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Routine Maintenance

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ROUTINE MAINTENANCE

by

Joshua Waugh

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Abstract

Routine Maintenance

by

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Routines are a large part of our daily lives. They are the skills that we utilize to get through our day effortlessly. From tying our shoes to operating a vehicle, routines are repeated skilled behaviors often initiated and produced with little attention or conscious focus. While routines are an important part of our lives, they are neglected by much of the literature on intentional action. This has led to some criticism that the intention literature is over-intellectualized, and only focuses on behavior that has a concurrent conscious component. Further, some authors have even suggested that skilled behaviors like routines are not intentional whatsoever. This leads to the unfortunate conclusion that much of our daily behavior is not controlled by the agent, but by unconscious mechanisms. In this paper I hope to combat this view. I argue that we can understand routine behavior through a diachronic lens, where practice can be viewed as a conscious setting of a behavioral goal.

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Routine Maintenance
Joshua Waugh

Routines are as pervasive as they are mundane. Behaviors such as tying your shoes or operating the coffee machine are not the type of activities you pay much mind to, and yet are necessary for getting through your day with convenience and compose most of what you do in any given day. While many would promptly label most instances of these activities as voluntary acts, recent works in both the empirical and philosophical literatures have attempted to undermine this intuition. Take tying your shoes as an example, the initiation and the production of the specific movements can be explained without reference to the agent. The initiation might just be a result of the relevant stimuli (untied shoes) triggering an already organized behavioral response (tying the shoes). Explanations that incorporate this rough description often label routine activities as automatic, rote, and in many cases, involuntary. If routines do encompass a great deal of our daily activities, then such an explanation of routines would diminish the category of behaviors an agent can have control over. This clashes with the strong intuition that routines are activities that we do have control over in respect to their initiation and production and would severely limit the kinds of behavior any theory of agency could adequately account for. If routines are explained purely through non-conscious, lower level mechanisms then this would make many standard accounts of agency explanatorily weak and disconnected from how we actually conduct ourselves.

This paper provides an explanatory framework for routines that allows for standard agential mechanisms of control like intention, higher-order goals, and deliberation to be diachronic factors in the initiation and production of routine behaviors. I will argue that by focusing on the creation of routines through practice, we can provide a diachronic explanation for routines that is not only agent centered but also captures the features that make routines unique. In **Section 1** I will argue that the empirical evidence has led many to favor frameworks for routines that are too focused on

the immediate causes of behavior. This “synchronic viewpoint” unfairly limits the kind of explanation we can give for routines such that only the neurophysial factors are treated as relevant causes. I believe that there is an explanatory framework that provides a historical account of routines that does constitutively involve the agent. In **Section 2** I argue that practice is such an account for routines. Practice not only provides a framework for routines as agential, but also accounts for their automatic nature. In **Section 3** I will elucidate the practice element and draw a direct connection between practice and agency. Finally, in **Section 4** I will briefly consider some objections.

Section 1 – Routines as Automatic

1.1: The Difficulty with Routines

Routines are a type of skilled behavior. Skills are patterns of learned behavior that are initiated and produced in a fast and efficient manner. Routines as a type of skill can be characterized as the mundane skills we perform on a daily basis that occur within a short time span.¹ Examples of routines include operating a manual gearbox, locking your front door, whisking eggs, performing a push up, entering a password on your phone, peeling a banana, tying your shoes etc. They differ from other expert skills, like playing NBA level basketball, because routines are contained in terms of their environmental goals. The work on expertise, and especially the work on “flow” as it pertains to experts, have informed a lot of the present discussion and understanding of the relationship between automaticity and agency. However, there are stark differences between the study of routines and expert skills. For one, expert skills are often placed inside of an agent’s explicit reasoning. To play and practice basketball at the level of an expert requires advance organization and planning,

¹ The definition of routines presented is partially indebted to Joëlle Proust (Proust 2015, 724).

features unseen in routines. Further, expert skills also fit explicitly within an agent's value structure. Being expertly skilled at something requires that the agent value the time she puts into the practice. Again, this is not the case with routines.

Perhaps the most interesting difference between routines and expert skilled behavior is the requirement of the amount attention needed to successfully complete the given behavior. For expert skills, agency is often identified with the intense focus and attention needed. This attention is under some kind of cognitive control, where prior conscious goal setting influences that intention. For routines, however, this kind of attention is often lacking. The nature of routines is almost that we do not pay attention to them. Their mundane nature forces them out of our conscious interest. We can hold a conversation while tying our shoes, but we cannot play NBA level basketball and have a conversation. I will belabor this point throughout this paper, and the reason why is because most of the work dedicated to resolving the amount antimony between agency and the automatic is overwhelming focused on expert skilled behavior and not routines. There is a gap in the literature that must be resolved.

