

DOSSIER

On the philosophical foundations of episodic memory as awareness of past events

Sobre os fundamentos filosóficos da memória episódica como consciência de eventos passados

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ABSTRACT

Mental time travel (MTT) is quite a novel label in Philosophy. The notion was set by experimental psychologist and cognitive neuroscientist Endel Tulving in the 1980s and refers to the ability to be aware of subjective past and future events. Tulving's view on memory and consciousness provides an important conceptual distinction founded in experimentally observed data. In this paper I discuss (1) his concept of episodic memory as awareness, based on Peter Hacker's distinction of perception and sensation, and his account of memory, and (2) whether memory can be taken as an own-body subjective perception, which, therefore, challenges the conception of memory as stored information in the brain and the idea that we could somehow perceive our memories. The main puzzle is: if awareness is a conscious state that involves veridical perception of present inner or outer states/events, how can we conceive awareness of past and future events? This discussion aims to contribute to Tulving's conception of MTT by clarifying the conceptual foundations on which we can understand memory.

Keywords: memory, episodic memory, awareness, private experiences.

RESUMO

Viagem mental no tempo é um novo conceito em filosofia. Ele foi inaugurado pelo psicólogo experimental e neurocientista cognitivo Endel Tulving nos anos 1980 e refere-se à habilidade de estarmos conscientes de eventos subjetivos passados e futuros. A concepção de Tulving de memória e consciência oferece uma importante distinção conceitual baseada em dados observados empiricamente. Neste texto eu discuto (1) seu conceito de memória episódica como consciência, baseada na distinção de Peter Hacker entre sensação e percepção, e sua concepção de memória, e (2) se memória pode ser concebida como percepção subjetiva do próprio corpo, que, consequentemente, desafia a concepção de memória como informação armazenada no cérebro e a ideia de que nós poderíamos de algum modo perceber nossas memórias. A principal dificuldade é: se consciência é um estado que envolve percepção verídica de estados ou eventos internos presentes, como podemos conceber consciência de eventos passados e futuros? Essa discussão tem o objetivo de contribuir para a concepção de Tulving de viagem mental no tempo esclarecendo os fundamentos conceituais a partir dos quais podemos entender memória.

Palavras-chave: memória, memória episódica, consciência, experiências privadas.

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Introduction

The neural investigation of cognitive capacities has been opening several new ways of conceiving mental states and processes and how the brain makes them happen. Many times it is not possible to understand mental phenomena only by investigating their neural basis, for the interpretation of data collected from empirical investigation can be misleading when our concepts are not clear. Investing in objective investigation of mental phenomena requires a constant investment in conceptual clarification. In this paper I intend to present a conceptual clarification of the distinction between episodic and semantic memory made by Endel Tulving. To do this, I will make use of Peter Hacker's philosophical investigation on the human nature and of Wittgensteinian epistemological perspectives, to finally conclude by suggesting a picture² of episodic memory that is compatible with a recent non-representational, dynamic, theory of cognition presented by Anthony Chemero. This paper consists of a brief overview of Tulving's main idea of awareness of our own memories and, subsequently, its incompatibility with recent theories of cognition as radical embodied cognition.

I first present the concept of episodic memory as proposed by Tulving and refer to empirical evidence that supports his claim. I also briefly mention a first distinction between experiences and knowledge, as suggested by Hacker. Then, I analyze the conceptual foundations of Tulving's theory exposing the direct and indirect pictures of perception from traditional philosophical views. Next, I compare the distinction between perception and sensation according to Hacker's view to Tulving's picture of episodic memory and highlight that memory is closer to sensation when it comes to the inner vs. outer picture³. After that, I consider the notion of awareness as a kind of knowledge together with Hacker's picture of transitive and intransitive consciousness and pose the main problem addressed by the paper, namely how to conceive awareness of past and future events. The transitive vs. intransitive picture allows me to suggest that the main distinction presented by Tulving is between episodic memory and knowledge, as opposed to the distinction between kinds of objects of memory. The central issue is, then, evident: how to account for retention. This is where I bring a Wittgensteinian picture discrediting the private inner world and first-person knowledge pictures, given that both are matters of course and

not matters of fact. Then, I expose the confusion between the capacity to remember and the objects of memory, compare this confusion with knowledge of private experience and refer to the non-epistemic value of this knowledge. Knowledge of the past and memory are interdependent concepts. One cannot be inferred from the other for they are necessarily tied. I therefore suggest that episodic memory cannot be considered as awareness of the past, in Tulving's terms, and finally refer to the notion of capacities and how it is compatible with recent theories of cognition as dynamic systems.

