

## *Overgeneral Memory in Depression*

### *Abstract*

This work is a phenomenological exploration of overgeneral memory in depressed patients. It reviews the current philosophical literature on the first-person experience of depression, which has so far omitted the phenomenon of overgeneral memory. However, this phenomenon is well documented within psychology; and this essay will show that its symptomatic appearance in depression and subsequent disturbance of self- experience justifies attention to the phenomenon within the phenomenology of depression. Both the theory of embodiment and the extended mind thesis work extensively with the nature of memory in other conditions such as Alzheimer's and dementia. Thus, these philosophical approaches will be utilised in an analysis of overgeneral memory; this will enrich the philosophy of depression, memory and self and highlight the value of the concepts of embodiment and the extended mind. Moreover, this philosophical interrogation suggests a route toward therapeutic interventions to help patients suffering from overgeneral memory applying techniques from extended mind and cognition studies.

## Introduction

*“And still it is not enough to have memories. One must be able to forget them when they are many, and one must have the great patience to wait until they come again. For it is not yet the memories themselves. Not until they have turned to blood within us, to glance, to gesture, nameless and no longer to be distinguished from ourselves - not until then can it happen that in a most rare hour the first word of a verse arises in their midst and goes forth from them”.*

- Rainer Maria Rilke

Philosophy and psychology are two disciplines that share a history; with psychology emerging from philosophy and biology to include and further the empirical method, explicitly researching the philosophical theories of the nature of consciousness and the mind. Though the important distinction between the two disciplines is necessary, due to the complex issues in psychology becoming irreducible to philosophical ones, it is a mistake to regard the two as intrinsically separate or mutually exclusive. Instead, it is often argued that philosophical considerations can significantly affect psychology (Furedy, 1998) and the open dialogue can be observed throughout many topics, with clear overlap especially noted within philosophy of mind and phenomenology.

Edmund Husserl founded the official school of phenomenology in the early twentieth century; however, the practice of phenomenology has been around for centuries in a variety of guises. It aims to study the structural features of conscious experience from a first-person point of view, revolving mainly around the intentionality of the experience as of or about another object. Phenomenology is a distinct discipline within philosophy, though it relates to several other disciplines such as ontology, logic, epistemology and philosophy of mind through its issues of intentionality, consciousness, qualia and first-person perspective. In particular, the phenomenology of psychopathologies is documented within philosophy, with detailed explorations of the qualia and first-hand experience often leading the discussion.

Upon first glance, it is clear that in comparison to the phenomenological accounts of other psychopathologies such as schizophrenia, there is comparatively little research into the phenomenology of depression (Ratcliffe, 2015). It has been suggested that the reason for this

neglect is due to the “assumption that depression involves intensification or proliferation of commonplace feelings” (Ratcliffe, 2015, p. 1) meaning that the experience is often imagined merely as intense and prolonged emotions or moods such as sadness, hopelessness or guilt. The philosophical literature on depression that does exist shows that the documented first-hand experience is not limited to phenomenology and can often influence discussions of free will, the nature of empathy and intersubjectivity.

Equally, memory plays an essential role within philosophy and has been an area of philosophical interest since antiquity. However, interest piqued in the late 1990s due to an interdisciplinary trend among philosophers working on memory, transforming older philosophical debates of metaphysics, representation and ethics of memory. This interdisciplinary trend led to joint research of memory meaning that “empirical and theoretical developments in psychology” (Michaelian and Sutton, 2018) influenced the direction of philosophy of memory.

Early psychological research focused on detailing the function and nature of memory (Pillemer, 1998; Rubin, 1996; Wheeler et al. 1997); various societal and social aspects within its initial development (Reese, 2002; Nelson and Fivush, 2004); the differing processes that underlie the encoding and retrieval of specific events (Castel and Craik, 2003; Hertel and Gerstle, 2003; Lancaster and Barsalou, 1997; Schacter and Slotnick, 2004; Tulving, 1983, 2002; Tulving et al., 1994); its vital role in comprehending and structuring one’s sense of self (Conway and Pleydell-Pearce, 2000; Fivush and Nelson, 2004; Prebble et al. 2013; Conway et al. 2004; Stanelly et al., 2017). This research on memory is reflected within philosophical literature with a taxonomy developed in detail by Squire (2009) developing the three traditional accounts of recollective memory, propositional memory and habit memory into declarative and nondeclarative which are in turn divided. Though autobiographical memory is studied within philosophy, the literature tends to focus on its links to episodic memory (Soteriou, 2008; Mayes and Roberts, 2001), narrativity, identity and self (Conway, 2005; Strawson, 1997; Keven, 2016), and various other kinds of memory such as Rilkean (Rowlands, 2017). This leaves questions of neurological damage (Burgess and Shallice, 1996; Conway and Fthenaki, 2000; Rugg and Wilding, 2000) and the effect of both trauma and depression on autobiographical memory (Dalgleish et al. 2007; Kuyken et al. 2009; Crane et al. 2007; Raes et al. 2006) only researched and discussed within psychology.

With regards to embodied and extended memory, the discussion tends to focus on the embodied effects of memory in accomplishing various cognitive tasks. Studies examine the role of embodied memory in reasoning and understanding (Hostetter and Alibali, 2008; Gallagher and Zahavi, 2012), its place in the recollection of specific events (Barsalou et al. 2003; Dijkstra et al. 2007) and its link to recovery from various psychopathologies (Caldwell and Koch, 2018; Fuchs and Schlimme, 2009).

It is clear therefore that within all of this, there seems to be a distinct lack of discussion linking the psychological accounts of a disruption in memory - the observed phenomena of overgeneral memory - to philosophical documentations of the phenomenology of depression. It is of vital importance for this to be discussed to enhance further communication as with many areas of the two disciplines dialogues formed between them promote advances in research. Specifically, developments in the understanding of psychopathologies can assist the evolution of theories surrounding cognition, embodiment, memory and phenomenology. Thus, the purpose of this essay is to uncover overgeneral memory through the use of phenomenology and concepts of embodied and extended memory. In turn, this will enrich the philosophy of depression, memory and self as well as highlighting the value of embodied cognition and the extended mind thesis. Finally, this essay will attempt to suggest a route toward therapeutic interventions to help persons suffering from overgeneral memory through the application of techniques from extended mind and cognition studies.

### *The phenomenology of depression*

Phenomenological insights are indispensable resources for the ongoing investigation of consciousness, self-consciousness and intersubjectivity - the subjects typically contained within the discipline of phenomenology - yet the insights are not limited to these. Phenomenology is concerned with attaining an “understanding and proper description of the experiential structure of our mental/embodied life” (Gallagher and Zahavi, 2012), and therefore can offer insights to a whole range of conscious experience, that otherwise seem to be inaccessible. This is the case with the phenomenology of depression as without first-hand accounts of the experience it is often assumed depression entails merely an intense or prolonged version of everyday emotions such as sadness, guilt or hopelessness. This section begins with an account of the etymology of depression and a brief discussion of the definition of major

depressive disorder, the official diagnosis of depression. It will then develop a detailed exploration of the documented experience of depressed persons, drawing on phenomenology, philosophy of mind and psychology.

A brief account of the etymology of the term 'depression' outlines its origins in the Latin term verb *deprimere*, "to press down" and places its first documented use in the fourteenth century. However, accounts of a similar type of experience,<sup>1</sup> which was previously referred to as melancholia can be found within many ancient Greek texts. One could argue that it has a more frequent use in today's society with the term often misused to represent a feeling of sadness, rather than a diagnosable psychopathology ('I felt really depressed yesterday'). Due to this, an outline of the precise definition of depression is included here in an attempt to clarify the use of the term within this essay.

Although the current (fifth) edition of the Diagnostic and Statistical Methods Manual of Mental Disorders (DSM-V, 2013) differs in many aspects from its predecessors, the criteria for major depressive disorder remains the same. In summary, the criteria are divided into nine symptoms most of which are indicated either by subjective report or observation made by others, with the exception of one which is required to be observable by others. Five or more symptoms are required to have been present for two consecutive weeks to make an official diagnosis. In addition, at least one of the five present symptoms are required to be either (1) depressed mood most of the day, nearly every day, or (2) markedly diminished interest or pleasure in all or almost all activities most of the day nearly every day.

