a permanent mark in the organic matter of the cerebrum and becoming part of the natural fabric of the brain.

Following the basic assumption that it takes less effort to follow a path that has already been created, James proposed that habitual behavior reduces cognitive effort and diminishes fatigue. As behavior patterns are repeated over and over, the pathway in the brain is strengthened and the effort it takes to complete the desired behavior is reduced. Learning how to perform an action sequence requires conscious decision-making at every step of the way, but once the sequence is learned, "the slighter is the stimulus required to set it up" (p. 113). As the effort required to perform habitual behavior declines, the mind is freed up and can attend to

other things. Thus, James proposed that “habit diminishes the conscious attention with which our acts are performed” (p. 114) echoing our comment at the outset about humans as cognitive misers.

James’s ideas remain widely used in the field of psychology. In the account he and others laid out, habits can be broken down into two general types: motor habits, and mental habits. They can further be classified at good, neutral, and bad habits, although this is a rather subjective rating (Graybiel, 2008). Motor habits are defined as habits of movement, usually involving action sequences that can be as simple as bouncing one’s leg when nervous. Mental habits, on the other hand, shape how we think about things. This might be in the form of negative self-talk in depressed individuals (Verplanken, 2018).

Building on ideas of William Carpenter, James asserted that “any sequence of mental action which has been frequently repeated tends to perpetuate itself; so that we find ourselves automatically prompted to *think, feel*, or *do* what we have been before accustomed to think, feel, or do, under like circumstances, without any consciously formed *purpose*, or anticipation of results.” (p. 112) We are likely to be more aware of our motor habits than our mental habits, since we get constant feedback in the former from our senses and, sometimes, other people (for example, a parent might chastise a child for biting their nails). Mental habits operate in a more veiled fashion, making them more difficult to recognize or monitor.

The notion of habit has implications for elaborating Bartlett’s ideas about schemata in the reconstructive process of remembering. In his classic study of how groups of English university students remembered Native American folktale “The War of the Ghosts,” the stimulus material came from a very different culture and narrative tradition than the

participants were used to. After reading the folktale, participants were asked to reproduce what they heard at various intervals or to tell it to other subjects who then passed it on in a procedure similar to that used in the game "telephone" (Bartlett, 1932/1995).

The resulting stories were then compared to the original, as well as to previous reproductions. The results suggested the power of narrative schemata in shaping memory for the English subjects, with some observing that the story they read or heard was "not an English tale" (p. 84). To them, it seemed disjointed and confusing, jumping from element to element without any real connections. In reproducing the story, Bartlett's participants filled in the blanks and came up with reasons that made sense from their perspective to explain why the protagonists took certain actions or how the events were connected. In the process, the Native American story was transformed into a more familiar plot structure to the participants.

Bartlett termed the transformation of the War of the Ghosts story to fit the more familiar schemata of his English subjects' "rationalization" (p. 84). For him, "The general function of rationalization is in all the instances the same. It is to render material acceptable, understandable, comfortable, straightforward; to rob it of all puzzling elements." (p. 89) Thus, "If reproductions are obtained in a social community different from that in which the original was developed, the subject, acting almost unwittingly, supplies connecting links." (p. 86) It remains unclear what Bartlett took to be end point of rationalization, but left on its own, his comments suggest that it need not be some kind of standard, universal cognitive structure. Instead, it seems to be a matter of using narrative schemata that reflects one's own narrative and cultural tradition to interpret narratives of members of another group. What Bartlett's English subjects experienced as "puzzling elements" in The War of the Ghosts folktale may have

made perfect sense to members of the group who grew up with this story as part of their culture.

Bartlett made brilliant and influential contributions to our understanding the nature of schemata, but his account leaves several questions unanswered. His contributions do point to the existence and power of schemata, but as just suggested, they tell us little about what is included in the schemata used by his English subjects and those used by the members of the Native American group that provided the War of the Ghosts narrative. Another question concerns how these dissimilar schemata become part of the mental functioning of the two groups? The narrative schemata we use to understand and remember stories are largely based on exposure, practice, and repetition, and the constant "effort after meaning" emphasized by Bartlett is constructive and as Neisser (1967, p.287) observed, "leaves traces behind" (p. 287). The implications of this can be seen in Bartlett's study that unearthed differences between English and Native American narrative traditions, and it also implied in the case of the Russian Expulsion-of-Alien-Enemies narrative template. The narrative habits involved do not deterministically control thought or behavior, but they provide mental grooves whose power over memory and thinking are hard to resist.