Episodic memory⁴

According to Endel Tulving, episodic memory is a neurocognitive⁵ hypothetical system that makes mental time travel possible. The central components of the system are (1) the self, (2) auto-noetic awareness and (3) sense of subjective time. These components can be briefly explained as follows: (1) the self is the subject, (2) this subject must be conscious of its own self, which is the subjective awareness of itself (auto-noetic awareness) and (3) it has to have a sense that it is in the present, that there are past and future events, as well as, know that it is remembering past events when it remembers, in contrast to thinking that it is experiencing the event in the present. "The three clues—sense of subjective time, auto-noetic awareness, and self—point to three central components of a neurocognitive (mind/brain) system that makes mental time travel possible. This (hypothetical) system is called episodic memory" (Tulving, 2002, p. 2). Mental time travel is the ability to travel back into the past, or forth to the future, by either bringing to mind previous experienced episodes or mentally simulating future ones. "If there is hope for a more appropriate assessment of the uniqueness of episodic memory and auto-noetic consciousness, it may come through the realization that mental time travel involves awareness not only of what has been but also of what may come" (Tulving, 2002, p. 20).

Retrieval of episodic memories involves the conscious reliving of past events, a sort of mental journey into the past (Tulving 1983). In recent years, evidence has accumulated that the episodic memory system is also involved in mental travel into the future, sug-

² "Picture" is a term used by Wittgenstein in his *Philosophical Investigations*. It can mean view, perspective, conception. The choice of the term is intentional, for it refers to Wittgenstein's tradition and it has the connotation of a view that is many times imposed on us by our use of language, and, as the philosopher says, they can hold us captive: "A picture held us captive. And we couldn't get outside it, for it lay in our language, and language seemed only to repeat it to us inexorably" (Wittgenstein, 2009, § 115).

³ The inner vs. outer picture is a neoplatonist view, many times referred to by Peter Hacker, remounting to the idea that "[...] every activity in the world is in some sense double insofar as it possesses both an inner and an outer aspect. For example, [...] thoughts and feelings (that are) internal to human beings express themselves in speech and actions" (Wildberg, 2016, Item 2).

⁴ In this paper, I am focusing on Tulving's view until 2002, which is when he revises the concept of episodic memory in the paper "Episodic Memory: From Mind to Brain".

⁵ "Episodic memory is a neurocognitive (brain/mind) system [...]" (Tulving, 2002, p. 1). I take Tulving's view as essentially involving a mind and brain Cartesian dualism as presented by Hacker and indirect realism. This should become clearer during the text.

gesting a general concept of mental time travel (Suddendorf et al., 2009, p. 1317).

Episodic memory can be understood as the re-experiencing (or re-living) of past events involving more than just information about them.

I proposed [in 1983 – Elements of Episodic Memory] [...] that episodic and semantic memory represented two functionally separable memory systems. [...] two important features of episodic memory were missing. One had to do with the contents of what the subjects in the experiments had to learn. Episodic memory is about happenings in particular places at particular times, or about "what," "where," and "when" (Clayton & Dickinson, 1998, Nyberg et al., 1996). [...] The other missing feature was what I referred to in Elements as "recollective experience", or conscious awareness of what had happened in the past (Tulving, 2002, p. 3).

Being able, for example, to recall the first time you, as a kid, were able to ride a bike, at the beach, with the wind blowing on your face, and your fear or feeling of accomplishment, in other words, being able to re-live that experience in your mind is a paradigmatic case of episodic memory. This is considered in contrast to only remembering that you had a white bike, or only knowing how to ride a bike nowadays, without actually recalling your experience of learning it. In other words, knowing that you have been at the X beach when you learnt how to ride a bike is not enough to characterize it as episodic memory. All this information is characterized as semantic memory. One may have semantic memory without having episodic memory.