The remaining criteria specify changes in weight, sleep, psychomotor activity (either agitation or retardation only observable by others) as well as a fatigue or loss of energy; feelings of worthlessness or inappropriate guilt; severely diminished ability to concentrate or think; and finally, recurrent suicidal ideation, either with or without a specific plan or attempt. The manual adds that these symptoms affect the depressed person's ability to function socially or professionally. It further states that this diagnosis applies to persons not currently diagnosed with other psychopathologies such as schizophrenia or mania as well as the person exhibiting these criteria in response to significant loss (such as financial ruin, bereavement, or a severe physical or medical disability) where such symptoms would be deemed appropriate (DSM-V, 2013; DSM-IV, 2000).

---

<sup>1</sup> For an exploration of theoretical implications of equating the melancholic states of past eras with today's depression, see Radden (2003).

It is important to note that other than criteria of this nature the DSM-V (2013) does not offer any additional aetiological criteria, neither does it detail any further experiential accounts of patients with depression. We must, therefore, consider the diagnostic manuals and their account of the symptoms as they are expressed to aid a phenomenology of depression while acknowledging their skeletal, impersonal form of quantitative data.

For an enriched overview of the psychopathology, one must turn to accounts of the first-person experience. Indeed, any philosophical study of the phenomenology of depression seems to turn initially to first-hand experiential accounts that are seemingly abundant in general literature. The nature of these accounts of lived experience can differ as much as one experience differs from another; though they are strung together through a range of similarities. Considered, first-person accounts of severe depression and mental health, in general, are subjects that are not always discussed openly and are often attached to a great deal of stigma, perhaps even thought of as taboo. It could be suggested that part of the reason for this originates in the experience being almost “beyond description” (Styron, 2004, p.3). Certainly, Ratcliffe (2014, p. v) depicts depression as involving an “alteration of an aspect of experience that is seldom reflected upon”. However, once overcome, testimonies are typically united by a common thread which specifies a significant depart from what is (for most of us), the normal ‘everyday’ experience (Ratcliffe, 2014). This departing from the norm is often described as akin to “inhabiting a different world, a suffocating, alien realm that is isolated from the rest of social reality” (Ratcliffe, 2014, p. v). Further explanations depict depressed persons being “engulfed by a toxic and unnameable tide that obliterated any enjoyable response from the living world” (Styron, 2004, p. 14). Through these evocative terms, one can begin to see that the lived experience of depression is both overwhelming and profound.

The phenomenological accounts of depression discuss changes that extend beyond this initial isolation, with many reports documenting a qualitative shift in self-experience that disturbs temporal experience, interpersonal relations, narrative, identity and a sense of self (Ratcliffe, 2014). It is not always easy to extract or understand this fundamental shift from first-person accounts and as such, they are often discredited as figurative, exaggerated or vague. For example, Steinke (2001, p. 64) wrote of his own experience that “I felt like I’d been found incompetent and fired from my own life”. This explanation is not clear or definitive, and it must be recognised that a person’s experience “cannot be cleanly separated from her ability or inability to understand it and communicate it to others” (Ratcliffe, 2015, p. 10). Indeed, many people who attempt to describe their experiences are frustrated that even metaphors “fall short”

(Ratcliffe, 2015, p. 40). However, one could easily argue that this is informative and does succeed in conveying an aspect of the author's experience, offering an "enhanced appreciation" (Ratcliffe, 2015, p. 10) of depression which, for many, will be the closest they will ever come to experiencing it.

Though Strawson (1997) famously claimed he had "no sense of his life as a narrative form", and many current philosophers are exploring the notion that the clear narrativity is not necessary for a sense of self. However, the disruption of self-narrative within psychopathologies is often considered an indicator of a decline in mental health as clear self-narrative imparts both "continuity for the story of our lives" and "reference for others" (Neimeyer, 2000, p. 207). Furthermore, the disruption of self-narrative transports experience to "a different world" (Quoted by Rowe, 1978, pp. 269), shifting any clear sense of identity. This can lead to the feeling that one has "lost life itself" (Quoted by Hornstein, 2009, p. 213) and is left "terribly alone" (Shaw, 1997, p. 40); "unable to reach other human beings" (Quoted by Hornstein, 2009, p. 213). This estrangement, both social and personal encapsulates the disruption to a narrative self that though, central to the phenomenology of depression, is not listed as clinical criteria.

Equally, the everyday experience of a standard temporal dimension is lost for most suffers as their "present bad feelings so thoroughly capture them" (Karp, 1996, p.27). There seems to be no end to the "dark/black and bleak world" (Ratcliffe, 2015, p.111); they are lost in a world without hope or end that seems to have always been how it currently appears; "so clear did it seem to me that my real life, the one I had lived before, was now definitely over" (Solomon, 2002, p. 54). The absence of an end to this state and the feeling "that the sense of hope and security normally framing the images of a future is destroyed" (Karp, 1996, p.27) removes one's sense of agency, leaving the feeling of being stuck in a prolonged state of depression - unable to bring it to an end.

Furthermore, many discussions of the phenomenology of depression focus on the criteria indicated by the DSM-V (2013) such as the severely diminished ability to concentrate or think. Accounts depict a "lack of vitality, inability to concentrate, diminished inclination to act and a feeling of being disconnected from things" (Ratcliffe, 2015, p. 89). However, this does not always seem to be the criteria noted within first-person account until the depressed episode starts to lift, with recovery bringing an awareness of a renewed "semblance of clarity returning, along with the ability to think rational thoughts" (Styron, 2004, p. 25). Perhaps this is one of

the most damaging and unspoken aspects of depression. It is almost unimaginable to conceive of a complete disruption of cognitive function, affecting thought, understanding, concentration and communication. Moreover, it does not end here, the disruption is now thought to extend beyond this with one of the most striking differences between depressed persons, and persons who have not experienced depression is the phenomena of overgeneral memory.

### *The phenomenon of overgeneral memory*

Autobiographical Memory is vital for various parts of human functioning and is of fundamental significance to the self, as it allows the in-depth experience of and relation to emotions, personhood and the development of narrativity. Furthermore, it encourages a sense of enduring, both as an individual and within a culture, ensuring a temporal feature of existence. This, not only forms one's sense of self through their interaction with the past and present, but it is proven to play a vital role in one's projection of themselves in the future, meaning the ability to “remain orientated in the world” (Williams et al., 2007) requires clear access to specific autobiographical memory.

The Conway and Pleydell-Pearce model of Autobiographical Memory (Conway, 1992; Conway, 1996; Conway and Pleydell-Pearce, 2000) is the most widely recognised today. It provides a hierarchical structure to the autobiographical knowledge base with three levels. The highest-level outlines lifetime periods; extended periods of time with distinct beginning and end points, an example of which might be 'living in Exeter' or 'time spent at university'. The second holds general events, ones that are usually repeated such as 'walking my dog' and potentially important, one-off events, i.e. a wedding, holiday or perhaps graduation. The last level holds event-specific knowledge and is comprised of distinct factual information and specific episodic memories such as a special birthday, what you ate for breakfast this morning or your first day at university. Similar threads of memory can also be organised through the use of themes which cut through all three levels of lifetime periods, general events and episodic memories to outline a distinct part of a life story. Common examples of themes include relationships, work and education. Each theme could then contain several distinct lifetime periods; for example, the theme of education would contain 'Exeter University', 'Michael Hall School' and 'Beacon Academy Sixth Form'. The theme would also store general events from all three lifetime periods such as walking to the university, driving to school and timetabled



lessons. Equally, it would also have corresponding event-specific memories from each, such as the first assignment at university or the graduation ceremony of a sixth form. The model reflects the philosophical notion of a working self with both the general events and lifetime periods (the higher two levels) coming to form our conceptual self, with the event-specific knowledge made up of episodic memories. Equally, it is harmonious with our intuitions of the fickle nature of memory where it is suggested that the autobiographical memory knowledge base "continuously fluctuates as environmental and internal cues activate aspects of stored representations" (Williams et al., 2007).

