Synthese (2022) 200: 333
https://doi.org/10.1007/s11229-022-03814-8

ORIGINAL RESEARCH

Remembering is not a kind of knowing

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Received: 17 October 2021 / Accepted: 12 July 2022 / Published online: 3 August 2022

Abstract

This paper purports to disprove an orthodox view in contemporary epistemology that I call 'the epistemic conception of memory', which sees remembering as a kind of epistemic success, in particular, a kind of knowing. This conception is embodied in a cluster of platitudes in epistemology, including 'remembering entails knowing', 'remembering is a way of knowing', and 'remembering is sufficiently analogous to knowing'. I will argue that this epistemic conception of memory, as a whole, should be rejected insofar as we take into account some putative necessary conditions for knowledge. It will be illustrated that while many maintain that knowing must be (1) anti-luck and (2) an achievement, the two conditions do not apply to remembering. I will provide cases where the subject successfully remembers that p but lacks knowledge that p for failing to meet the two putative conditions for knowledge. Therefore, remembering is not a kind of knowing but a sui generis cognitive activity.

Keywords The epistemic conception of memory · Anti-luck epistemology · Virtue epistemology · Causalism · Virtue theory of memory

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1 Introduction

It is epistemologically orthodox that 'remembering' is a kind of epistemic success, particularly a kind of 'knowing' (see Grice 1941: 344; Ryle 1949: 272–279; Squires 1969: 185; Unger 1972: 304; Annis 1980: 324; Dretske 1981: 361; Williamson 2000; Cassam, 2007; Adams, 2011; Pritchard, 2011; Moon, 2013; Sakuragi, 2013; James, 2017; etc.). This orthodox view is typically embodied in the much-discussed *epistemic theory of memory* (ETM), which is encapsulated by Sven Bernecker as follows:

> S remembers at t_2 that *p* only if:
> (1) S knows at t_2 that *p*,
> (2) S knew at t_1 that *p**,
> (3) *p* is identical with, or sufficiently similar to, *p**,
> (4) S's knowing at t_2 that *p* is suitably connected to S's knowing at t_1 that *p** (2010: 67).

Among these four conditions, the fourth one is considered controversial as it seems to presume a causalist account of memory (which seems to be only optional rather than compulsory for ETM) that Bernecker endorses while many reject (e.g., James 2017; Michaelian, 2021). Aside from this, the remaining three conditions, especially the first two, are widely accepted by epistemologists and could be seen as the central idea of ETM. Accordingly, remembering a fact requires not only knowing the fact at the *input time* ('t_1', viz., the time when the *p*-relevant information is gained and encoded), but also preserving the piece of knowledge at the *output time* ('t_2', viz., the time when the information is retrieved). Despite recent objections raised by Bernecker (2007; 2010)[1], ETM still stands as the received view defended by numerous epistemologists (see Adams 2011; Moon, 2013; Sakuragi, 2013; James, 2017[2]; etc.). The intuitive appeal of ETM is not hard to see. For example, statements of the form of '*S* remembers that *p*, but *S* doesn't know that *p*' sound abominably inconsistent, and it is natural to infer that this seeming inconsistency is best explained by the truth of ETM (see Moon 2013: 2726). Besides, it is widely assumed that memory is a preservative epistemic source[3] in the sense that 'memory preserves knowledge from one time to another' (Lackey 2005: 636; see also Dummett 1994: 262), which also underpins the central idea of ETM.

ETM reflects an epistemologically standard conception of memory to the effect that remembering is, in some (to-be-specified) sense[4], a kind of knowing. Call it *the epistemic conception of memory* (ECM). The goal of this paper is to prove ECM wrong. Remembering is not a kind of epistemic success that amounts to knowing.

[1] Sect. 3 will discuss Bernecker's arguments in more detail.

[2] For a much longer list of proponents of ETM, see James (2017: 122, note 2).

[3] Recent years have seen more and more psychologists and philosophers arguing that memory can be a generative epistemic source (see Roediger & McDermott 1995; Lackey 2005; Schacter & Addis 2007; Matthen 2010; Michaelian 2011; Tucker 2017; Fernández 2019; etc.). However, this should not affect the wide acceptance of ETM's central idea that remembering implies knowing, at least at t_2.