The characteristics of episodic memory are defined based on its contents⁶ or, more specifically, on the quality of its contents. The first distinction made by Tulving was between episodic and semantic memory which would be, roughly speaking, personally experienced facts and general facts. In other words, memories can be memories of facts and be, therefore, informative (semantic memory) or they (memories) can be of first-person events and, therefore, essentially subject-related (episodic memory).⁷ Episodic memory was further on taken to be happenings in particular places at particular times, which was called the "www" criteria, meaning,

where, when and what (Tulving, 2002), and more recently it is taken to be a more sophisticated combination of Ws, such as who did what to whom, or what happened to whom, when, where and why (Suddendorf et al., 2009).

Empirical investigation on episodic and semantic memory and mental time travel involves finding the neural basis responsible for them. Currently, memory of past events and simulation of future episodes have been strongly associated by the notion of mental time travel and they are taken to share a core neural network (Suddendorf et al., 2009).

There is behavioral (and neural) evidence for the distinction of episodic and semantic memory, such as the cases of Clive Wearing, an English musician, and K.C., a man who suffered a serious brain damage in a motorcycle accident. Clive Wearing has neurological deficits on his hippocampus and a big loss of episodic memory, while his semantic memory is mostly intact, as well as his procedural memory, that allows him to retain a normal vocabulary, recognize his family, and play the piano (Suddendorf et al., 2009). K.C. had extensive brain lesions in multiple cortical and sub-cortical areas, including medial temporal lobes, and presented severe amnesia after the trauma, although his cognitive capacities were intact (Tulving, 2002).

The evidence is based on cases of neural impairment and behavioral deficits (Tulving, 2002) and there is no conceptual problem in identifying parts of the brain, such as the hippocampus and the medial temporal lobe as the neurological basis of the capacity for remembering (Hacker, 2013). Similarly, there is nothing wrong with "the hypothesis that episodic memory and imagination, are both constructive processes which depend on the same neural systems" (Gerrans and Sander, 2013, p. 700). Neither with the idea that mental time travel is a human capacity probably due to cognitive evolutionary adaptation, tied to the development of the prefrontal cortex (Gerrans and Sander, 2013).

The very distinction between kinds of memory is (also) not, in principle, conceptually problematic. In many cases we meaningfully say that remembering is retaining⁸ information previously acquired (Hacker, 2013) and we certainly learn and teach, get and give information on the basis of our capacity for remembering them. This is what Tulving calls semantic memory. Episodic memory, on the other hand, cannot be framed in the same structure, for enjoying a meal or a concert, and being thrilled with your first bike ride at the beach, is not acquiring information about the meal, the concert or the bike. In these cases, although one can also acquire information about these

⁶ "[...] the term [episodic memory] is often used to describe the specific experience (content) that comes to mind [...]" (Tulving and Szpunar, 2009). I will refer to this text at the end of this paper.

⁷ The specification of episodic memory can be considered from different perspectives. One of them are the neurological processes in the brain that can justify the existence of a system responsible for episodic memory. I am not referring to this one. I am referring to the conceptual structure of episodic memory. This means that I will not deny that there can be a neurological system of episodic memory nor that neurological facts can provide explanation. I will clarify the philosophical foundations and suggest that some characteristics of the definition of episodic memory cannot be sustained given the arguments of Hacker, Wittgenstein and Hamilton.

⁸ Hacker offers three "suggestions [to] emphasize the nexus of memory with knowledge previously acquired [...]": (1) "To remember something is to have learnt it and not forgotten", (2) "To remember is to retain information previously acquired" (3), "To remember is to know now something one knew previously and to know it now because one knew it previously" (Hacker, 2013, p. 319).

episodes, namely, the address of the theater and the menu options in the restaurant, remembering one's own experiences is not retaining information that one has acquired (Hacker, 2013), just as one's own private experiences cannot be taught. Although one's own private experiences can be expressed and one can certainly teach another person how to ride a bike and how to appreciate food and music, private experiences differ from acquired information regarding their transmissibility. Information can be transmitted and multiplied, while private experiences are defined as essentially individual.

Understanding the conceptual basis

In considering that episodic memory is awareness of past events Tulving assumes that the subject is having (recalling), at the present time, the mental experience she had in the past while she (1) is aware that it happened in the past, (2) that the present moment is not the past moment and (3) that she (the subject) is at the present time. This conception of memory is fundamentally based on traditional ideas in analytic philosophy such as "to remember is to have a present representation of a past experience" (Hacker, 2013, p. 329) and "perception gives us knowledge of the present, expectation gives us opinion of the future, and memory gives us knowledge of the past or "access" to past experience" (Hacker, 2013, p. 320). These ideas can be seen both in Tulving's own writings: "[...] when we do travel back in time, our conscious awareness of our experience is different from our ordinary "on-line" awareness of our environment" (Tulving, 2002, p. 2) and in the literature about mental time travel that is based on Tulving's definitions: "[...] instances of intelligent future-directed behaviour that seem to involve the representation of information about past and future contingencies unavailable in the current experience" (Gerrans and Sander, 2013, p. 700).