Most studies that focus on testing autobiographical memory document the use of the Autobiographical Memory Test (AMT) which is structured around a cuing methodology, where participants are presented with different cue words that vary in terms of emotional relation. They are asked to respond to the cue word with a relevant memory, with as little thinking as possible. When responding to the cue word, participants are instructed that the memory can be from any aspect of their life, but it must refer to something specific. Often there is a temporal instruction given, which requires the event to have lasted less than a day and participants are usually allowed the opportunity for some practice tests. Studies tend to differ on the amount of time allocated for the answer with earlier studies allowing 1 minute per cue, however, the time has since been reduced to 30 seconds in an attempt to limit the cognitive (thinking) process and rely, for the most part, on memory. To demonstrate; a participant could be designated the cue 'happy' whereby responses such as 'I am always happy when...' being discredited as too general, with the preferred answer instead indicating a more specific example; 'I felt happy yesterday afternoon when I walked my dog'. It was within the parameters of this test that depressed persons were repeatedly unable to meet the criteria for specific memories.

Overgeneral autobiographical memory is the tendency to unintentionally recall and communicate general memories when instructed to retrieve specific event memories in response to cue words (Williams et al., 2007). It is found in people diagnosed with major depressive disorder, bipolar disorder, postnatal depression, as well as people that are experiencing suicidal thoughts or feelings and patients with subclinical levels of depression known as dysphoria. The current data also suggests it is found within persons experiencing various kinds of trauma, namely post-traumatic stress disorder. (Arntz, Meeren, and Wessel, 2002; Kremers, Spinhoven, and Van der Does, 2004; Peeters et al., 2002; Wessel et al., 2001; Wilhelm et al., 1997). However, there is an evident lack of qualitative variables within this

research with no record kept of the length, type or severity of the trauma. Furthermore, there was no indication whether the participants suffered from other existing disorders - such as depression - which would skew the research.<sup>2</sup> Overgeneral memory is not found within other pathologies such as generalised anxiety disorder, social phobia or borderline personality disorder suggesting that it is intrinsically linked with depressive attributes. Though this narrows the affected field in terms of pathologies, it should not diminish the value attributed to either the research or its results. It is for this reason that the discussion will focus mainly on depressive disorders.

It has been claimed that the presence of overgeneral memory plays an important role in the course and maintenance of depressive symptoms (Brittlebank et al., 1993), emerging as a “marker for depression and depressive relapse” (Raes et al., 2006, p. 131. See also, Nolen-Hoeksema, 2004; Williams and Broadbent, 1986; Williams, 2004). The cognitive deficit of overgeneral memory distorts past events, making the recollection of any memory unclear and overgeneral. To complicate this further, these hazy memories are often perceived through a negative filter, due to the occurrent depressive episode. This makes the phenomenological experience of a disruption of one’s self, identity and narrative entirely credible, as the entirety of one’s past is distorted. Additionally, it is now widely accepted that there is an intrinsic link between the way we retrieve past events and construct future ones (Williams et al., 1996), as well as explicit links between clear, specific memory and problem solving (Raes et al., 2005). Furthermore, studies also suggest that overgeneral memory delays recovery from episodes of affective disorders (Brittlebank et al., 1993; Dalgleish et al., 2001), thus exposing patients to “more affective disturbance throughout their lives” (Bergljot, 2018, p. 16). Thus, in light of the previous phenomenological accounts of depression, this phenomenon would perhaps begin to explain not only the diminished cognitive ability and generality of memory but also the lack of hope grounded in the disruption of a ‘normal’ temporal structure.

It has been suggested that the functional avoidance of specific trigger or traumatic memories could be one explanation for the over generality of memory within these patients. The attempt to avoid these specific memories could result in a wide-ranging truncation of specific memories all together. Furthermore, some research suggests that even when attempting to retrieve neutral episodic memories, someone who has experienced either traumatic events or depressive episodes may discover that any event-specific knowledge brings about a negative affect. Thus,

---

<sup>2</sup> See Williams et al. (2007) for further discussion.

from a learning perspective, the act of specifying memories from general event level down to specific episodic memories is consistently followed by a negative consequence, forming the basis for passive avoidance. Consequently, in the future when given a cue, the person will more likely choose to remain at the general event level. The association between the negative affect and event-specific knowledge develops into the passive avoidance of traumatic or adverse specific knowledge. Therefore, one remains in a state of avoidance of the sensory and perceptual fragments of an event that, if activated, run the risk of producing catastrophic increases in intense mood disturbance.

The Conway & Pleydell-Pearce model of memory and particularly of functional avoidance would be consistent with current models of depression in PTSD (Brewin, 2001; Brewin et al., 1996; Ehlers and Clark, 2000; Foa and Kozak, 1986), which posits the notion that intrusive memories and flashbacks arise from the automatic activation of specific traumatic material. Thus, the functional avoidance theory requires that (at a minimum) persons who have a tendency to retrieve memory in a more specific manner would “risk experiencing greater affective disturbance” (Williams et al., 2007, p. 135), otherwise, there would be no motivation for the truncation of a memory search.

To begin with there was no ‘independent experimental’ evidence that suggested that a functional avoidance mechanism might explain the phenomenon of overgeneral memory, though there were many survey studies that supported the theory (e.g., Dalgleish et al., 2003; de Decker et al., 2003; Kuyken & Brewin, 1995; see Hermans et al., 2004, for a review). However, in 2003, Raes et al. confirmed the theory in an independent experiment which measures the degree of mood disturbance following the participant’s use of a tangram puzzle. The participants themselves were carefully screened beforehand, and the results illustrated that the mood disturbance was considerably greater in the participants with a more specific retrieval style (those who showed no overgenerality of memory). This furthers the theory of functional avoidance, and therefore overgeneral memory, by suggesting a “possible payoff for people with a less specific retrieval style” (Williams et al., 2007, p. 135) meaning that the more overgeneral the retrieval; the less a negative personal experience emotionally arouses the participant. As such, these results are consistent with a functional avoidance perspective on reduced specificity of autobiographical memory. Further evidence for this theory is the manipulation of rumination of depressed patients (Watkins and Teasdale, 2001; Watkins, Teasdale, and Williams, 2000) and the renewed specificity of memory in recovery following a depressive episode (Williams

et al., 2007). This confirms that the phenomenon is connected to the retrieval of memory rather than an issue with the encoding process.

It is clear therefore that the explanation for the occurrence of overgeneral memory is this notion of a truncated memory search, a search that ‘stops short’ of the episodic memories that contain event-specific knowledge. Equally, the most popular theory in accounting for the truncation is that of functional avoidance, emphasising that the phenomenon is due to a problem with the retrieval process rather than the encoding one. This means that if one were to be able to overcome this truncated search, the memory would be accessible to the patient in its entirety as opposed to being non-existent in the case of a failure to encode properly.

### *An embodied and extended approach to overgeneral memory*

Over the last twenty-five years interdisciplinary research into embodied cognitive science, sometimes referred to as the ‘grounded’ or enactive approach to cognition, has risen exponentially (Gjelsvik et al., 2018). Embodied cognition views mind and brain as embedded in, and continually interacting with the world; a biological system that is “rooted in body experience and interaction with other individuals” (Fuchs, 2009, p. 219). This relation is not merely contingent, but rather the mind is constituted by features of our body - comprised of the way we think, feel and experience. Embodied cognition differs from traditional representationalism which instead maintains a fixed internal-external distinction and from traditional cognitive models which describe the mind as following predefined formal rules (Fodor, 1975, 1983). This means that concepts of embodiment are able to bypass a lot of the issues found with the previous theories of mind, commonly referred to as the mind-body problem (Crane, 1999). Embodiment states that one’s primary ontological experience of interaction with the world comes from a body with “particular perceptual and motor capacities” that are inextricably linked, forming together “the matrix within which memory, emotion, language and all other aspects of life are meshed” (Thelen, 2000, p. 4 or Clark, 2008, p. xxvi). Embodied cognition theories include all cognitive processes from sensation, perception, and thought to memory and language.

Furthermore, once theories of embodiment are proposed and accepted, one can assess more advanced theories of mind (and therefore memory) as extended from the body into the world.

It is claimed that it is this study of embodied cognitive science that “pushes phenomenological accounts in new directions” (Wilson and Foglia, 2017, *Phenomenology*, para. 2) hence its use here, as the purpose of this section is to examine theories of memory. Specifically, I aim to uncover how embodied theories of memory could further our understanding and therefore the treatment of overgeneral memory, thus it is pertinent here to focus mainly on theories of embodied memory.