[4] I will spell out this standard conception in Sect. 2.

Instead, it should be seen as a *sui generis* cognitive activity that is significantly distinct from knowing in its conceptual nature. Drawing on some influential theories of knowledge, I will demonstrate that remembering is not a kind of knowing as the former does not need to meet two putative necessary conditions for the latter. The idea, succinctly stated, is that remembering does not need to be (1) anti-luck, or (2) an achievement—while knowing (arguably) does.

This paper proceeds as follows. In Sect. 2, I articulate what I mean by *the epistemic conception of memory*. With the notion of ECM clarified, the remainder of the paper shows why two popular necessary conditions for knowing (proposed by some mainstream epistemological theories) do not apply to remembering. Section 3 focuses on the anti-luck condition, and Sect. 4 addresses the achievement condition. Each section contains cases where one successfully remembers that *p* without knowing that *p* for failing to satisfy the corresponding conditions.

Two quick caveats will be helpful before I start unpacking ECM. First, memory, just like knowledge, can be classified into many types (see Werning & Cheng 2017). The most discussed type of knowledge for contemporary epistemology is propositional knowledge. In parallel, the kind of memory central to this paper is *propositional memory*. Following Sven Bernecker, a pivotal figure who leads the relevant debate, I use the term 'propositional memory' in an inclusive way:

> I will take the term 'propositional memory' to refer to any substituend of the schema 'S remembers that *p*', irrespective of whether '*p*' refers to something one has personally experienced, and irrespective of whether the memory content consists merely of the proposition *p* or whether, in addition, it includes images and qualia (Bernecker 2010: 20).

The criterion that Bernecker employs for identifying propositional memory is merely a grammatical one: a piece of memory is a propositional memory as long as its mnemonic content (including both episodic and semantic elements) can be presented in the form of a that-compliment clause. It is explicitly stated that 'propositional memories can be both episodic and semantic' (Bernecker, 2017: 3). Hence, one can episodically remember drinking a glass of water yesterday and thereby propositionally remember *that* 'I drank a glass of water yesterday'. With this being said, this paper argues against the view that 'remembering-that-*p* is a kind of knowing-that-*p*'[5].

Second, let me outline the relationship between ETM and ECM. Although ETM is an epistemologically orthodox view as aforesaid, interestingly, it seems to be much less popular among philosophers who work primarily on memory (e.g., for those who are known as 'causalists' and 'simulationists'). The causes of this asymmetry can be complicated. Part of the reason might be that those philosophers ordinarily do not see remembering as a notion that is as normative as knowledge or justification (see Michaelian 2021: 6). It is beyond the scope of this paper whether remembering is

[5] It might be *prima facie* natural for some people to generalise this view. For example, they might also grant that 'remembering a person is a kind of knowing-who', 'remembering how to do something is a kind of knowing-how', etc. Even though I am sceptical about this generalised version of ECM, this paper will leave open this issue.

normative and this apparent asymmetry should not plague my main arguments. That is because the main interest of this paper is on epistemology, and it should be fair to say (with evidence) that ETM is widely accepted by epistemologists. Besides, the main target of this paper is ECM, which consists of a spectrum of different claims, and some of them are weaker than ETM. As we will soon see, some philosophers of memory who reject ETM might nevertheless be pro-ECM by, for example, taking remembering as sufficiently analogous to knowing.

2 The Epistemic conception of memory

Although the rough idea of ECM is deeply entrenched in standard epistemological thinking, one might find its central claim (i.e., 'remembering is a kind of knowing') too ambiguous or too strong. It is thus worth clarifying that by 'the epistemic conception of memory' I mean a cluster of widely-endorsed claims that read the conceptual nature of *remembering* in an epistemic way. They include the core slogan thesis that 'remembering is a kind of knowing' and many of its variants or cognate claims. Endorsing any one of them means endorsing ECM. For example, one might be committed to:

Variant 1 Remembering that p entails knowing that p.

This idea is conveyed by the first two conditions of ETM summarised by Bernecker, as well as multitudinous other places in the epistemological literature. For an oft-cited instance, Timothy Williamson argues that '(i)f you remember that it was raining, then you know that it was raining' (2000: 37).

Variant 2 Remembering that p is a way of knowing that p.