As such, routines have two defining features: First, routines are not reliant on awareness or on focused attention² in terms of their activation or production. We do not deliberate much (if at all) before tying our shoes, and we often do not think about the movements as they are being produced (consciously thinking about skilled movements while they are being produced *diminishes* performance). Second, the movements of a given routine will be similar across all instances of their performance. Tying our shoes involves the repetition of a set of movements in every instance of that

² Attention and awareness can be considered technical terms, and my usage here deviates from the standard usage. The way I am using attention corresponds to a distinction given by Anne Treisman (2009) between focused attention, inattention, and divided attention. This distinction can be roughly captured by instances where a teacher yells at a pupil "pay attention!" Similarly, conscious awareness can be thought of quite generally. I do not deny that we are often conscious of routines being produced, but that routines are often not the locus of that awareness (and more generally, our concern). Similarly, lower level mechanisms of control are always utilizing attention, but focused attention concerns what the *agent is currently attending to*.

routine. While there will be mechanical differences from instance to instance, there will still be an identifiable pattern associated with every routine.³

These two features of routines make them incompatible with a common characterization of intentional acts as consciously monitored behaviors initiated by some kind of deliberative process (as espoused by Bargh et al. 2001; Haggard 2005; Libet 1999; Wegner 2003). The thought here is that most of the language and examples in the intention literature involves idealized instances of forming an intention, and is often presented as a deliberative procedure involving a conscious weighing between different options and possibilities. While the authors cited are hostile toward standard theories of intention, is not an uncommonly recognized problem within the intention literature itself that many of the examples and language surrounding intentions is too cognitive. The worry is that if intentions are too idealized, then it will not capture much of our behavior. Routines are activities that do not require any deliberation to be activated, and very rarely does anyone go through the conscious process of forming an intention to perform a routine. The normal experience of a routine like tying our shoes is just that we see our shoes untied and then proceed to tie our shoes. As we shall see later in the paper, the empirical evidence suggests that even the conscious awareness of this process is more peripheral than fundamental.

The intuition behind these thoughts is nicely captured by David Velleman (2015, 330), who asks his readers to think about what goes through their minds when they are getting out of a chair: “If I may generalize from my own experience (to echo James), you will find that if you had any thought at all of getting up, it was more a speculation about getting up than a decision to do so. Then suddenly you were getting up.” Normal experience of routines is a lot like this: there is usually no prior deliberation, no prior decision to act before their activation and we do not pay close

³ I do not want to argue that routines form a natural class of distinct behaviors. The primary examples of routines set them apart, but there will be borderline cases. For example, posture fits the characterization but the behavior is extended temporally beyond any of the given routines and requires continuous tracking throughout the day.

enough attention to be consciously guiding the ensuing movements. Sometimes, behavior seems to just happen, and we are only aware of the effects.

Even if we don't take the above characterization at face value, routines are hard to pin down as agential in more nuanced theories. A more promising route, following Bratman, would argue that routines are agential in virtue of a higher order plan or policy.⁴ Bratman argues that we can understand behaviors that are not initiated with concurrent deliberating through the larger context of planning. I may not deliberate where I am going to lunch, but nonetheless it may be an intentional act considering my overall commitments. For example, if I decide to get a salad for lunch, that can be understood through my prior commitment of sticking to a diet plan. Planning a road trip, or having the general policy of only driving a manual car, would necessitate initiating and producing the routine of operating a manual gearbox. In other words, we can make sense of the behavior involved in shifting with a manual gearbox when placed in the proper context; the seemingly automatic routine behavior is thus intentional within the wider context of planning a road trip.

This route is unsatisfying, as it only circumvents the two defining features of routines. Routines are initiated and produced independent of any particular goal and may even be irrespective of any general policy. Tying your shoes is often not bound to any particular plan, or very rarely would anyone have the explicit policy of tying their shoes when their shoes are untied.⁵ Further, it makes little sense to say that anyone has an explicit policy to tie their shoes in contexts listed by a series of descriptive conditions. The origin of the higher order plan or policy could, and often does,

⁴ Routines themselves cannot be plans, as Bratman requires that plans are both the result of prior deliberation and open-ended (Bratman 1987, 29). This almost directly contradicts the two defining features of routines. It is more complicated to ask if routines are policies. The most straightforward answer I could give is that policies as defined by Bratman are too broad of a category for routines. For example, the policy of being kind to strangers requires much more than any routine could capture.