‘Embodied memory’ refers to the section of embodied cognition which states that the body is extended storage for memory and can often cue personal memory experiences, both deliberately and unintentionally. Similar to the value of embodied cognition, an embodied approach to memory transcends the problematic dualism between both mind and body and implicit and explicit, expanding our concept of memory beyond the “narrowly defined cognitive system” (Brown and Reavy, 2018, p. 201). It should be mentioned that though writers of embodiment and embodied memory, in particular, are often criticised for using terminology in different ways, this is “not necessarily a sign of endemic confusion” (Sutton and Williamson, 2014, p.315). Instead, the sheer variety of interdisciplinary research and related phenomena mean that embodied memory is explored within many distinct contexts such as; dance, trauma, Alzheimer's, dementia, psychopathologies and emotion to mention just a few. It is this variety of context which forms the wealth of research on the topic which needs to be joined when exploring new areas such as overgeneral memory.

Theories of embodied memory typically begin with the embodiment of unconscious, procedural memory, often referred to as ‘habit memory’ which involves trial and error learning; “through repetition and exercise, a habit has developed” (Fuchs, 2003, p.1). Common examples of this include the action of brushing one’s teeth, whereas more complex habitual memory is exemplified through actions such as playing the piano. Evidence and further research for embodied habitual memory are often linked to cases of amnesia or dementia where it is observed that patients are able to learn new motor skills or form new habits despite not being able to retain new information or recall older memories. Examples of this are particularly observable in amnesic patients who have lost all explicit recall, yet their implicit procedural memory is intact (Fuchs and Tewes, 2018). Habitual memory itself can lead to discussions of embodied memory harbouring a sense of self with habits that “reside in the way that the body

interacts with the world with coherence, purpose and meaning” (Hydén, 2018, p. 229), being a sufficient core of identity.<sup>3</sup>

However, further categories of embodied ‘body’ memory have since been explored with Fuchs (2003) distinguishing five (to six) differing forms, the main ones being; procedural, situational, intercorporeal, incorporative and traumatic. This theoretical model attributes the primary function for self-identity and experience to the body, accessible through the different functions. An example of this is a developed an account (Fuchs, 2012) of embodied situational memories which incorporated aspects such as spatial familiarity, into the recall process. Equally, the use of situational memories further seen through the account of remembering proposed by Brown and Reavy (2018, p. 201) which states that “remembering occurs in a specific place, which constitutes a locus of embodied relations and feelings”. Indeed, it has been suggested that the embodied nature of memory is particularly evidenced through episodic memories which consist of past events with a personal connection as well as being linked to a particular time and place. This is due to the belief that embodied memories are the “ground of our experience; [...] we would experience our lives as scattered and incoherent without them” (Caldwell & Koch, 2018, p. 243), thus, valuing all experience of embodied memory as equal to any experience of embodied cognition. Furthermore, it is argued that an “exploration of body memory sheds light on autobiographical memory formation and aspects of personal identity” (Fuchs, 2018, p.10) as it allows a concentrated focus on the body itself as a vehicle for remembering. Therefore, embodiment proposes new ways of accessing memories that are seemingly lost within the mind; providing an alternative to the truncated, top-down searches, which are believed to be the cause of overgeneral memory.

It has been argued that discussions of memory posed an initial problem for embodied approaches to cognition, as memory and the associated narrative practices seem to take us out of our present-moment context (both social and physical). This ability to make psychological contact with past events and experience was suggested as evidence of “offline” processes that rely solely on mental representation. Some theorists argue that these occurrences are merely an exception to the rule, however, it would seem that rather than these memories originating from a mental ‘wander down memory lane’, these intense experiences of being transported to a specific memory is the epitome of indirect, embodied recall. It could be suggested that the reason for this is that the essence of episodic retrieval is “autonoetic consciousness”; the ability

---

<sup>3</sup> See Hydén (2018) for further discussion.

to mentally place ourselves in the past, invoking all the attendant features - the “visual, kinaesthetic and spatial impressions” (Wilson, 2002, p. 633) of the past event - in the present moment.

“What is recollected in autobiographical memories invokes past places and situated experiences, whose features become expressed as part of the felt present moment. Memory is rendered live through this folding together of past and present material relations and spaces, with the body acting as the fulcrum around which this is accomplished” (Brown and Reavy, 2018, p. 201).

One can see the effects of embodied memory and its intrinsic link to autobiographical memory through the example of gestures which often accompany speech. These movements do not merely complement the verbal communication but instead act to facilitate the retention of spatial representations in memory, meaning that recollection of enacted action-phrases is significantly easier than verbal encoding (Wesp et al., 2001). Equally, this enhanced encoding is matched in the recipient where action-phrases that are enacted and not merely heard are better understood – “action-phrases that are merely heard do not produce the same effective encoding of real enacted action-sentences” (Wilson and Foglia, 2017, Memory, para. 2). Other effects of embodied memory can be seen in accounts of posture where research shows that the body contains the cue to recall autobiographical events. The retrieval process is facilitated by the assumption of previous body posture at the time and experience (Dijkstra, 2007).

Further research of this shows that hearing music or moving one's body in a particular way can “viscerally bring back” (Sutton and Williamson, 2014, p.315) specific conversations or feelings. An example of this is given within an account of severe depression entitled *Darkness Visible: A Memoir of Madness* (Styron, 1989 cited in Sacks, 2007, p. 300) which describes the effect of a sudden ‘soaring passage’ from the Brahms Alto Rhapsody.

“This sound, which like all music—indeed, like all pleasure—I had been numbly unresponsive to for months, pierced my heart like a dagger, and in a flood of swift recollection I thought of all the joys the house had known: the children who had rushed through its rooms, the festivals, the love and work”.

The strength of the embodied memory here, activated through sound, is almost palpable. In fact, many initiatives in residential and nursing homes capitalise on this through the use of music, memory museums, story tables, multisensory rooms and reminiscence therapies (Van Campen, 2014, p. 90) In some cases people rely on body memory more explicitly, consciously

storing or cueing explicit recall in action, with some psychically offloading memories onto their body in the forms of notes or tattoos. Though these methods are distinct, and often operating at different levels (both of consciousness and intent), they are still about to “cooperate in the many contexts of our practices of remembering” (Sutton and Williamson, 2014, p.315). There is a wealth of current research, to further this, surrounding the activation of embodied memory through virtual reality technology. The technology allows its users to “create, explore and interact” (Repetto et al., 2016, p.1) with environments that are perceived as real-world experience. It has been shown that the time needed to recall and retrieve information is dependent on and constrained by the imaged spatial layout of the body and its environment (Bryant and Wright, 1999; see also Waller et al., 2008; Waller et al., 2002). It is precisely this activation which stimulates a direct retrieval of episodic memory, bypassing the truncated search of top-down approaches to memory.

Once an embodied approach is applied to activate memory directly, it can be dealt with, especially when the memory is difficult, painful or traumatic. This can be seen through the therapeutic ‘Moving Cycle’ approach developed in the 1980s by Christine Caldwell. The approach documents the experiential retrieval of memories through movement and the process of recontextualising to aid the personal incorporation of negative or traumatic memories into one’s daily experience. The paper explains this process through a scenario of a person recalling a previous conflict, during which they are asked to describe their current state while relating the memory. Throughout this recollection and documentation of present moment reaction, there is a second, ‘body narrative’ observed by the second party, usually a therapist, such as a shift of weight or the raising of a hand. It is suggested that the ‘body narrative’ enacts the “felt experience of the conflict” which when paired with the recollected memory, consciously “deepens the phenomenological experience” (Caldwell and Koch, 2018, p. 246), grounding and recategorising the memory in a ‘safe’ space.

The ‘Moving Cycle’ approach focuses on explicit recall of autobiographical memory dealing specifically with negative or traumatic recollections. However, the conscious (re)organisation of autobiographical memory is known more generally to integrate difficult or negative past experiences into everyday life. It would seem therefore that such approaches could be applied to memories that are typically inaccessible within depressive episodes. If one could overcome the ‘truncated’ search in depressed patients which results in an overgeneral account of autobiographical memory through a direct recall of memory, then phenomenological therapeutic methods could work with body memory to distinguish between current body



experience and past body memory or tendencies or actions. Thus, resulting in the integration of *specific* autobiographical memories into a “present-centred body” (Caldwell and Koch, 2018, p. 253) and therefore daily life.