Many epistemologists see remembering that p as a paradigmatic way of knowing that p, for instance:

> (W)e think of S's knowledge that p as something that can properly be explained by reference to what S has perceived or remembered or proved or …, and that is why perceiving, remembering, proving, and so on, all count as ways of knowing (Cassam 2007: 356).
>
> And like seeing that p, remembering that p is also robustly epistemic. Merely thinking that you are remembering that p and p being the case won't suffice for genuinely remembering that p. Instead, you need to stand in the kind of epistemic relationships to p that are characteristic of knowing that p. Unsurprisingly, then, many claim that remembering that p entails knowing that p, just like seeing that p (Pritchard 2011: 443).

It is noteworthy that Pritchard himself is in fact only committed to a weaker claim that one's remembering that p, instead of guaranteeing one's knowing that p, only guarantees one's *being in a good position to know* that p. That is because, Pritchard

maintains that one might genuinely remember that *p* while is presented with an undefeated misleading defeater and thus fails to genuinely know that *p* (see Pritchard 2011: 443). This presents us with another member of the ECM-family:

Variant 3 Remembering that *p* entails being in a good position to know that *p*.

It should be clear that one who endorses Variant 3 does not need to be committed to ETM, because the former is weaker than the latter. This indicates that one can embrace ECM without granting ETM. Another way to see how ECM and ETM can go apart is to consider some new accounts of memory differing from ETM. For a prominent recent example, Michaelian (2021) proposes a so-called *virtue theory of memory* (VTM) paralleling the renowned *virtue theory of knowledge*. I shall not dwell on the details of the theory here—it is sufficient for my purposes to sketch out the core of the approach. In a nutshell, just like virtue epistemology views knowledge as a kind of epistemic achievement (e.g., 'apt beliefs', viz., beliefs that are accurate because of being produced by a reliable belief-forming process[6]), VTM is 'a theory on which memory is an achievement' (Michaelian, 2021: 21). Precisely put, on the object level, VTM requires that if S remembers an event *e*, then:

> (V) S's current representation of *e* is accurate because it is produced by a reliable episodic construction system.
> On the meta level[7], VTM requires that:
> (V-m) S's judgement that his episodic construction system functioned reliably when it produced his representation of e is accurate because it is produced by a reliable metamemory monitoring process (Michaelian 2021: 25).

VTM can have its place at the weaker end of the spectrum of ECM in light of the parallel it draws between memory and knowledge. Accordingly, remembering and knowing are all construed along a virtue-theorist line, which conceptualises both notions as achievements, i.e., success by virtue of the manifestation of relevant competence/ability/virtue. According to Craver (2020: 265), this epistemic-achievement-view of remembering is quite prevailing among philosophers of memory in the history. So, even those who refuse to fully embrace Michaelian's VTM might also find the following claim appealing:

Variant 4 Remembering is significantly analogous to knowing to the extent that they are both epistemic achievements.

[6] The version of virtue epistemology that Michaelian invokes is a reliabilist virtue theory, prominently proposed by Ernest Sosa.

[7] This object/meta distinction of memory is analogous to Sosa's distinction of animal/reflective knowledge.

I can neither exhaust nor refute every single member of the ECM-family. Other variants might include 'remembering entails having a properly justified true belief[8]', 'remembering entails having a safe true belief that *p*', 'remembering that *p* entails being warranted in believing that *p*', and so forth[9]. These views exhibit different ways of cashing out what I call *the epistemic conception of memory*, and each of them conveys a different sense. Note again that, one does not need to endorse all these views in order to be a champion of ECM—instead, endorsing one of them will suffice.

In what follows, I will argue that ECM, as a whole, should be rejected. I will illustrate that a satisfactory account of memory does not share desiderata for an analysis of knowledge. Remembering should be recognised as a *sui generis* cognitive activity that is distinct from knowing.

3 Remembering does not need to be anti-luck

3.1 The anti-luck condition

The first putative desideratum for analysing knowledge that I will discuss is the *anti-luck condition*, which is the central credo of the prevailing anti-luck epistemology. This condition, succinctly put, argues that one's knowledge cannot be a matter of luck. That is, if S knows that *p*, then S's belief that *p* cannot be luckily true. The anti-luck condition is intuitively appealing. For example, it can explain why we usually refuse to attribute knowledge to someone who forms a true belief by guessing or wishful thinking—beliefs so formed are just luckily true. Besides, protagonists of Gettier-style cases and barn-façade-style cases are ordinarily taken to lack knowledge, arguably because their true beliefs are formed in a lucky way, so they could have easily been false.