⁵ One could suggest that the policy of being "well maintained in appearance" or some other general policy would capture the routine of tying one's shoes. I think the problem remains the same. These kinds of policies would be so general that they can capture many kinds of routines without the need of specifying any specific pattern of behavior. What we want is to explain that pattern in terms of the agent.

have its own explanation that is independent from the explanation of the origin of the routine. Rote practice may have more to do with tying our shoes than the values, plans, and policies agents have surrounding that behavior. I will argue that my framework not only explains how routines are agential, but also gives an account of how the specific movements involved in the routine can be explained in reference to the agent. Under this framework, the agent is not merely utilizing her routines but can actively dictate the when the routine is activated and the specific movements involved in their production.

This more promising route still fails to adequately account for routines as agent centered activities. Routines are difficult to place in any theory of agency because of their common features. Yet, we should strive to find a way to explain how routines can be agential for two reasons. The first is just the fact that most people feel that their daily activity is not only set by them, but also that they do have a say in both initiating and producing routine behaviors. Second, we can imagine a case where a soldier performs a reflexive act that would be considered routine in wartime, but actually causes harm in a current civilian context. It is immediately unclear what kind of relationship the agent has to the behavior if we cannot incorporate such a routine into a theory of agency. This applies both to assessing moral blame or exculpation in this case. Routines not only play a large part in our daily lives, but they can also be central to certain cases of moral responsibility.

The question then remains: what does cause routine behavior? More often than not, those influenced by the empirical literature do not point to the agent. In the following sub-sections I will review some of the evidence suggesting that because routines are automatized, they are thus involuntary. The effect of taking this evidence as explanatorily primary for routines is to adopt a “synchronic viewpoint” or the view that the only relevant explanation for the initiation and

production of behavior are the immediate factors that take place just before the behavior occurs.⁶ This viewpoint is flawed, and I will show that routine behaviors can have a diachronic explanation that relies on the element of practice. Ultimately, I hope to show that by thinking of practice as a diachronic element, we can explain routines not only with respect to intentions but also to the agent.

1.2: Routines as Automatic, Involuntary, and Rote

A wide range of behaviors varying in degrees of complexity can be labeled as automatic. The marker of automaticity is reserved for reflexive behaviors that are produced involuntarily.⁷ A myoclonic jerk caused by a doctor's hammer is involuntary and automatic. The more contentious issue is whether most instances of routine skilled behaviors are automatic in this way; as routines are many more times complex than simple reflexes. The two defining features of routines, that they are not reliant on conscious attention or awareness and that they are similar across all instances of their activation, gives us reasons to think that they are automatic. For example, here is a rather standard definition of automatic behavior: "Automatic processes are characterized as fast, effortless, (from a standpoint of allocation of cognitive resources), and unitized (or proceduralized)..." (Ackerman 1987, 4). Routines are usually activated in very particular contexts or in the presence of discrete stimuli, and the ensuing movements are almost exact repetitions from previous instances of the behavior. Thus they are fast, effortless, and unitized. You might believe that the more general outline of the same input (hammer) yielding the same output (jerk) holds in a lot of cases of routine behaviors. In this section, I will provide some evidence for this claim.

⁶ You can see this point reflected in the characterization of intention above. If you require that all intentional behavior stem from a conscious decision, then it is easy to point out that no such conscious decision took place *right before* the behavior was produced. Mele (2009) provides a good critique of this characterization.

⁷ I do not want to state strongly that all concepts of automaticity in behavior denote involuntary reflexes. But, I do think that the common definition of automatic behavior involves involuntary movements. My argument could ultimately fit with a less restrictive concept of automatic behavior.

Routines fit the definition of automatic behavior. The problem here is that automatic behaviors are often described as involuntary and rote. If routine skills are automatic in nature, then many see that as precluding the possibility of an agent setting her routine behavior. What reasons do we have to think this? Two preliminaries appear frequently in the empirical literature. (1) Routines are often featured in cases where habituated behaviors undermine conscious intentions, otherwise known as *double-capture error cases* (Humphreys et al. 2003).⁸ A common example is one where an agent forms an intention to drive to the store on the way home from work, but she finds herself taking the familiar route home instead of the route to the store. The habit to follow the same route home everyday ends up defeating the created intention. Because the activation of routines do not need conscious attention, they have the quality of interfering with deliberated upon intentions because they can be initiated without the agent's conscious consent. Many argue that this shows that some habits or routines are non-voluntary acts that we must fight against to produce intended acts (Ibid 202-206; Hommel 2007; Ouellette et al. 1998, 57). (2) Patients with significant frontal lobe damage often display *utilization behavior*, which is the initiation and production of routine or skilled behavior in inappropriate contexts (Ghika et al. 1995, Milner et al. 1984) For example, a patient presented with a toothbrush will start brushing her teeth despite the fact that she is in an examination room. In these cases, the patient does not have any conscious awareness that she is performing these behaviors and yet the produced behavior is produced without any performance errors (despite the inappropriate context). The common conclusion drawn is that all skilled behavior is produced without the need for conscious awareness, and what the pathological cases indicate are cases where the agent lacks the ability to inhibit the behavior.