The suggestion at the beginning of this chapter was that if one were able to activate embodied memory, they would effectively bypass the truncated retrieval search which causes the phenomena of overgeneral memory as they would force a bottom-up retrieval. It is clear that within the current work surrounding embodied remembering there is a wealth of research refining the methods of doing this. Certainly, original thought documented the access to various types of memory stored within the body and space such as procedural (habit) memory; however, through virtual-reality, dance, music and therapy, one is able to access specific episodic memories as well.

Once embodied approaches to memory are accepted as possible and viable solutions to symptoms of psychopathologies such as depression, one can explore more advanced theories of extended memories in an extended mind. The reason for this is that “all proponents” of the extended mind hypothesis “start from embodied approaches to cognition” (Fuchs, 2018, p.12). This ‘Extended Mind Thesis’ was put forward in 1998 by Clark and Chalmers, who since then have written many accounts defending the theory. The thesis could ensure that memories which are temporarily out of reach to persons suffering episodes of depression can be directly activated through means external to the body such as photographs. Acceptance of this thesis would mean that ultimately in the “cyberpunk future” (Clark and Chalmers, 1998, p.7) entire lifetimes of memory could be stored in complete form externally to the body.

The extended mind thesis is typically explained through the example of Otto and Inga, two young people who separately decide to visit the new exhibit at the Museum of Modern Art (MoMA) in New York. Inga thinks for a moment before recalling the directions to the gallery on 53<sup>rd</sup> Street and begins to walk there. Clark and Chalmers (1998) suggest that it seems clear that Inga believed the museum to be on 53<sup>rd</sup> Street before she consulted her memory; the information was waiting to be accessed. Otto, who has Alzheimer's disease relies on information in the environment to ‘hold’ information and to this end carries around with him a notebook in which all new information is recorded. Whenever Otto requires access to old information, he looks it up. Thus, on deciding to visit the MoMA, Otto looks up the address in his notebook which states that the museum is on 53<sup>rd</sup> Street and proceeds to walk there. Equally, Clark and Chalmers state that Otto walked to 53<sup>rd</sup> Street because he believed that to be the

situation of the museum, they further suggest that it seems “reasonable to say” (Clark and Chalmers, 1998, p. 13) that Otto believed the museum was on 53<sup>rd</sup> Street even before he was able to consult his notebook. Therefore, they claim that the two scenarios are “entirely analogous”, with Inga’s memory playing the same role as the notebook for Otto; the only difference being that the location for Otto’s information is external to the body. This is because the “coarse-grained functional poise” (Clark, 2010, p. 88) of the stored information is similar enough to warrant the same cognitive treatment. Otto’s external encoded memory, like Inga’s bio-memories, is so “deeply integrated into his cognitive strategies of reasoning and memory” that they ought to be considered part of his extended mind.

One might suggest that the alternative is to explain Otto's action of desiring to visit the museum coupled with the belief that the location of the museum is written in his notebook, he accesses this fact and begins on his journey. However, Clark and Chalmers believe this is an unnecessary step in the explanation. It would certainly seem that if one were to include that in the explanation for Otto, one would have to match that within the explanation for Inga. Hence the following account, where one can see the parallel redundancy of this explanatory step. ‘Inga desires to go to the museum and believes that the location of the museum is encoded within her memory, she accesses this fact and starts to walk’. This leads to the claim made by the ‘parity principle’ which states that if as one confronts a task, the function is performed in the world the way it would be in the ‘mind’, then there would be no hesitation in recognising it as part of the cognitive process. Therefore, it should be considered “part of the cognitive process” (Clark and Chalmers, 1998, p.8). This leads to the conclusion that sometimes our cognitive processes (thinking, knowing, and remembering) are partially constituted by features of the environment.

The purpose of the extended mind hypothesis is to highlight the function of memory and recall processes. It analyses only the function of the process, not the material that constitutes it. Thus, current discussions and research of the extended mind draw attention to the role of technology in augmenting memory, with phones increasingly holding data previously stored within our mind. However, this offloading is not a distinctively new process (though perhaps the extent has reached new bounds) as examples of previous offloading date back many years. One particular example documented within the work of Tribble (2005) which discusses the use of extended cognition in Elizabeth and Jacobean theatrical practices, where actors would distribute ‘cues’ around the Globe theatre. Tribble (2005, p. 144) argues that the more cognitive processes that can be “off-loaded onto the environment, the more mental energy remains”.

Equally, the extension of memory is enacted every time we record a phone number on a note paper, write a list or even use a computer to aid our writing process.

It is clear that in some cases the distinction between embodied cognition or memory and extended cognition or memory is blurred, one can think of the example of mathematics where the sum could be performed on hands or a piece of paper. Undoubtedly, boundaries within the literature often differ, allocating similar examples to both embodied and extended approaches. However, the two are intrinsically linked by the placing of the cognitive processes outside of the body and analysing them merely in terms of function. It is this focus, formally referred to as the parity principle which enables all cognitive process, including memory, to be located outside of the mind. In turn, this extension of mind enables the direct activation and retrieval of specific memory through embodied or extended processes that are not restricted by truncated searches of memory.

### *Conclusion*

The importance of access to unfiltered, specific autobiographical memory is undeniable as it is vital for many aspects of human functioning. It informs one's sense of self with the autobiographical knowledge base contributing to a narrative self, encouraging a sense of enduring on both societal and personal levels. Equally, it allows the in-depth experience of and relation to emotions and clear interaction between the past and present which maintains the normal functioning of cognitive processes and the continuing ability to problem solve. Finally, it has also been proven to be of fundamental significance for the projection of oneself in the future. As is often the case, the importance of this specific access was only fully understood when the absence of specific memory, a phenomenon found mainly within persons with depression, was discovered.

This absence, known as overgeneral memory has been researched extensively within psychology to form the comprehensive account of the phenomenon we have today. Its presence in depressed persons is confirmed, with further accounts suggesting its presence within other psychopathologies still being researched. Though there are many suggestions of causal explanations, the most widely accepted today is that of a truncated search of memory which cuts off after general events in the Conway and Pleydell-Pearce model of memory. The

truncated search, which stops before it reaches the level containing episodic memories, is thought to occur in order to avoid traumatic or negative memories. Further details of this truncation, known as functional avoidance, correlate with aspects of both the phenomenon of overgeneral memory and psychopathology, which places the motivation for functional avoidance in a desire to circumvent the risk of catastrophic increases in mood disturbance. This confirms the phenomenon as a problem with the retrieval rather than encoding process, thus, enabling the potential to overcome the truncated search, with corresponding evidence found within the return of memory specificity in recovery from depressive episodes.

In light of all of this, it is astounding that the phenomenon of overgeneral memory is not yet included within the phenomenology of depression, especially as its presence as a symptom explains various aspects of the documented first-person experience. This was seen not only within the disruption of self-narrative but also the qualitative shift in temporal existence, where phenomenological accounts illustrate a world without hope or end. Within this shift, there are accounts that described a distinct feeling that all agency is removed leaving the persons cast adrift in this alien world with no hope of it ending. It would seem that these experiences are almost anticipated within overgeneral memory as without specific recall of past events there is no ability to observe the narrative of one's life. In turn, this observation enables interaction with the past and a subsequent understanding of the nature of its fluidity, perhaps rekindling hope that depressive episodes cannot be without end. Equally, accounts depicted an inability to concentrate, think clearly or possess any rationale. Thus, experiences such as these seem to exist within the presence of, and therefore are explained by, the phenomenon of overgeneral memory.

Embodied and extended approaches to cognition, specifically memory, were employed to further the uncovering of overgeneral memory. The root of the phenomenon in the retrieval of memory, rather than the encoding process, led to the possibility of bypassing or overcoming the truncated retrieval. Though most of the research within embodied memory focused on procedural memory, there are increasing numbers of philosophers uncovering the nature of episodic memories through developed accounts such as spatial and body memory. The link between embodied and autobiographical memory is evident through gesture and understanding; however, this relationship extends beyond this with examples of music, dance and virtual reality technology all stimulating direct retrieval of episodic memory. Furthermore, once the truncated search is bypassed through a direct retrieval, therapeutic approaches such as

the Moving Cycle are able to work with memory through the observation of embodied movement to deconstruct and recategorise the negative memories.

Once theories of embodied memory are accepted and their potential to bypass overgeneral memory realised, one can begin to explore more advanced theories of extended memories in an extended mind. This essay detailed the Extended Mind Thesis in particular, which posits the focus on the function of mind rather than the material that constitutes it, claiming that the mind extends beyond the brain and the body into the world. Discussions of this thesis draw attention to the role of technology in storing memory but maintain that these offloading processes are not intrinsically new.