The literature on habit includes a number of defining features that we outline in the following section. Interestingly, most of these defining features follow William James' original description. Considering the fact that James wrote *The Principles of Psychology* more than a century ago, he was remarkably accurate in his description of habits (Verplanken, 2018). We outline this literature in terms of four themes: habits are learned, habits are driven by

contextual cues (as opposed to goal-directed behavior), habits are unconscious and automatic, and habits are efficient.

We develop these themes as part of our effort to understand the psychological dimensions of collective memory, a topic in which multiple disciplines struggle to find points of collaboration. Our goal is not to provide full reviews of these traditions, and on occasion, we may use ideas in ways that their originators may find to be a stretch—or even inappropriate. Ours exercise in bricolage draws on others' ideas in an effort to insofar as they are useful in the study of collective memory—all the while striving for accuracy in discussing others' claims.

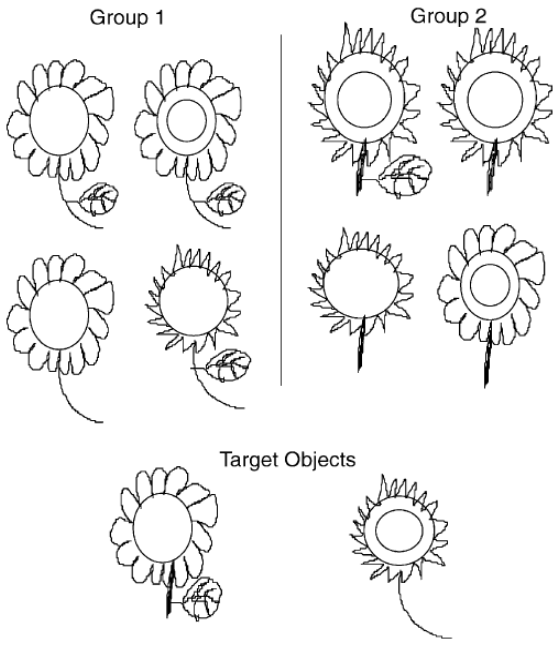
Habits are learned

As James noted, human habits are learned (Graybiel, 2008). If they were innate, it would be impossible to change existing habits or create new ones. We would be stuck in the same routines, behaving and thinking the same way regardless of context. Furthermore, if habits were biological, we would not see changes over time as children grow into adults, or differences based on the environment an individual grew up in. For example, children often need to be reminded to brush their teeth, whereas adults typically exhibit stable tooth-brushing routines. This illustrates a change over time as a habit becomes learned; as adults, we have obtained many habits that our child selves did not initially possess.

Even seemingly innate patterns of behavior in attention, reasoning, and decision-making are often influenced by the environment we grow up in. In a large-scale literature review, Ji & Yap (2016) discuss studies that support the idea that cultural differences can shape our cognitive abilities in ways that are often attributed to something innate or genetic. For example,

European American individuals tend to exhibit a more analytical thought patten, whereas East Asian individuals tend to think more holistically in terms of figure-ground relations. This is a robust finding that remains difficult not to attribute to cultural difference in socialization. Masuda & Nisbett (2001) presented Japanese and American participants with short animations of underwater scenes, and then asked them to describe what they had seen. Japanese participants mentioned the field information that provides the background much more than the American participants, who tended to focus more on the salient figures or objects instead. When later presented with still images of objects that the participants either had or had not seen, Japanese participants struggled much more to classify the objects as old or new when the background (i.e., the field information) of the object was altered, whereas the American participants remained unaffected. Conversely, reaction time was much faster for the Japanese participants when the field information matched the original condition. This study illustrates how the mere perception of a scene can be influenced by cultural context, thus influencing the recollection of the scene as well.

Similarly, in a study conducted by Norenzayan et al. (2002), European American, Asian American, and East Asian participants were shown two groups of objects and were asked to match a target object to one of the two groups. In the classification condition, the participants were expected to use rule-based reasoning, matching the target object to the group where all the objects had a common



feature. In the similarity judgement condition, participants were expected to use family resemblance, matching the target object to the group that had more overall similarities. There was no observed difference between groups in the classification condition, but the researchers found that East Asian participants were much more likely to use family resemblance to categorize objects in the similarity judgement condition, whereas European American participants relied on rule-based categorization as much as they did in the classification condition.