Tulving takes awareness as a state of consciousness directed to its object. He endorses the idea that we can be aware of our private experiences, implying, therefore, the roots of traditional representational views that take inner states as objects of perception. In other words, saying that we perceive our inner experiences is placing an intermediary element between the subject and what he perceives (indirect realism).

This picture of memory and perception comes from traditional causal theories of perception (e.g., Locke) that hold that we perceive directly ideas and these ideas are caused by objects (Hacker, 2013). In other words, perceptual experience was considered to be sense impressions (sense data) caused by objects of perceptual experience. These causal theories are indirect accounts of perception. That we possess these sense im-

pressions would be an explanation for non-veridical but similar experiences, such as illusions, dreams and hallucinations.

The classical causal theory of perception was the product of synthesizing a rudimentary neurophysiological explanation of perception with (a) a metaphysical distinction between how we perceive the world and how it is independently of our perceptions of it (the primary-/ secondary-quality distinction), (b) a misconceived notion of what is given in perception, namely ideas, that are the immediate objects of perception, and (c) the supposition that words are names of ideas (Hacker, 2013, p. 303).

On this account, it seems that episodic memory can be awareness of past events, for this could be explained in terms of sense impressions that we are aware of. Awareness of past events could be the awareness of an inner state/event, imaginary and intermediate. On the other hand,

*On a direct knowledge account, as opposed to the indirect knowledge of the image theory, memory yields **unmediated** knowledge of the past. On this view, the immediate objects of memory are past things and not present ideas. These objects are intentional, that is, objects of thought or judgement, not awareness. Just as fictional entities such as unicorns can be objects of thought, so can past objects (Hamilton, 2017, p. 551, emphasis added).*

In this sense, we do not perceive inner objects. As it is not my intention to defend direct realism in this paper, but to expose the confusions of indirect cognition, let us now briefly consider perceptions, that involve external objects, and sensations, that could be genuine cases of perception of inner objects. Perceptions have to be distinguished from sensations, Hacker says. Having a sensation (of pain, for example) is not to perceive anything. In other words, having sensations is not to perceive objects of any kind, for objects exist whether they are perceived or not, as opposed to sensations that exist only when felt (Hacker and Bennett, 2003). The distinctions between perception and sensation go further than that. There are borderline cases such as touch, but the main point defended by Hacker is that "one can have sensations in most organs and parts of the body, but there are no organs of sensation. By contrast, there are organs of perception [...]" (Hacker, 2013, p. 288), such as ears for hearing, eyes for seeing and so on⁹.

Hacker argues that sensations are physical and defends that the main confusion in our understanding of sensations

⁹ It is worth mentioning that he considers tact as a borderline case and holds the distinction between perception and sensation by specifying the difference between sensations and tactile qualities of things. "Feeling hot (which may be a localized sensation, as when one's feet are burning, or a sensation of overall bodily condition, as when one feels hot after vigorous exercise) is not the same as feeling the thermal qualities of things. One may feel heat without feeling hot, and one may feel hot without being hot or feeling heat" (Hacker, 2013, p. 265).

is that we take them to be consciously present to our minds (as if we were aware of them). The expression “being aware of sensations,” according to Hacker, is a conceptual confusion, for there is no sensation that one is not aware of. Feeling (sensation) is being aware of it. We can neither doubt nor be certain that we sense (we can have doubts about what the feeling is, but not if we feel).

If we accept Hacker’s distinctions, the concept of episodic memory can be said to be closer to sensations than to perceptions when it comes to its “objects.” For one cannot remember (episodically) without being aware of it. Not being aware, in this case, is not remembering episodes.¹⁰

In his philosophical analysis, Hacker suggests that awareness is (one kind of) transitive consciousness in contrast to intransitive consciousness (like being awake, or not in a coma). Being transitive means that it involves an object of consciousness/awareness¹¹. “Consciousness of something is generally a form of knowledge of what one is conscious of” (Hacker, 2013, p. 25). But what is it that one is aware of when one remembers an episode? What is the object of my awareness? What is it that I know? In this sense, episodic memory is not a kind of knowledge¹².