The theories of embodied and extended cognition posit the notion that the storage of memory is not contained only within the brain. This expansive view of memory suggests new avenues of thought, with the direct activation of specific memory, enabled through embodied and extended storage that is not restricted by a truncated search. It is possible to see the inclusion of techniques designed to aid this, capitalising on the inclusion of diaries, phones and computers to schedule, store and remind us of appointments, events and even fluctuating emotions. Furthermore, theories of extended mind outline the potential to offload memory in the cyberpunk future onto various modules which plug into our brain. This would allow the instantaneous activation of specific episodic memories completely eradicating the possibility of a truncated memory search, and therefore overgeneral memory, changing the landscape of the phenomenology of depression.

*Bibliography*

AMERICAN PSYCHIATRIC ASSOCIATION. (2000) *Diagnostic and Statistical Manual of Mental Disorders: DSM-4*. (Washington, DC, American Psychiatric Association).

AMERICAN PSYCHIATRIC ASSOCIATION. (2013) *Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. (Arlington, VA: American Psychiatric Association).

ARNTZ, A., MEEREN, M. and WESSEL, I. (2002) No Evidence for Overgeneral Memories in Borderline Personality Disorder. *Behaviour Research and Therapy*. Vol. 40 (9), pp. 1063 – 1068. DOI: 10.1016/S0005-7967(01)00121-8

BARSALOU, L., SIMMONS, W., BARBEY, A. and WILSON, C. (2003) Grounding Conceptual Knowledge in Modality-Specific Systems. *Trends in Cognitive Science*. Vol. 7 (2), pp. 84 – 91. DOI: 10.1016/S1364-6613(02)00029-3

BURGESS, P. and SHALLICE, T. (1996) Response Suppression, Initiation and Strategy Use Following Frontal Lobe Lesions. *Neuropsychologia*. Vol. 32 (4), pp. 263 – 273. DOI: 10.1016/0028-3932(95)00104-2

BREWIN, C. (2001) A cognitive neuroscience account of posttraumatic stress disorder and its treatment. *Behaviour Research and Therapy*. Vol. 39 (4), pp. 373 – 393. DOI: 10.1016/S0005-7967(00)00087-5

BREWIN, C., DALGLEISH, T. and JOSEPH, S. (1996) A dual representation theory of posttraumatic stress disorder. *Psychological Review*. Vol. 103 (4), pp. 670 – 686. DOI: 10.1037/0033-295X.103.4.670

BRITTLEBANK, A., SCOTT, J., WILLIAMS, J. and FERRIER, I. (1993) Autobiographical Memory in Depression: State or Trait Marker? *The British Journal of Psychiatry: The Journal of Mental Science*. Vol. 162 (1), pp. 118 – 121. DOI: 10.1192/bjp.162.1.118

BROWN, S and REAVY, P. (2018) Embodiment and Place in Autobiographical Remembering: A Relational-Material Approach. *Journal of Consciousness Studies*. Vol. 25 (7), pp. 200 – 224.

- BRYANT, D. and WRIGHT, G. (1999) How Body Asymmetries Determine Accessibility in Spatial Frameworks. *Quarterly Journal of Experimental Psychology*. Vol. 52 (2), pp. 487 – 508. DOI: 10.1080/713755821
- CALDWELL, C and KOCH, S. (2018) Working with Embodied Memory: The Moving Cycle as a Phenomenological Body Psychotherapy Method. *Journal of Consciousness Studies*. Vol. 25 (7), pp. 242 – 255. DOI: 10.1080/17432979.2013.775968
- CASTEL, A. and CRAIK, F. (2003) The Effects of Aging and Divided Attention on Memory for Item and Associative Information. *Psychology and Aging*. Vol. 18 (3), pp. 873 – 885. DOI: 10.1037/0882-7974.18.4.873
- CLARK, A. (2010) *Supersizing the Mind: Embodiment, Action and Cognitive Extension*. (Oxford: Oxford University Press).
- CLARK, A. and CHALMERS, D. (1998) The Extended Mind. *Analysis*. Vol. 58 (1), pp. 7 – 19.
- CONWAY, M. (1992). A Structural Model of Autobiographical Memory. In CONWAY, M., RUBIN, D., SPINLER, H. and WAGENAAR, E. (Eds.), *Theoretical Perspectives on Autobiographical Memory*. (Dordrecht: Kluwer Academic).
- CONWAY, M. (1996) Autobiographical Memories. In BJORK, E. and BJORK, R. (Eds.), *Handbook of perception and cognition: Vol. 10. Memory*. (Orlando, FL: Academic Press).
- CONWAY, M. and FTHENAKI, A. (2000) Disruption and loss of Autobiographical Memory. In CERMAK, L. (Ed.) *Handbook of neuropsychology: Memory and its disorders*. (Amsterdam: Elsevier Science Publishers).
- CONWAY, M. and PLEYDELL-PEARCE, C. (2000) The Construction of Autobiographical Memories in the Self-Memory System. *Psychological Review*. Vol. 107 (2), pp. 261 - 288. DOI: 10.1037//0033-295X.107.2.261
- CONWAY, M., SINGER, J. and TAGINI, A. (2004) The Self and Autobiographical Memory: Correspondence and Coherence. *Social Cognition*. Vol. 22 (5), pp. 491 – 529. DOI: 10.1521/soco.22.5.491.50768
- CONWAY, M. (2005) Memory and the Self. *Journal of Memory and Language*. Vol. 53 (4), pp. 594 – 628. DOI: 10.1016/j.jml.2005.08.005

CRANE, C., BARNHOFER, T., VISSER, C., NIGHTINGALE, H. and WILLIAMS, J. (2007) The Effects of Analytical and Experiential Rumination on Autobiographical Memory Specificity in Individuals with a History of Major Depression. *Behaviour Research and Therapy*. Vol. 45 (12), pp. 3077 – 3087. DOI: 10.1016/j.brat.2007.05.009

CRANE, T. (1999) The Mind Body Problem. In WILSON, R. and KEIL, F. (Eds.), *The MIT Encyclopaedia of the Cognitive Sciences*. (Cambridge, MA: MIT Press).

DALGLEISH, T., SPINKS, H., YIEND, J. and KUYKEN, W. (2001) Autobiographical Memory Style in Seasonal Affective Disorder and its Relationship to Future Symptom Remission. *Journal of Abnormal Psychology*. Vol. 110 (2), p. 335 – 340. DOI: 10.1037/0021-843X.110.2.335

DALGLEISH, T., TAGHAVI, R., NESHAT-DOOST, H., MORADI, A., CANTERBURY, R., and YULE, W. (2003) Patterns of processing bias for emotional information across clinical disorders: a comparison of attention, memory, and prospective cognition in children and adolescents with depression, generalized anxiety, and posttraumatic stress disorder. *Journal of Clinical Child and Adolescent Psychology*. Vol. 32 (1) pp. 10 – 21. DOI: 10.1207/S15374424JCCP3201\_02

DALGLEISH, T., WILLIAMS, J., GOLDEN, A., PERKINS, N., BARRETT, L., BARNARD, P. YEUNG, C., MURPHY, V., ELWARD, R., TCHANTURIA, K. and WATKINS, E. (2007) Reduced Specificity of Autobiographical Memory and Depression: The Role of Executive Control. *Journal of Experimental Psychology. General*. Vol. 136 (1), pp. 23 – 42. DOI: 10.1037/0096-3445.136.1.23

DECKER A., HERMANS D., RAES F., AND EELEN P. (2003). Autobiographical memory specificity and trauma in inpatient adolescents. *Journal of Clinical Child and Adolescent Psychology*. Vol. 32 (1), pp. 22 – 31. DOI: 10.1207/S15374424JCCP3201\_03

DIJKSTRA, K. KASCHAK, M. and ZWAAN, R. (2007) Body Posture Facilitates Retrieval of Autobiographical Memories. *Cognition*. Vol. 102 (1), pp. 139 – 149. DOI: 10.1016/j.cognition.2005.12.009

ELHERS, A. and CLARK, D. (2000) A cognitive model of posttraumatic stress disorder. *Behaviour and Research Therapy*. Vol. 38 (4), pp. 319 – 345. DOI: 10.1016/S0005-7967(99)00123-0