Such studies suggest that cognitive abilities can be influenced by cultural background. The environment an individual grows up in has a strong influence on how they perceive and interpret the world around them, which shapes their fundamental understanding of how things are and how they should be. The studies also support the notion that these patterns of behavior reflect what is learned, not a biological difference between people of different origins. As Ji & Yap (2016) discuss, research indicates that individuals can switch to an alternative thinking style when primed to think in an alternative way. The fact that the Asian American participants in the Norenzayan et al. study (2002) did not show a preference for either reasoning style demonstrates how changes in the environmental context can facilitate a change in our mental habits. If these cultural differences in reasoning were somehow biological, the Asian American participants would have shown the same thought pattern as the East Asian participants.

The mental habits discussed in these studies are largely unconscious and resistant to change. Even if we understand the logic of the alternative thinking style (for example when assigning a target object to group A or group B), we tend to rely on the habits that we are most well-versed in, as did the English subjects in Bartlett's studies. Habits are learned through

repetition, and studies have shown that past behavior is a much better predictor of whether a habit will be cued or not compared to a goal or intention (Wood & Rünger, 2016). This brings us to the second defining feature of habits.

Habits are driven by context cues, not goal-directed behavior

While habits may originate in goal-directed behavior, they become automatized as the behavior is learned through exposure and repetition (Graybiel, 2008). Note that goals do not necessarily have to be "good" for us: they can be practical - like choosing to take road A over road B - or they can be hedonistic, such as feeling satisfied after eating a chocolate chip cookie (Verplanken, 2018).

To illustrate this shift from goal-directed to habitual behavior, consider an individual who has just moved to a new town: they will need to figure out the best possible commute, where to buy groceries, what restaurants are popular in the area, and so on. Initially, many possible alternatives are considered. Grocery store A has a large selection but is further away than grocery store B, which is within walking distance but more expensive. An individual might try grocery shopping at both locations at first, and then choose one over the other. Over the next couple of weeks, the individual will frequent one store more than the alternative, until they eventually stop considering the second option entirely. Thus, a shift from goal-directed to habitual behavior has occurred.

On a neural level, this change from goal-directed to habitual behavior is tied to a shift from evaluation-driven circuits to those engaged in behavior execution, which is facilitated by the chunking of action sequences (Graybiel, 2008). The associated brain-regions of habit

learning are presumed to be the cortico–basal ganglia loop, which includes the pedunculopontine nucleus, substantia nigra, subthalamic nucleus, and ventral tegmental area (Graybiel, 2008; Mazar & Wood, 2018; Wood & Rünger, 2016)

Once a habit has been learned, it becomes the default action and is executed without a reliance on intentional or goal-directed behavior; in fact, the stronger a habit, the lower the predictive power of intention (Wood & Rünger, 2016). Strong habits are especially insensitive to rewards and outcomes, meaning that individuals engage in the behavior even if it does not align with what we assume to be their objectives (Wood & Rünger, 2016).

A context cue can be anything from a physical location, the time of day, the current activity being performed, to something more internal like a mood or physical sensation (Wood et al., 2014; Wood & Rünger, 2016). For example, individuals who are considered to be stress-eaters may associate the feeling of stress with the response of eating. Alternatively, an individual might find themselves sipping on their drink in a social setting, even if they are not particularly thirsty and do not like the drink; the context in itself triggers the drinking behavior, not the goal of gratification.

Many studies have shown that strong habits persist even if the outcome value is manipulated (Mazar & Wood, 2018). For example, Neal et al. (2011) conducted a study to assess whether habits are triggered by goals or by context cues. In this study, participants were given a box of popcorn and watched movie trailers in a cinema. Half of the participants received fresh popcorn, whereas the other half received stale, 7-day old popcorn. Participants who had weak popcorn eating habits ate significantly less of the stale popcorn, but participants with strong popcorn eating habits ate the same amount of popcorn in either condition, regardless of its

freshness. To evaluate further whether individuals with strong popcorn eating habits were cued by the context they were in, the researchers had another group of participants watch music videos in a meeting room. Once again, half of the participants received fresh popcorn, whereas the other half received stale popcorn. In this setting, both the participants with weak and those with strong popcorn eating habits ate significantly less of the stale popcorn. This suggests that in the absence of context cues, the behavior became more goal-oriented, meaning that participants attended to the actual taste of the popcorn rather than performing their habitual behavior.