Transitive consciousness is taken to be a form of knowledge and, therefore, is factive-related (related to facts and events). It is also tied to cognitive receptivity. (Hacker, 2013). One cannot be aware of what is not the case. In other words, I cannot be aware that things are such and such, if they are not. Thus, awareness is not like expectations, hopes and fears, for I can expect, hope and fear what is not actually going to happen. Awareness is transitive and object-dependent; I cannot be aware of what is not there. Despite that, I can be aware of absence when something that I expected is not present. But this only means that one can be aware of what is expressed by negation, although one cannot be aware of what is not the case. This means that one does not perceive absence, one infers absence. For example, I can be aware that there are no balloons in the sky, when there should be, but I cannot be aware that there are balloons when there are none.

Our problem is: if awareness is a conscious state that involves veridical perception (or sensation) of present inner or outer states/events, how can we conceive awareness of past and future events?

To be conscious of something is not to be in a mental state, although what one is conscious of may, sometimes, be a mental state, as when one is conscious of one’s anxiety. The reason for this is perhaps the

conceptual link between being conscious of something and knowing something. For to know something to be so is not to be in a mental state of any kind, but to be able to do various things in the light of what one knows, that is, of information one possesses (Hacker, 2013, p. 22).

And yet episodic memory involves consciousness/awareness of something that is not semantic knowledge, but is considered as a kind of knowledge.

Let us assume that there are three different kinds of memory, or three memory systems: procedural, semantic, and episodic (Tulving, 1983). They are alike in that they all make possible the utilization of acquired and retained knowledge. But they differ in the kind of knowledge that they handle, and in the ways in which different kinds of knowledge are acquired or used (Tulving 1985, p. 2, emphasis added).

The central problem of memory is accounting for retention (Faria, 2017). How is memory to be retained? Is it knowledge stored in the brain? If not literally, then, in what sense? If we are aware of something that is not present in fact, are we aware of something that is inside of us, in our mind, in our brain? How am I to be aware of something in my brain? These questions can be traced back to the very nature of the mind and can lead us back to the Cartesian dualism between mind and body in its contemporary version, namely the mind and brain duality (Hacker and Bennett, 2003). Naturally, I will not solve these issues, but I will offer an alternative picture, based on Wittgenstein, that can help to clarify how to make sense of awareness of past events.

Wittgenstein discredited any picture that involves conceiving the mind in the model of an inner private world. Thoughts, feelings, sensations, emotions, memory and all the inner states are mistakenly understood in the model of objects and attributed as private and exclusive objects.

The distinction between semantic and episodic memory presented by Tulving is between the retention of acquired knowledge and the ability to call to mind past events (of the personal past). Calling to mind personal past events is essentially subject-dependent, in other words, memory of past events are first-person experiences. In a Wittgensteinian picture, first-person experiences are not objects of knowledge, but conditions for knowledge.

¹⁰ This might be controversial if one accepts, as Gerrans and Sander, that there are supposedly episodic non-conscious processes that influence decision making. I am considering Tulving’s definitions and taking episodic memory only at the conscious level.

¹¹ Hacker (2013) considers that although one cannot be conscious without being aware of something, one can be aware of something without being actually conscious of it when, for example, one has been informed of something but does not have that in mind. For the purposes of this paper, we will consider awareness as conscious awareness only, for this is what is considered by Tulving when he characterizes episodic memory.

¹² See below the non-epistemic value of first-person experiences.

To make this distinction (objects of knowledge vs. conditions for knowledge) clear I present the analogy with an abacus borrowed from Nicholas Shea¹³. “[...] to figure out what an abacus does by plotting the physical dynamics of beads on wires [...] might give you a reasonable grip on the trajectories of the beads but would entirely lose sight of the calculations being performed” (Shea, 2013, p. 1063). An abacus can be defined as an instrument for calculating. We can use the physical properties of the abacus, namely, the tension and trajectory of the beads sliding, the chemical compounds of the material and so on, to explain what an abacus is. This is one aspect of the explanation of the abacus and it does not exhaust what an abacus is. That the abacus possesses those physicochemical properties is a condition for it to be an abacus (one of the conditions). These properties say nothing about the calculation. That it can be used according to the rules of calculation is also a condition for it to be an abacus. Or, in other words, that there are rules of how the abacus works is also a condition for it to be an abacus. The analogy stands for the brain and the mind, respectively.