Given this, Duncan Pritchard, who prominently champions anti-luck epistemology, recognises the intuition that 'knowledge cannot be lucky' as the 'two overarching intuitions' (2012: 247) governing our thinking about knowledge (along with 'the ability intuition' that will be discussed later). Anti-luck epistemology accommodates this intuition by imposing the anti-luck condition, which focuses on a specific type of knowledge-undermining luck[10], namely, veritic luck. It concerns situations where,

[8] Some have proposed an epistemic account of confabulation as ill-grounded or unjustified memory (cf. Hirstein, 2005: ch. 8; Michaelian 2016a: 5–7).

[9] Note that different members of ECM can have graded membership in terms of the strength of their support to ECM's credo: remembering is a kind of knowing. The more convincingly and directly a view can demonstrate how remembering is a kind of knowing, the stronger and more paradigmatic the view is *qua* a member of ECM. Generally speaking, in order to lend support to the credo of ECM, a view has to exhibit resemblances between remembering and knowing. The closer the resemblance is, the stronger the view as an ECM member is. Correspondingly, the stronger a member of the ECM-family is refuted, the more severely my argument undermines ECM. One might worry that there are other ECM-constituent-claims that are much weaker than any variant mentioned here. I cannot rule out this logical possibility. But I would also doubt whether claims weak like that can be recognised as significant members of ECM worthy of a detailed refutation.

[10] There are other types of epistemic luck that are not knowledge-undermining. For example, content luck (e.g., the fact that Donald won the lottery, as a lucky event, can nevertheless be known), and evidential luck

given how you formed your belief, it is a matter of luck that your belief is true (e.g., Joe veritically believes that 'Donald won the lottery' by a lucky guess). In accordance with the trendy modal account of veritic luck, a veritically lucky belief is an *unsafe* belief, where 'safety' is defined as follows:

> S's belief is safe iff in most nearby possible worlds in which S continues to form her belief about the target proposition in the same way as in the actual world the belief continues to be true (Pritchard 2007: 281) [11].

Correspondingly, S's belief is unsafe and thereby veritically lucky, *iff*, in some nearby possible worlds in which S continues to form a belief about the target proposition in the same way as in the actual world, the belief turns out to be false. This safety-based account of epistemic luck is not the only option[12], but it should suffice to serve as a representative for my purpose here.

3.2 Lucky remembering

Despite its broad influence nowadays, the anti-luck condition faces challenges from some alleged counterexamples. An opt-discussed example is the case of WATER:

> **WATER**: Drinking a glass of water that looks normal, I form the believe that I am drinking a glass of pure, unadulterated water. Unbeknownst to me, the person standing next to me, my friend Rami, had he lost the lottery, would have maliciously replaced my water with a glass of tasteless, odourless, colourless toxin that is perceptually undistinguishable from a glass of water. Fortunately, Rami won the lottery so she does no such thing. But since the toxin is undetectable, had the water was replaced, I would still believe that I am drinking a glass of water (see Neta & Rohrbaugh 2004: 399–400).

With this case, Neta and Rohrbaugh intend to demonstrate that safety (and thus the corresponding anti-luck condition) is unnecessary for knowledge. They maintain that the protagonist does know that 'I am drinking a glass of water' even though her relevant belief is unsafe. Pritchard defends the anti-luck condition by proposing a completely opposite verdict. He insists that knowledge cannot be attributed to the protagonist, as the protagonist's basis for belief (the sensory experience of a water-like substance) could have easily yielded a false belief in nearby possible worlds. Pritchard argues that 'whereas in normal conditions such a basis for belief would

(e.g., Joe can gain knowledge by *overhearing* the news that Donald won the lottery).

[11] Recently, Pritchard has turned towards what he calls anti-risk epistemology (see Pritchard 2016; 2020), which suggests that the safety principle implies that knowledge cannot by *risky* (the unwanted outcome could have easily occurred) rather than *lucky* (the wanted outcome could have easily not occurred). If anti-risk epistemology is right in that knowledge cannot be risky, then we have another way to demonstrate the asymmetry between remembering and knowing in that the former can be risky. Readers are welcomed to apply my argument in this section to anti-risk epistemology.