⁸ The word "habituated" in this instance is a technical term referring to behaviors that are automatized. For clarification, I do not think that routines are habits. For one, habits sometimes have an explicit moral dimension that just is not present in many cases of routine behavior. Second, habits encompass a larger class of behaviors. For example, one could have the habit of going to the gym every weekday. This habit would contain multiple routines, but it could not be a routine itself under my definition.

Behaviors produced through double-capture errors (1) and pathological cases like utilization behavior (2) can be the basis for a stronger view about routines (and skills in general).⁹ Routines, as behaviors with environment-driven goals, can be activated non-consciously and the guidance of the produced behavior are best explained through unconscious mechanisms of control (Bargh 2001, 1015). This description is not only applied to “outlier” cases, like slips or utilization behavior. Rather, the automatic initiation and production of routine behavior just is the norm. Any conscious or deliberative act initiating a routine would be the outlier. Support for this position appears all over in the empirical literature. Libet’s timing experiments, for example, purportedly show that the feeling of intention occurs after the decision to act has been made as represented by a build of neuronal activity known as the readiness potential (Libet 1999).¹⁰ These timing experiments also provide a broad basis for theorists who claim that the “sense of agency” we have is actually just a post-hoc reconstruction created after the behavior has already been produced; even if we felt like we intended a certain act, it could just be an after-effect (Haggard et al. 2006). Skilled behavior is shown to be activated by non-declarative memory systems that are decidedly separated from semantic representations, and thus separated from a system that is more closely associated with deliberative reasoning and intentions (Reber 1996; Reber et al. 1994).¹¹ Further, skilled behaviors are often compared to “fixed action patterns” that are gained through rote or procedural learning (Graybiel 2008). These action patterns are pre-set organized behaviors that are activated independent of the agent and can be thought of as reflexes.

⁹ While this is not the only route in which people can arrive at the conclusion that routines are automatic, it is a popular one. (See: Jeannerod 1994; Marcel 2003)

¹⁰ See (Lau et al. 2007) for an updated run of these timing experiments.

¹¹ This also connects to a common claim that routines and other skilled behaviors are hard to categorize as intentional because the movements of these behaviors are difficult to capture in language. In other words, people struggle with describing the specific movements of skilled actions. If you think that intentions are propositions, then you would have a hard time containing a given skilled behavior in a proposition. Luthra (2015, 2274-2275) provides a very lucid account of this objection.

The seemingly automatic nature of routines make them a hard case for agency. Their repetitive nature and independence from focused attention make them apt to be described as automatic, rote, and involuntary. This description is backed up by a significant amount of empirical data, where the above is only a brief overview of a vast field. My aim in this paper is not to dispute any particular empirical experiment, but rather to question if the empirical experiments reveal the correct framework to analyze routines as either agential or non-agential.¹² We could treat the matter as settled by this evidence, and many actually do, but we should question what kind framework this leaves us for analyzing behavior and further question if it is fair to any given theory of agency. In the next couple sections, I provide reasons for rejecting the idea that the empirical evidence as outlined give us a sufficient reason to accept routines as involuntary and non-agential.

1.3: The Synchronic Viewpoint

The power of the Libet timing experiments is in their details. In them, subjects are often instructed to move by flexing their wrist or moving their finger and then to report when they were aware of any “feeling” to move. The report of this awareness occurs 350-450ms after the readiness potential. This readiness potential is a build up of neuronal activity that is often taken to be a reliable indicator of a “decision” to act (Libet 1999, 49-52). This decision is to be understood as not involving the agent, but constituted by neural systems. These experiments have informed recent work on the “sense of agency” literature. A basic question this literature attempts to answer is this: how do we come to feel as if we have ownership over our behavior? A popular answer to this question is that the motor system computes the potential sensory consequences of a goal-oriented behavior and compares that “prediction” to the actual sensory consequences of the produced

¹² There are already some critical examinations of Libet’s work that do a good job of calling into question the method and results of his timing experiments (See: Herdova 2016; Mele 2009; Schurger et al. 2012)

behavior. If the prediction aligns with the actual sensory consequences, then the agent gains a feeling of intentionality. If the prediction does not align, then the agent feels as if the movements were caused involuntarily (Bayne and Pacherie, 2007; Jeannerod and Pacherie, 2004). Both the Libet timing experiments and the work done on the sense of agency have led many to conclude that intentionality in skilled behavior is just an after-effect. The real of cause of action is not the agent, but underlying neural mechanisms that initiate and guide behavior.