So, it is not because there are rules that an abacus is an abacus (the rules do not justify the fact that it is an abacus), but the fact that there are rules is a condition¹⁴ for it to be an abacus (the rules make it the abacus). However, only the rules are not the abacus, but they are a condition (one of them) for it to be. Analogously, it is not because I look at my private experiences that I know what they are, but rather, they simply are. The fact that I have private experiences is a condition (one of them) for me to talk about understanding, remembering, perceiving (and all other mental capacities). They do not justify my knowledge of them. They are a condition for my ascriptions of knowledge. This should become clearer in the next paragraph. It refers to private experiences not providing inferential basis for memory claims.

In a Wittgensteinian view, private experiences do not have an epistemic value. They are not subjected to truth values, truth conditions, nor justification.

In what sense are my sensations private? – Well, only I can know whether I am really in pain; another person can only surmise it. – In one way this is false, and in another non-sense. If we are using the word “know” as it is normally used (and how else are we to use it?), then other people very often know if I’m in pain. – Yes, but all the same, not with the certainty with which I know it myself! – It can’t be said of me at all (except perhaps as a joke) that I know I’m in pain. What is it

supposed to mean – except perhaps that I am in pain?

Other people cannot be said to learn of my sensations only from my behaviour – for I cannot be said to learn of them. I have them (Wittgenstein, 2009, § 246).

This shows us that there is a conceptual confusion between the capacity/ability to remember (episodically) and the objects of memory (what one remembers). In a Wittgensteinian picture, images and experiences may accompany the capacity but do not constitute it. “When I say: ‘He was here half an hour ago’ – that is, remembering it – this is not the description of a present experience. Memory-experiences are accompaniments of remembering” (Wittgenstein, 2009, § 368, Fragment). Wittgenstein rejected the idea that inner experiences can provide inferential basis for memory claims (Hamilton, 2017).

That remembering is epistemically and ontologically inner is a matter of course¹⁵, not of fact. This means: there is nothing that counts as non-personal remembering. We misunderstand what first-person psychological states are when we conceive them as inner objects, after the assumption that they are essentially inner. And this puts us in the search of chimeras, such as, the supposed state of knowing (awareness) that I am remembering. As Hacker says, remembering is not knowing now something that I have known yesterday.

Remembering that one had a headache yesterday is not to know now something one came to know yesterday. For as we have seen, it makes no sense to speak of coming to know that one has a headache. To remember one’s youth is the ability to dwell on, recollect and recount experiences enjoyed or undergone in one’s youth – one’s falling in love for the first time, the excitement of youthful adventures, the delight in coming to understand things. This would be distorted by being represented as knowing now something one knew previously (Hacker, 2013, p. 320).

Naturally, this does not mean that we do not know that we are remembering. There is no doubt that the capacity for remembering necessarily involves knowing one is remembering in contrast to actually experiencing something, imagining or hallucinating, for example. This knowledge is, nevertheless, not epistemically significant, as it is not knowledge of any kind, for it is not subjected to truth conditions nor to justifi-

¹³ Shea does not claim that physical explanations cannot shed light on mental phenomena. Neither do I. I am using his example to highlight that the physicochemical explanations are one aspect of what we try to explain when we are talking about mental phenomena. And that physicochemical processes are a condition for those phenomena rather than the phenomena themselves.

¹⁴ I do not want to say pre-condition because it is not supposed to be prior.

¹⁵ “A matter of course” as opposed to a “matter of fact”. Facts can occur or not and, therefore, factual claims can be true or false. Matters of course are those indubitable claims such as: “Only I can feel my pain” that are not subjected to truth conditions.

cation – one simply remembers. Remembering is essentially distinct from experiencing, imagining and hallucinating, due to its practical temporal connections (what happens before and after) and its place in social practices (in what cases we say that one remembers, imagines or hallucinates and how we teach someone what remembering, imagining and hallucinating are). “Knowing I’m remembering” is nothing more than remembering, for there is no such thing as not knowing I am remembering (episodically). If I remember, I know I remember. If I do not know I remember, I am not remembering – I might be having a delusion or just not remembering at all. What distinguishes the capacity for remembering is not any other cognitive power (as knowing, believing, sensing). What distinguishes and characterizes this capacity are practices. These concepts (knowing, remembering, believing) are defined interdependently in our practices (having private experiences is a condition for distinction, not the element that distinguishes them).