In some situations, people might rely more heavily on habitual behavior than in others. Factors such as time pressure, distractions, stress, and decreased willpower can influence a shift from deliberate goal pursuit to a reliance on habits (Wood & Rünger, 2016). It is presumed that these factors impact habit execution due to their influence on behavior inhibition and decision-making (Wood et al., 2014). For example, someone who usually spends considerable time planning their outfits in the morning might choose to just wear yesterday's outfit if they are running late. Schwabe and Wolf (2009) found that participants who were exposed to a stress-inducing task responded to cues more habitually than those who had not been. Alternatively, "habit slips" - instances where individuals unintentionally perform habitual behavior - were more likely to happen when individuals were performing a second task at the same time (Ruh et al., 2010, as cited in Wood & Rünger, 2016).

All this is not to say that it is impossible to change a habit. As discussed in the previous section, habits are learned, which means that they can also be un-learned. In some cases, a change in context can provide a framework where an individual might consider new alternatives

(Mazar & Wood, 2018; Wood et al., 2014). Consider the grocery store example from earlier, where an individual chose store A over store B. What happens if a new store opens up? The individual might reconsider their shopping habits, visit store C, and re-evaluate which store they prefer to buy their groceries from.

Habits are unconscious and automatic

From the Jamesian perspective, habits are activated by the mere perception of a context cue, and as such, they do not require any executive control in order to be performed (Wood & Rünger, 2016). Instead, they are performed unconsciously and automatically (Graybiel, 2008). As discussed in the earlier sections, habit learning entails a shift from evaluation-driven neurological circuits to those engaged in behavior execution, which reflects a transfer from goal-directed behavior to automatization (Graybiel, 2008).

From a cognitive perspective, habits belong to the nondeclarative memory system - also known as the implicit memory system - which involves the ability to perform behaviors without the need for conscious awareness (Marien et al., 2018). A common example of implicit memory is procedural memory, where no conscious effort is required to perform a task. For example, many drivers report having experienced a “how-did-I-get-here” phenomenon, where they arrive at their destination with no conscious recollection of actually driving there. Thus, once a habit is learned, the behavior becomes completely automatic and occurs without any conscious intervention (Wood & Rünger, 2016).

A large portion of our daily lives consiss of habitual behavior. In fact, Wood et al. (2002) found that between a third to one half of our behaviors occur daily (repetition) and in the same

location (context), which meets the criterion for habit formation outlined in the previous sections. The researchers also asked participants to report what they were thinking about as they were going through their daily routines, and they found that thoughts tended to correspond more with actions when participants were performing non-habitual behavior. In turn, when participants were performing habitual behaviors, their thoughts were less likely to correspond with their actions, which indicates a decrease in conscious attention.

Alternatively, consider the study conducted by Neal et al. (2012). After measuring participants' normal speaking volume, half of the participants were exposed to pictures of kitchens, whereas the other half was presented with pictures of stadiums. Participants who had stronger habits of visiting stadiums proceeded to speak louder following the stadium picture cues, despite being in a laboratory setting. This illustrates how habits are triggered by mere perception of the context cues associated with the habitual behavior, *not* by a conscious decision.

Habits are efficient

So far, we have discussed how habits are learned and how they function, but we have not really touched upon the purpose of habitual behavior. *Why* do we rely on habits to much? The answer seems to be quite straightforward, reflecting the tendency of humans to be cognitive misers that we mentioned previously. Our environment is complex, and we have many things to do. If we had to make a conscious decision for every action we take, we would simply be unable to function.

Performing a habit is much easier and more efficient; it is a well-learned behavior that can be executed without the need for executive control or other conscious intervention (Wood & Rünger, 2016). We get used to a pattern of behavior and we will most likely keep performing this behavior until we are faced with a situation that forces us to change (if ever). For example, many people refuse to update their computer OS until it is absolutely necessary. How many times have you selected "remind me later" when prompted to update your computer programs? (Wood & Rünger, 2016) The efficiency of habitual behavior can also be observed in dual-task settings: generally, when participants are trained to perform two tasks at once, they experience interference, which can be assessed by measuring diminished performance in matters of speed and accuracy. Once one of the tasks becomes habitual, however, the interference is minimized (Marien et al., 2018).

Habits also provide us with a sense of fluency, which is presumed to be viewed positively due to a perception of familiarity, which is something people tend to prefer over uncertainty (Wood & Rünger, 2016). Despite the absence of assigned seating charts, college students tend to sit in the same seat in a classroom: this type of routine behavior has been observed to be associated with feelings of comfort and control (Avni-Babad, 2011). Alternatively, Avni-Babad also (2011) found that frequent flyers feel safer on flights than individuals who are not practiced flyers, which supports the idea that habits provide us with a sense of comfort.