The relationship between these two works is an implicit (if not explicit) endorsement of a kind of explanatory framework. This is the synchronic viewpoint, and as explanatory framework it favors immediate factors over any diachronic factors when explaining behavior (especially skilled behaviors like routines). If you produce a certain behavior, then the proper temporal time frame to examine and explain that behavior corresponds to the time frame of the neural activity that immediately precedes that behavior. The notion that routines are initiated and guided by unconscious mechanisms points to such a framework, as all of these mechanisms either occur right before the behavior takes place or are occurrent during the production.¹³

This synchronic viewpoint thus constricts the relevant explanations for skilled behavior such that it pushes out standard agential factors practically by definition. It is hard to see how any theory of agency that incorporates diachronic factors can possibly cohere with the empirical evidence under this time frame. In fact, adopting the synchronic viewpoint makes it hard to explain any behavior in terms of the agent. This is partially why it has become increasingly popular to adopt a kind of “divided mind” view. For example, Daniel Wegner splits the individual into an illusory self and the actual, non-conscious mind (Wegner 2003, 268-270). The illusory self is the narrative driven self that

¹³ The emphasis on the proximate causes can also be seen in some works on skilled agency. It has become increasingly popular to solve the problem of skilled agency by appealing to attentional mechanisms (Wu, 2016). For example, one solution proposes that during a skilled activity an agent can shift her attention toward relevant stimuli that will activate the desired behavioral set (where this is understood as the series of behavior that is associated with that specific stimulus). (See Fridland 2014, and Christensen et al. 2016 for examples) The problem is that such a solution is an attempt to explain how some proximal causes can be agential. The problem is that coordination and strategy really only work for “expert” skills. Routines are more susceptible to being explained solely through unconscious mechanisms.

rationalizes behavior under the guise of the plan, but in reality there is a hidden and unconscious self that is the actual cause of all of our behaviors.¹⁴ This line of thought is an extreme example of taking the synchronic viewpoint too far and reaching the conclusion that no agential factors could possibly be reconciled with the empirical work. If we do divide the mind into two parts, it becomes easier to dismiss theories of intention like Bratman's as pertaining only to over-intellectualized accounts of the self. There might be a deliberating self that sets global goals, but it would have little effect on large swaths of behaviors like routines.

If we want to extend a historical or diachronic framework down to more seemingly rote behaviors like routines, then we cannot analyze routines in a limited temporal time span. Bratman and others can give a good account of how plans affect future behaviors by treating intentions as historical elements. The guise of a plan like "going to Thailand" does direct future conduct toward that plan. There is already an obvious path for explaining routines in a diachronic sense. Routines are *learned* patterns of behavior, which means that their creation is something we can analyze beyond the innate or extremely rigid reflexes like a myoclonic jerk. What I will argue in the next section is that we should also specify a practice element for routines to capture the two features mentioned earlier: (a) initiation without awareness or attention and (b) similarity of produced movements.

Section 2 – Towards A New Framework

2.1: Practice as History

Bratman argues that plans or intentions influence future behavior in two ways: (1) that plans cut off future practical reasoning about what to do, and (2) planning is conduct controlling in the

¹⁴ Pop-psychology also plays along, often telling the readers that there is a "hidden" and "disguised" mind that thwarts your better conscious intentions to change (O'Connor 2015; Wilson 2014).

relevant context (Bratman 1987, 16-17). For example, deciding to go to the store on Tuesday (1) cuts off other possibilities (i.e. the agent resists reconsideration when the time comes) and (2) the behavior facilitating the agent going to the store is intelligible because of the plan in place. Routines partly follow this line. They are often initiated without reconsideration, and without explicit deliberation. Further, as the context arises, the movements for a given routine are activated. In other words, tying your shoes does not allow for much reconsideration and the conditions for when to tie your shoes are “set” in advance. The problem is that routines are not plans (see **Section 1.1**). Merely deciding to make a set of movements routine or habitual is not enough to secure the two elements of routines. In other words, the creation of a routine is not determined by a decision alone. However, I will argue that practice can provide an explanatory framework that is not only diachronic but also encompasses Bratman’s planning conditions in regards to routines.