One might bring the question: “Does he know that it is memory because it is caused by something past? And how does he know what the past is? After all, a person learns the concept of the past by remembering” (Wittgenstein, 2009, § 370, Fragment). The point here is once again inter-defined concepts: memory and knowledge of the past are inter-defined. They depend on each other, rather than explain each other. This suggests a holistic conceptual picture (Hamilton, 2017).

Episodic memory cannot be awareness of past events if we conceive awareness as the conscious transitive state suggested by Hacker. Also, the concept of episodic memory should not lead us to the search for the neural basis of this state of awareness. This is conceptually confused. Like “paying attention,” awareness cannot be disconnected from the object of my attention, although it should not be defined as the object of my attention. In other words, there seems to be no individuating means to find a neural basis of awareness, for it is, by definition (in its essence), object-directed.

None of the kinds of memory (episodic, semantic or procedural) nor memory in general imply that there is information or private experiences stored in the brain (in the traditional computational view), although one needs one’s brain functioning properly in order to have the capacities required for remembering (such as retention). And our capacity to remember should not be confused with what we remember, or the “objects of our memory.” The kinds of memory are defined by our conceptions. The disassociation between episodic and semantic memory has its place in our understanding of mnemonic capacities. These capacities may need either distinct or common biological structures as their basis (Hacker, 2013).

Capacity-based investigations are taken to be less problematic than content-based¹⁶ ones, for they rely on the function of an area based on impairment in case of damage, not on the content. This is taken to be genuine localization of capacities such as remembering, despite the challenge of brain plasticity, which threatens claims of localization. In addition to that, connectionist cognitive theories, the idea that information is distributed in the brain rather than localized, seem to be a more promising contemporary view (Hamilton, 2017).

Episodic memory can be conceived not as being aware of one’s own past experiences, but as a capacity for recollecting events. (This capacity is not to be confused with the contents of my memory – with what I remember). This picture is better suitable to recent approaches in cognitive sciences involving dynamic systems that explain cognition as embodied capacities, such as radical embodied cognition (REC), because it rejects the necessity of inner private objects of memory. REC can be shortly described as follows: “A dynamical system is a set of quantitative variables changing continually, concurrently, and interdependently over time in accordance with dynamical laws that can, in principle, be described by some set of equations” (Chemero, 2009, p. 25). Embodied cognition is not necessarily non-representationalist. Although defenders of embodied cognition try to avoid explaining behavior in terms of mental representations, they do make use of such tools, such as the concept of memory, in some cases. Nevertheless, in its radical version (Chemero, 2009), there is a shift of perspective that excludes the use of representations as explanatory tools and substitutes it with mathematical models that explain brain functioning in given situations, actions and behaviours.

I hereby define radical embodied cognitive science as the scientific study of perception, cognition, and action as necessarily embodied phenomenon, using explanatory tools that do not posit mental representations. It is cognitive science without mental gymnastics¹⁷ (Chemero, 2009, p. 29).

What does it change? We still have the question whether scrub-jays¹⁸ have the capacity for recollecting events. Yes, we do. What it changes is the way how we may interpret data collected from neuroimaging experiments, for example. We can shift from content-driven neuro-basis to neuro-basis of capacities. Changing this approach and shifting from content-based conceptual structures to capacity-based ones may help to clarify empirical research and deal with conceptual

¹⁶ See “trace theory” for more details in Hacker (2013, p. 340) and Hamilton (2017, p. 552).

¹⁷ Mental gymnastics: “the construction, manipulation, and use of representations of the world, and there are those who believe that the business of cognition is to do something else” (Chemero, 2009, p. 18).

¹⁸ Scrub-jays are birds that retrieve their previously stored food sooner when it is a worm, which degrades sooner, and later when it is a nut, which lasts longer. This behavior could indicate that they know what happened, where it happened and when it happened, which are the basic “www” criteria for episodic memory, mentioned in the first section (Suddendorf et al., 2009).

problems, such as private experiences conceived as objects, the individuation of intentional states, and so on¹⁹.