- FIVUSH, R. and NELSON, K. (2004) The Emergence of Autobiographical Memory: A Social Cultural Development Theory. *Psychological Review*. Vol. 111 (2), pp. 486 – 511. DOI: 10.1037/0033-295X.111.2.486
- FOA, E and KOZAK, M. (1986) Emotional Processing of Fear. Exposure to Corrective Information. *Psychological Bulletin*. Vol. 99 (1), pp. 20 - 35. DOI: 10.1037/0033-2909.99.1.20
- FODOR, J. (1975) *The Language of Thought*. (Cambridge, MA: Harvard University Press)
- FODOR, J. (1983) *The Modularity of Mind*. (Cambridge, MA: MIT Press)
- FUCHS, T. (2003) *The Memory of the Body*. [WWW] <https://www.klinikum.uni-heidelberg.de/fileadmin/zpm/psychatrie/ppp2004/manuskript/fuchs.pdf> (Date Accessed: 03/04/2019)
- FUCHS, T. (2009) Embodied Cognitive Neuroscience and Its Consequences for Psychiatry. *Poiesis Prax*. Vol. 6 (3), pp. 219 – 233. DOI: 10.1007/s10202-008-0068-9
- FUCHS, T. (2012) The Phenomenology of Body Memory. In KOCH, S., FUCHS, T., SUMMA, M. and MÜLLER, C. (Eds.), *Body Memory, Metaphor and Movement*. (Amsterdam: John Benjamin's).
- FUCHS, T. and SCHLIMME, J. (2009) Embodiment and Psychopathology: A Phenomenological Perspective. *Current Opinion in Psychiatry*. Vol. 22 (6), pp. 570 – 575. DOI: 10.1097/YCO.0b013e3283318e5c.
- FUCHS, T. and TEWES, C. (2018) Editorial Introduction: The Formation of Body Memory. *Journal of Consciousness Studies*. Vo. 25 (7), pp. 8 – 19.
- FUREDY, J. (1998) On the Relevance of Philosophy for Psychological Research: A Preliminary Analysis of some Influences of Andersonian Realism. *Australian Journal of Psychology*. Vol. 40 (1), p.71 - 77. DOI: 10.1080/00049538808259071
- GALLAGHER, S. and ZAHAVI, D. (2012) *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science*. 2nd Ed. (Abingdon: Routledge Press).
- GJELSVIK, B., LOVRIC, D. and WILLIAMS, M. (2018) Embodied Cognition and Emotional Disorders: Embodiment and Abstraction in Understanding Depression. *Journal of Experiment Psychopathology*. Vol. 9 (3), pp. 1 – 52. DOI: 10.5127/pr.035714

- HERMANS, D., VAN DEN BROECK, K., BELIS, G., RAES, F., PIETERS, G. and EELEN, P. (2004) Trauma and autobiographical memory specificity in depressed inpatients. *Behaviour Research & Therapy*. Vol. 42 (1) pp. 775 – 789. DOI: 10.1016/S0005-7967(03)00197-9
- HERTEL, P. and GERSTLE, M. (2003) Depressive deficits in forgetting. *Psychological Science*. Vol. 14, (6), pp. 573 - 578. DOI: 10.1046/j.0956-7976.2003.psci\_1467.x
- HORNSTEIN, G. (2009) *Agnes's Jacket: A Psychologist's Search for the Meanings of Madness*. (New York: Rodale).
- HOSTETTER, A. and ALIBALI, M. (2008) Visible Embodiment: Gestures as Simulated Action. *Psychonomic Bulletin & Review*. Vol. 12 (3), pp. 495 – 514. DOI: 10.3758/PBR.15.3.495
- HYDÉN, L. (2018) Dementia, Embodied Memories and the Self. *Journal of Consciousness Studies*. Vol. 25 (7), pp. 225 – 241.
- KARP, D. (1996) *Speaking of Sadness: Depression, Disconnection, and the Meanings of Illness*. (Oxford: Oxford University Press).
- KEVEN, N. (2016) Events, Narratives and Memory. *Synthese*. Vol. 193 (8), pp. 2497 – 2517. DOI: 10.1007/s11229-015-0862-6
- KOCH, S. (2012) On Body Memory and Embodied Therapy. Body, Movement and Dance in Psychotherapy. *An International Journal for Theory, Research and Practice*. Vol. 8 (2), pp. 82 – 94. DOI: 10.1080/17432979.2013.775968
- KREMERS, I., SPINHOVEN, P. and VAN DER DOES, A. (2014) Autobiographical memory in Depressed and Non-Depressed Patients with Borderline Personality Disorder. *British Journal of Clinical Psychology*. Vol. 43 (1), pp. 17 – 29. DOI: 10.1348/014466504772812940
- KUYKEN, W. and BREWIN, C. (1995). Autobiographical memory functioning in depression and reports of early abuse. *Journal of Abnormal Psychology*. Vol. 104 (1) pp. 585 – 591. DOI: 10.1037/0021-843X.104.4.585
- KUYKEN, W., BYFORD, S. and WATKINS, E. (2009) Mindfulness-Based Cognitive Therapy to Prevent Relapse in Recurrent Depression. *Journal of Consulting and Clinical Psychology*. Vol. 76 (6), pp. 966 - 978. DOI: 10.1037/a0013786

- LANCASTER, J. and BARSALOU, L. (1997) Multiple organisations of events in memory. *Memory*. Vol. 5 (5), pp. 569 - 599. DOI: 10.1080/741941478
- MAYES, A and ROBERTS, N. (2001), Theories of Episodic Memory. *Philosophical Transactions of the Royal Society B: Biological Sciences*. Vol. 356 (1413), pp. 1395 – 1408. DOI: 10.1098/rstb.2001.0941
- MICHAELIAN, K and SUTTON, J. (2018) Collective Memory. In: JANKOVIC, M and LUDWIG, J. (Eds.) *Routledge Handbook of Collective Intentionality*. (Abingdon: Routledge Press).
- NEIMEYER, R. (2000) Narrative Disruptions in the Construction of the Self. In NEIMEYER, R. and RASKIN, J. (Eds.), *Constructions of Disorder: Meaning-Making Frameworks for Psychopathology*. (Washington DC: American Psychological Association).
- NELSON, K and FIVUSH, R. (2004) The Emergence of Autobiographical Memory: A Social Cultural Development Theory. *Psychological Review*, Vol. 111 (2), pp. 486 - 511. DOI: 10.1037/0033-295X.111.2.486
- NOLEN-HOEKSEMA, S. (2004). The response styles theory. In PAPAGEORGIOU, C. and WELLS, A. (Eds), *Depressive rumination: Nature, theory, and treatment*. (Chichester: John Wiley & Sons).
- PEETERS, F., WESSEL, I., MERCKELBACH, H. and BOON-VERMEEREN, M. (2002) Autobiographical memory specificity and the course of major depressive disorder. *Comprehensive Psychiatry*. Vol. 43(5) pp. 344 – 350. DOI: 10.1053/comp.2002.34635
- PILLEMER, D. (1998) *Momentous Events, Vivid Memories*. (Cambridge MA: Harvard University Press).
- PREBBLE, S., TIPPETT, L. and ADDIS, D. (2013) Autobiographical Memory and Sense of Self. *Psychological Bulletin*. Vol. 139 (4), pp. 815 - 840. DOI: 10.1037/a0030146
- RADDEN, J. (2003) Is This Dame Melancholy? Equating Today's Depression and Past Melancholia. *Philosophy, Psychiatry and Psychology*. Vol. 10 (1), pp. 37 – 52. DOI: 10.1353/ppp.2003.0081