Plans provide a historical element for the intermediate steps needed to fulfill that plan.¹⁵ Routines cannot have the same kind of historical element because of their stringent conditions. Nonetheless, I assert that “practice” broadly construed can provide such an element for routines. This comes packed in with what practice amounts to: that practice is the repeated production of specific movements in certain contexts with the aim of making those movements automatic. While one cannot merely “plan” to tie a half-Windsor knot whenever needed, practicing tying a half-Windsor knot will make sure that the relevant behavior occurs in the relevant context. This captures a significant aspect of routines that most theories of intention lack. Tying a knot is almost fully identified by the specific and successful movements of that routine. Practice grounds the mechanistic reproduction of those movements across all instances of the routine. We practice so

¹⁵ Beyond Bratman, I was also partly motivated by Mele’s *Springs of Action*. In this work, Mele argues that intentions provide a historical framework for explaining produced behaviors. He argues that if the intention was absent in certain cases, then the kind of explanation used to explain the given behavior would be very different (Mele 1992, 40-41).

that those movements become automatized. Planning to tie a knot is one thing, but practicing those movements fulfills what it is to come to have a routine for tying a tie.

Practice also explains the unconscious mechanisms that lead to the proximal activation of that particular behavioral set. In other words, the context and the initiation and production of the particular movements can still be explained proximally through the use of unconscious mechanisms, but the historical element of practice provides an explanatorily primary way of understanding why that behavior occurred at all. This not only incorporates the diachronic elements, but is also consistent with the empirical literature as well. Practice connects up to the agent because we do need to set aside time and effort to actually practice, or more simply, we are aware of what we are doing when we practice those movements. Even if a routine is activated unconsciously, the behavioral set has to be explained in reference to the practice for that routine. In the next section, I will flesh out some of the specifics of this view.

Section 3 - Agency in Practice

3.1: Organized and Goal Directed

While I have stated that practice is the historical element that explains routines with respect to the agent, there is still the matter of specifying how practice actually operates as a capacity of agency. Routines have special characteristics, namely that they can be produced without focused attention and that each instance of a given routine displays similar movements. Practice has a twofold job. It must explain these characteristics and explain them in a way that connects them to the agent. As such, there are two aspects of practice to consider: (1) practice organizes behavior to

not only respond to certain environmental stimuli but also sequences that behavior so that (2) the behavior is directed toward an agent specified goal.

Practice functions to make a certain behavioral pattern concrete. That is to say, when an agent practices a series of movements it is so that those movements can be repeated with increased speed and accuracy at a later date. When we first learn how to tie a tie, our movements are clunky and we have to rely on conscious guidance to actually produce the behavior. Over time, the movements become easier to produce. An important feature of this practice is not just gaining speed, but also organizing that behavior in a certain sequence. Tying a tie successfully very much depends on the order of the movements. The idea that patterns of behavior are stored in a memory system is not new. Motor schemas are often evoked to explain how patterns of behavior are produced under set conditions (Jeannerod 1997, 128). These schemas are often thought of as motor plans that guide behavior when the relevant context emerges. Practice is one way that a schema can be created, and a schema can store the specific movements that a given routine is identified by (Jeannerod 1997, 119-125; Schmidt 1975, 235).

Merely mentioning schemas as a basis for routines is not enough. The key idea is in how practice creates a motor schema. The sequence of movements in tying a tie is in service of the goal of tying a tie. I see this as a rather intermediate goal, distinct from both the higher order reason that compels you to learn how to tie a tie (like going to your first wedding) and the lower order control mechanics (the kinematics of your hand when grasping the tie). The distinct nature of intermediate goals concerns both the function of the object and the sequence of behavior necessary to realize that function. There are only so many ways to successfully tie a tie, and thus only so many ways to organize behavior to realize that intermediate goal. The point is that the intermediate goal and the created schema cannot be separated such that you can only analyze the behavior without mention of

the goal. This point is reflected in a lot of the literature on motor skill learning (Jeannerod 1997, 126-127; Willingham 1998, 565–566)

The interesting thing about much of the empirical literature concerning the unconscious activation of skillful behavior is that it focuses on the automatic and unconscious *pursuit of goals*. That is, goals activated by environmental stimuli and the pursuit of which is controlled by unconscious mechanisms. Part of what I am pushing in this paper is to focus on *the creation of goals*. Specifically, the creation of routine goals. The separation of the two is important, especially when it is often stated that the unconscious pursuit of goals is a signpost for involuntary actions. The empirical evidence might point to this unconscious pursuit being ubiquitous for skillful behavior, but it is far from clear what the unconscious creation of goals would look like. Explanations in terms of implicit learning or procedural learning have certain limits, as only very basic sequences can actually be learned in a completely rote manner (Logan 1985, 369-372). Further, conscious attention during the practice phase of any skill greatly increases the rate in which the skill is learned and how well it is performed (Ericsson et al. 1993, 367-369).¹⁶ Goal creation in this case will be the key component of agency, where practice is the primary means for achieving that goal in every instance in which it is activated.