Besides that, as we mentioned before, intentional state concepts are inter-defined in our practices. In Hacker's words,

[...] we do say that our dog believes it is going to be taken for a walk when, on hearing us take its leash off the peg, it rushes excitedly to the door, barking and wagging its tail. The fact that it cannot say that it is about to be taken for a walk, let alone that it cannot say that it believes it is about to be taken for a walk, is immaterial. Its behaviour warrants ascription of belief or expectation to it (Hacker, 2013, p. 92).

It is worth mentioning, even extrapolating the aims of this paper, that, from this perspective, we could, for example, assume that scrub-jays expect and remember based on their behavior and search for the neural basis of their capacities. This would not allow us to directly infer episodic memory because of its special phenomenology, namely the conscious recollection of past events, since we do not watch birds daydreaming, smiling and crying, which are some of the criteria we can use to ascribe recollection, other than linguistic expressions. But this is a topic to be further investigated.

It is also worth mentioning that Tulving himself acknowledges that episodic memory can be understood as a capacity. In more recent publications he mentions that it can be considered as a capacity of the brain when the subject remembers a specific experience.

In this article, the term "episodic memory" refers to a unique memory system (or capacity) of the brain. However, that is not the only meaning of episodic memory that one will find in the literature. For instance, the term is often used to describe the specific experience (content) that comes to mind when exercising the capacity of episodic memory and the accompanying feeling (phenomenology) that one is currently re-living that previous experience (Tulving and Szpunar, 2009).

A Hackerian reader would suggest, based on his extensive explanation of the mereological fallacy²⁰, that this is still imprecise, for remembering is a capacity of the subject and not of the brain. But this is a topic for further investigation.

Discussion and concluding remarks

The concept of episodic memory is tied to the causal-representational framework for it shares the idea that there is a common experiential content between living/experiencing events and recalling them that grants remembering (Illusions, hallucinations and dreams are also taken to have the same experiential content as veridical perception). The problem that this framework poses is: how to conceive awareness of past events as awareness of something that is not present, but is it not also a mental representation?

We have suggested that awareness cannot be awareness of past experiences for two main reasons; first, because there is no such thing as knowledge of our own inner states (assuming that our past experiences are retained innerly), second, because awareness is of something that we are able to drive our attention to (something that is present), and, since the past is not present, it cannot be awareness of the past. (Unless we are aware of some inner state). The idea of an inner object accounting for memory and other intentional states can be dismissed in direct realism, but this still leaves us with the impossibility of awareness of what is not present.

Whether awareness should be taken as transitive is a contingent matter. We can define it in the way that fits our purposes for describing the processes we are referring to. There are compelling reasons for that, though. Awareness is mostly conceived as awareness of something. This is not only how we use the word "awareness" but mainly how it serves our purposes – how we conceive it. Given that we do conceive awareness as awareness of something, we are in need of explaining what the awareness of the past is. For, if the object of my awareness no longer exists, I could not, in theory, be aware of it. This picture gives us grounds to reject Tulving's conception of episodic memory as awareness of past experiences.

Furthermore, although episodic memory can be defined as our capacity for recalling past events and although we can infer that brain activity represents public events when there is a correlation between them (Carvalho and Figueiredo, 2017), this does not imply that memory is information stored in the brain. Also, although we can say that memory is retained information that one has acquired previously, episodic memory (remembering one's own experiences) is not retaining information – in the sense that it cannot be transmitted.

Nevertheless, rejecting Tulving's picture of awareness of past events certainly does not dismiss the very notion of episodic memory, which can and, as we argue, should be considered in the model of capacities. Considering episodic memory as a capacity means that we would not be relying on its

¹⁹ The first example is precisely the center of this paper, namely, whether private experiences should be conceived in the model of object-name relation. See Wittgenstein (2009, § 293). A second example, among many, is the individuation of intentional states depending on its objects. For an overview on this topic see Bourget and Mendelovici (2017) and Jacob (2014). Extensive bibliography is suggested.

²⁰ The misattribution of properties of the subject to its parts.

objects to account for its existence. And this view is compatible with other models of explanation of cognition.

I hope that my considerations in this paper show that we should take mental concepts more carefully and pursue a higher level of precision and clarity. It might be the case that there is no such thing as precision when it comes to the concepts of mental powers, but if scientific investigation is to be performed based on these concepts, we should invest in finding criteria for discernment in addition to (or before) drawing conclusions about brain activity that is associated with these concepts.

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