- RAES, F., HERMANS, D., DE DECKER, A., EELEN, P. and WILLIAMS, J. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion*. Vol. 3 (1), pp. 201–206. DOI: 10.1037/1528-3542.3.2.201
- RAES, F., HERMANS, D., WILLIAMS, J., DEMYTTENAERE, K., SABBE, B., PIETERS, G., and EELEN, P. (2005). Reduced specificity of autobiographical memories: A mediator between rumination and ineffective problem-solving in major depression? *Journal of Affective Disorders*. Vol. 87(1) pp. 331-335
- RAES, F., HERMANS, D., WILLIAMS, J., BEYERS, W., BRUNFAUT, E. and EELEN, P. (2006) Reduced Autobiographical Memory Specificity and Rumination in Predicting the Course of Depression. *Journal of Abnormal Psychology*. Vol. 115 (4) pp. 699 – 704. DOI: 10.1037/0021-843X.115.4.699
- RATCLIFFE, M. (2015) *Experiences of Depression: A Study in Phenomenology*. (Oxford: Oxford University Press).
- RATCLIFFE, M. and STEPHAN, A. (Eds.) (2014) *Depression, Emotion and the Self: Philosophical and Interdisciplinary Perspectives*. (Exeter: Imprint Academic Ltd).
- REESE, C. and CHERRY, K. (2002) The Effects of Age, Ability and Memory Monitoring on Prospective Memory Task Performance, Aging, Neuropsychology and Cognition. *A Journal on Normal and Dysfunctional Development*. Vol. 9 (2), pp. 98 - 113. DOI: 10.1076/anec.9.2.98.9546
- REPETTO, C., SERINO, S., MACEDONIA, M. and RIVA, G. (2016) Virtual Reality as an Embodied Tool to Enhance Episodic Memory in Elderly. *Frontiers in Psychology*. Vol. 7(1), pp. 1 – 4. DOI: 10.3389/fpsyg.2016.01839
- RILKE, R. (1990) *The Notebooks of Malte Laurids Brigge*. Translated from German by NEEDHAM, W. (London: Vintage Classics).
- ROWE, D. (1978) *The Experience of Depression*. (Chichester: John Wiley & Sons).
- ROWLANDS, M. (2017) *Memory and the Self*. (New York: Oxford University Press).
- RUBIN, D. (1996) *Remembering our past: Studies in Autobiographical Memory*. (New York: Cambridge University Press).

- RUGG, M. and WILDING, E. (2000) Retrieval Processing and Episodic Memory. *Trends in Cognitive Sciences*. Vol. 4 (3), pp. 108 – 115. DOI: 10.1016/S1364-6613(00)01445-5
- SACKS, O. (2007) *Musicophilia: Tales of Music and the Brain*. (New York: Alfred A. Knopf, Inc.,)
- SCHACTER, D. and SLOTNICK, S. (2004) The Cognitive Neuroscience of Memory Distortion. *Neuron*. Vol. 44 (1), pp. 149 – 160. DOI: 10.1016/j.neuron.2004.08.017
- SHAW, F. (1997) *Out of Me: The Story of a Postnatal Breakdown*. (London: Penguin).
- SOLOMON, A. (2002) *The Noonday Demon. An Atlas of Depression*. (New York: Scribner)
- SOTERIOU, M. (2008) The Epistemological Role of Episodic Recollection. *Philosophy and Phenomenological Research*. Vol. 77 (2) pp. 472 – 492. DOI: 10.1111/j.1933-1592.2008.00199.x
- STANLEY, M., HENNE, P., IYENGAR, V., SINNOTT-ARMSTRONG, W. and DE BRIGARD, F. (2017) I'm not the person I used to be: The Self and Autobiographical Memories of Immoral Actions. *Journal of Experimental Psychology. General*. Vol. 146 (6), pp. 884 – 895. DOI: 10.1037/xge0000317
- STEINKE, D. (2001) Poodle Bed. In CASEY, N. (Ed.) *Unholy Ghost: Writers on Depression*. (New York: William Morrow)
- STRAWSON, G. (1997) The Self. *Journal of Consciousness Studies*. Vol. 4 (5), pp. 405 – 428.
- STYRON, W. (2004) *Darkness Visible: A Memoir of Madness*. (London: Vintage Classics).
- SUTTON, J and WILLIAMSON, K. (2014) Embodied Remembering. In SHAPIRO, L. (Ed.), *The Routledge Handbook of Embodied Cognition*. (Abingdon: Routledge Press).
- SQUIRE, L. (2009) Memory and Brain Systems: 1969 – 2000. *Journal of Neuroscience*. Vol. 29 (41), pp. 12711 - 12716; DOI: 10.1523/JNEUROSCI.3575-09.2009
- THELEN, E. (2000) Motor Development as Foundation and Future of Developmental Psychology. *International Journal of Behavioural Development*. Vol. 24 (4), pp. 385 – 397. DOI: 10.1080/016502500750037937
- TRIBBLE, E. (2005) Distributing Cognition in the Globe. *Shakespeare Quarterly*. Vol. 56 (2), pp. 135 – 155.

- TULVING, E. (1985). Memory and Consciousness. *Canadian Psychology*. Vol. 26 (1), pp. 1 – 12. DOI: 10.1037/h0080017
- TULVING, E. (1983) *Elements of Episodic Memory*. (Oxford: Oxford University Press).
- TULVING, E. and SCHACTER, D. (Eds.) (1994) *Memory Systems*. (London: MIT Press).
- TULVING, E. (2002) Episodic Memory: From Mind to Brain. *Annual Review of Psychology*. Vol. 53 p. 1 – 25. DOI: 10.1146/annurev.psych.53.100901.135114
- VAN CAMPEN, C. (2014) *The Proust Effect: The Sense as Doorways to Lost Memories*. (Oxford: Oxford University Press).
- WALLER, D., LIPPA, Y. and RICHARDSON, A. (2008) Isolating observer-based reference directions in human spatial memory: Head, body, and the self-to-array axis. *Cognition*. Vol. 106, pp. 157–183.
- WALLER, D., MONTELLO, D., RICHARDSON, A. and HEGARTY, M. (2002) Orientation Specificity and Spatial Updating of Memories for Layouts. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. Vol. 28 (6), pp. 1051–1063.
- WATKINS, E., TEASDALE, J. and WILLIAMS, R. (2000). Decentring and distraction reduce overgeneral autobiographical memory in depression. *Psychological Medicine*. Vol. 30 (1), pp. 911–920. DOI: 10.1017/S0033291799002263
- WATKINS, E., AND TEASDALE, J. (2001). Rumination and overgeneral memory in depression: Effects of self-focus and analytic thinking. *Journal of Abnormal Psychology*. Vol. 110 (1), pp. 353-357. DOI: 10.1037/0021-843X.110.2.333
- WESP, R., HESSE, J. KEUTMANN, D. and WHEATON, K. (2001) Gestures Maintain Spatial Imagery. *American Journal of Psychology*. Vol. 114 (1), pp. 591 – 600.
- WILLHELM, S. (1997) Autobiographical Memory in Obsessive-Compulsive Disorder. *British Journal of Clinical Psychology*. Vol. 36 (1), pp. 21 – 31 DOI: 10.1111/j.2044-8260.1997.tb01227.x
- WILLIAMS, J. AND BROADBENT, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology*. Vol. 95 (1), pp. 144 - 149. DOI: 10.1037/0021-843X.95.2.144

WILLIAMS, J., ELLIS, N., TYERS, C., HEALY, H., ROSE, G., and MACLEOD, A. (1996). The specificity of autobiographical memory and imageability of the future. *Memory and Cognition*, Vol. 24(1), pp. 116 – 125.

WILLIAMS, J. (2004). Experimental cognitive psychology and clinical practice: Autobiographical memory as a paradigm case. In YIEND, J. (Ed.), *Cognition, Emotion and Psychopathology*. (Cambridge: Cambridge University Press).

WILLIAMS, J., BARNHOFER, T., CRANE, C., HERMAN D., RAES, F., WATKINS, E. and DALGLEISH, T. (2007) Autobiographical Memory Specificity and Emotional Disorder. *Psychological Bulletin*. Vol. 133 (1), pp. 122 – 148. DOI: 10.1037/0033-2909.133.1.122

WILSON, M. (2002) Six Views of Embodied Cognition. *Psychonomic Bulletin*. Vol. 9 (4), pp. 625 – 636.

WILSON, R. and FOGLIA, L. (2017) Embodied Cognition. [WWW] *The Stanford Encyclopaedia of Philosophy*. (Spring Edition). Available from: <<https://plato.stanford.edu/archives/spr2017/entries/embodied-cognition/>>. [Accessed 10/03/2018]

WHEELER, M., STRUSS, D and TULVING, E. (1997) Towards a Theory of Episodic Memory: The Frontal Lobes and Autonoetic Consciousness. *Psychological Bulletin*. Vol. 121 (3), pp. 331 - 354. DOI: 10.1037/0033-2909.121.3.331