Practice creates schemas such that behavior is organized around a particular goal. Intuitively, practice is agent initiated. We need to find time to practice the movements and so forth. Further, the agent herself explicitly recognizes what the intermediate goals are and the correct sequence needed to accomplish that goal. It is not just that we practice how to tie a tie, but we specifically learn the movements of how to tie a Half-Windsor knot. The agent has a lot of control over how her practice is conducted. These points are reflected in the literature on “knowledge of results”. Knowledge of

¹⁶ There is a question about learning in a developmental context, where learning occurs and yet may be more implicit than learning as it occurs in our adult lives. I have little to say about this context, but there are certain questions that would need to be answered. First, it is unclear the extent that children learn only through rote practice. Second, it is unclear when children become agents. Finally, rational capacities can supersede and create new routines.

results is the incorporation of feedback in practice, and is a factor in creating or modulating schemas (Jeannerod 1997, 122). The referred to feedback is usually some kind of error detection. Error detection can only make sense with some concrete goal in mind, and for successful routine practice that goal must be agent directed. Gracefully executed movements mean very little if the proper sequence is not adhered to. The interesting thing about knowledge of results is that the “incorporation” of feedback usually “comes in the form of conscious strategies (Willingham 1998, 567). For example, recent literature on knowledge of results focuses on the use of mental simulation by subjects (Jeannerod 1997, 119-121). It has been shown the practice improves if subjects imagine themselves performing the skilled behavior repeatedly. The employment of conscious strategies in this case refers to making alterations in future planned movements by imagining how the practice *ought* to go. Thus, the agent consciously simulates the desired action, and then practices to achieve some mirror of that simulation.

While my claims in this paper are mainly theoretical rather than empirical, I do want to note that the empirical literature has not decided the matter of routines as agential. Work on schemas and other areas do point to a compelling diachronic framework for analyzing routine behaviors. Once we recognize that the agent can be involved in the practice that structures the diachronic framework of routines, then we cannot so easily dismiss routine behavior as involuntary and non-agential.

To close, we can see that even in the empirical realm there is doubt surrounding the idea that the proper viewpoint in explaining action is synchronic. In response to the Libet experiments, and the conclusion drawn that decisions to act were made before the subject even experienced the feeling of intending, Raymond Tallis (2011) said of the relatively small action the subjects were required to perform:

Over the months, you have carried out a vast number of voluntary actions so that you might be able when required to perform an action that you could not carry out entirely voluntarily. Many of these preparatory actions have taken the form of

positioning yourself to have experience and acquire knowledge, deploying many intermediate steps in doing so. (254)

This response is motivated by the fact that Libet's experiment only concerned itself with moving one's finger, a relatively small and simple movement taken out of a larger and more interesting context by the experimenters. In a similar fashion, Bernard Hommel (2009) notes that:

Once they enter a lab, however, they are commonly talked into responding to arbitrary stimuli by carrying out meaningless movements...And yet, most models of action control seem to take this highly artificial stimulus-response situation so serious that they use it as a template for voluntary action in general. (512)

Again, there are reasons to be suspicious of this view of action that only pertains to very minute if not arbitrary actions in a synchronic time frame. Substantial conclusions about the role of intention and how much control we have over our actions are drawn from this small time frame, and there are serious reasons to be concerned. What we do and how we ought not be solely explained either be introspective evidence concerning what you were thinking just before an action nor can it be fully captured by looking at small movements in a lab that is only concerned with a few milliseconds of activity.

3.2: Agency in the Automatic

The overview of practice that supports the diachronic attribution of agency in routines fleshes out an important point of this paper. The agent can set the specific movements involved in a routine, whether that involves conscious deliberation or intentional planning. The idea is that practice primes certain movements to become routine under the guise of standard philosophical notions of agency. This allows us to expand the notion of automaticity to include aspects of agency, and not just refer to reflexive movements. The agent practices a set of movements so that they can be initiated and produced with ease. Everyone recognizes that tying our shoes by consciously

guiding each movement would be time consuming. Practicing, and thus memorizing, the correct patterns allows us to tie our shoes with little mental effort and little disruption.

This allows us to take on certain cases of responsibility in a new light. Imagine a case where an individual who has received extensive military training causes harm to another individual because that training “kicked in” at the wrong moment or in the wrong context. It would be hard to condone or forgive the behavior under a synchronic view of skilled behavior, as we would have to parse out the behavior as non-agential. With the diachronic view in mind, however, we can give a fuller explanation in terms of the agent’s history. This has important implications for imparting responsibility depending on the specifics of the case.