Most of the time, we do not realize that we are relying on habits until something goes wrong. If someone else is sitting in a student's preferred seat, they might feel confused or annoyed. Conversely, we might realize the powerful force of a habit for driving to work when our normal route is cut off due to a construction project. Following a different route generally

involves much more energy and focus, at least for the time it takes to develop a new habit. But many mental habits never encounter a challenge, leaving them automatic and unconscious for the long term.

Constraints

Despite the many benefits of habitual behavior, there are also several constraints that come with it. For one, the persistence of bad habits is a piece de resistance for many individuals. Unhealthy behaviors such as smoking and over-eating are notoriously difficult to get rid of. In turn, it can also be quite difficult to replace bad habits with more positive ones; training oneself to exercise regularly takes a lot of time and effort, and many fail to do so in the end. Consider the vast amount of new year's resolutions that never come to fruition.

In a study conducted by Shiffrin and Schneider (1977), it was found that participants who learned procedures to the point of automatization struggled greatly to adjust their behavior as the requirements changed. After performing 2100 trials in a memory search task, the task items were reversed such that the distractor items were now the target items. It took the participants 900 trials to match the level of accuracy they exhibited at baseline in the original task, and it took them an additional 600 trials to achieve the same level of accuracy that they exhibited at the end of their initial training (Shiffrin & Schneider, 1977, as cited in Proctor & Van Zandt, 2017).

Another issue with habitual behavior is that people have been observed to consider fewer alternative actions when performing habitual behavior. As Mazar and Wood (2018) note, "Habit cues… gain attention over other cues, potentially yielding a biased search for

information, so that people with strong habits tend to seek information about their habitual behaviour but overlook information about alternatives." Verplanken and colleagues (1997) found that participants with strong habits demonstrated less elaborate choice processes compared to participants with weak habits, both in the way they perceived choice situations and choice options. While this may be beneficial in some cases (consider the difference in speed and accuracy between an expert and novice chess player), it can become maladaptive when applied to our daily routines.

With decreased motivation to assess new information (Verplanken et al., 1997), our narrow focus may lead to a failure to change our behavior as it becomes outdated: recall the grocery store example from the previous sections once more. If an individual consistently buys their groceries from store A, and they fail to consider the newly opened store C, they might effectively miss out on better deals and a more convenient shopping experience. Alternatively, an individual who holds implicit biases against members of another group may jump to conclusions about an individual based on group membership only, failing to consider other explanations as to why they might have acted the way they did.

Conclusion

Our account of collective memory focuses on the individual, but the *individual as a member of a group*. The connection between individual and collective phenomena stems from the role of narratives as cultural tools; on the one hand, they mediate individual mental processes, and on the other they reflect cultural, historical, and institutional forces in society. This mediating role of narratives already makes the study of collective memory a

multi-disciplinary effort, but we elaborate further by bringing other notions, namely schemata and habit, into the picture.

Narrative schemata coalesce out of traces left from countless efforts at constructing and reconstructing stories used in common by members of a group. These stories can be specific narratives about events such as World War II, but in our view more abstract stories such as the Russian Expulsion-of-Alien-Enemies narrative template play a particularly important role in binding a community together.

The notion of habit comes into play when we try to account for the tenacious hold narrative templates have on members of a group. Instead of serving as neutral cognitive instruments, narrative templates are typically part of a group identity project and for members of a group they are deeply embedded and believed. Properties of habit such as that they are learned, unconscious and automatic, and triggered by context rather intention have obvious implications when trying to understand the power of narrative habits. This view also provides insight into why the narrative tools of collective memory can be so resistant to change even in the face evidence that they are not accurate and maladaptive.

The package of constructs we have set forth for the study of habits of collective memory raises as many questions as it answers for theoretical discussion. In borrowing constructs from several different scholarly traditions, each with its own genealogy, we encounter the problem of applying ideas created for one purpose to other issues, and this is likely to lead to objections. But we have felt the need to pursue this course because we see it as having promise when delving into issues such as conflicts between collectives, each with its own identity claims and memory claims that back them up. It is with this in mind that we have outlined our elaborated

notion of collective memory and hope it can contribute to both theoretical discussion and practical efforts to address one of today's most vexing issues.

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