For example, we can imagine a case where a soldier was forced to commit to combat training and is now having a hard time adjusting to civilian life. If we take the standard Aristotelian account of coercion on its face, that coerced acts are involuntary in terms of moral responsibility, then it is plausible that the history presents some mitigating factors for imparting moral responsibility for this former soldier. This is a tough case, and I do not wish to present an obvious solution. What I do want to argue is that we can more aptly reason about this case by keeping the diachronic history as primary. This also becomes apparent if we think about certain prescriptive judgments concerning what a former soldier ought to do when no longer fighting. Words like “adjust” signals the fact that an individual must learn how not to activate those routines in a context that is clearly inappropriate for those routines. The automatization must be overridden, contained, or altogether destroyed. We can only explain these steps forward in terms of agency if we take the diachronic path and take practice as a power of the agent.

Less serious cases of responsibility also fall out of my framework. Learning how to drive a manual effectively is both necessary for keeping yourself safe as well as others. We can rightfully criticize someone driving on the freeway if they cannot operate the clutch very well. My account

does not even have to be applied to moral responsibility at all, as it seem likely that at one point most everyone has been criticized for not learning how to do something as if it was a routine. For example, a person who has to look up the instructions for using the coffee machine might just be subject to criticism if they use it daily. Factors of convenience, saving time, focus, etc. can all be evaluated more effectively if we do not always have to explain actions within a synchronic time frame.

Section 4 – Objections/Worries

There are two objections to my account that I would like to briefly consider. (1) That this diachronic account of the attribution of agency muddles what we can say about pathological cases. (2) Double-capture error cases are still problematic.

4.1: Pathological Cases

In section 1.1 I presented the case of UB patients, who automatically initiated certain routine behaviors in inappropriate contexts without any conscious awareness of what they were doing. This is a concern because if we take the diachronic picture, then these instances of routine behavior are agential in some sense because they have the relevant history. This is problematic because we do not want obvious cases of pathology to count as agent controlled behavior.

Two things are worth considering. First, the creation of the routine by the agent still holds. In other words, patients with frontal lobe damage do not do routines they have not created. I highlight this because it is important to note that the pathology involved with UB centers on the synchronic control of already learned behaviors. Thus, there is good reason to say that these behaviors are partially agential. They are not pre-determined in the same way a myoclonic jerk is, nor

are they completely random motions of the body. There is a sense in which the patterns of behaviors activated are successful.

Second, I have not presented a full account of what it is to be an agent. What I have argued for is that certain patterns of behavior can be considered agential if we take into account their diachronic history. This does not preclude the possibility that there are other conditions that would prevent the patterned behavior from being non-agential. If these cases truly show that the patients are unable to inhibit their behaviors, it is unclear that these patients are actually fully operational agents. Part of being an agent might be having the power to inhibit a certain routine at a certain time, if she is aware of the routine going awry.¹⁷

4.2: Slips

This leads into the second concern, there still seems to be the problem of “slips” where habituated routines undermine other intentions. Under my account, these routines are still agential even if they defeat consciously set intentions (like going to the store on the way home from work). My answer hangs on a slight twist of my answer to the previous problem.

Imagine that someone pointed out to you that your form when doing a push-up was actually harmful to your shoulders. After learning the correct form, you are now tasked with modifying or outright replacing the old routine. A requirement on any modification of the old routine would be to pay attention to your movements such that you can be sure that you are correctly implementing the new form. If you happen to do a set of push-ups where you used the old and harmful form, it would

¹⁷ Having the power to inhibit is much more vague than having the wherewithal to inhibit. However, I must go with the more vague terminology. If I agreed that a condition on being an agent is to have the wherewithal to inhibit behavior then I would have to concede that all double-capture error cases are non-agential. But, having the power to inhibit merely implies that it is possible for the agent to inhibit the behavior *if she* was aware of it. UB patients do not even have this luxury.

be appropriate to chastise yourself for not paying enough attention to what you were doing. Thus, it seems like we can blame the agent in certain situations for failing to pay close enough attention to their bodily movements when it is clear that the situation demands the alteration of a routine. The point is not that the bad habit is non-agential, but that the activation of the routine was a failure to inhibit by the agent.

Conclusion

In this paper, I argued that certain mundane behaviors that appear to be automatic when looking at their proximate causes can be accounted for under the umbrella of conscious agency if a diachronic framework is utilized. Doing so allows us to better explain how agents actually function, as routines appear to constitute a good majority of our daily activities. Losing the ability to explain such routines as agential would make most of what we do mechanistic. Aspects of personality and responsibility would be lost, or harder to explain in traditional intentional terms. Even if routines represent the mundane, they are still worth preserving as agential.

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