[12] For other similar but subtly different accounts, see Engel (1992); Vahid (2001); Greco (2010); Goldberg (2015); etc. The nuances of those formulations will not affect my main argument.

not be subject to any epistemic risk, in these conditions this basis for belief is epistemically risky' (2015: 104). He further diagnoses that the intuition motivating one to attribute knowledge in the WATER case is that the protagonist's true belief manifests her relevant cognitive abilities and thus meets the achievement condition of knowledge. Nonetheless, if it is considered that someone actually knows a fact, then both the ability condition and the achievement condition must be met.

The achievement condition will be approached later. For now, I will concede that Pritchard succeeds in defending the anti-luck condition in the case of WATER by arguing that the protagonist lacks knowledge. However, it will be much less convincing to conclude that the protagonist lacks memory. Suppose that the protagonist drinks the glass of pure water. A few moments later, when asked what she has drunk, the protagonist replies that 'I *remember that* I drank a glass of water'. Is this reply wrong? I do not think so. Some might worry that one's proper self-ascription of remembering cannot derive that one actually remembers, because the mental states subjects are in differ from their own self-ascriptions of these states[13]. Although given the appeal of the truth norm of assertion, it is unclear to me how one's self-ascription of remembering can be appropriately asserted if the self-ascription is false, my diagnosis is not limited to the protagonist's self-ascription. Rather, I think *it is a matter of fact* that the protagonist remembers that she drank a glass of water. Quite the opposite, it seems to be more problematic to claim that: yes, she did drink a glass of water and she also believes so, but unfortunately, she still fails to remember that she drank a glass of water, just because the glass of water could have easily been stealthily substituted. It seems completely consistent to conceive that one's successful propositional memory occurs in the actual world but not in a wide range of nearby possible worlds. Hence the mere modal fragility cannot deprive someone of successful remembering.

Before tackling more potential objections to my verdict above, I would like to clarify the argumentative strategy of this paper. Yes, hypothetical cases such as WATER will be used to elicit or 'pump' corresponding intuitions of the readers. However, my argumentative strategy is not to bet everything on the readers' initial intuitive reactions to those thought experiments. More will be done to justify my verdicts. In what follows, comparisons will be made to show why my verdicts are preferable to various rival readings. Furthermore, I will illustrate how my conclusion enjoys support from mainstream philosophical theories and our best science regarding memory.

With that being said, now let us consider some objections that proponents of ETM might raise. One might deny that there is any intuitive difference between the answer to the question 'whether the protagonist *remembers* that she drank the water' and the answer to the question 'whether she *knows* that she drank the water'. In particular, why should there be an asymmetry between remembering and knowing such that only the latter cannot be modally fragile? My response is as follows: If we acknowledge the widespread understanding of memory according to which remembering is a 'psychologically real process' (see Hopkins 2014; Michaelian 2016a; Craver 2020; etc.) carried out by one's 'memory faculties' (see James 2017: 120; Moon 2013: 2717), then it will be odd to impose the safety condition on remembering. Compare the protagonist in the case of WATER with her modal counterpart in a close possible

[13] Thanks to an anonymous reviewer for this objection.

world where everything else is the same, except for the fact that her friend Rami* in that world has no vicious thought of poisoning and hence her memory belief is safe. They both drank the water, formed the relevant beliefs, and retrieved the relevant representations. The stimulus they encountered (e.g., a glass of water), the information they encoded (e.g., 'I drank the water'), the encoded information they stored, and the representations they reconstructed and retrieved, are all the same. Psychologically speaking, every step, as well as the input and the output, of their memory processes is the same. Hence if remembering, metaphysically speaking, is a kind of psychologically real process, then it is hard to explain how modal fragility can have its place in this process and make a difference in determining one's mnemic status. It is not as if there is one kind of remembering responsible for processing modally fragile memories and another responsible for processing modally stable ones. Proponents of ECM can choose to reject this metaphysics of memory, but this will be theoretically costly and need an independent argument.

So why is knowledge different? A thorough explanation of the asymmetry is beyond the scope of this paper, but a potential reason might be like this: Unlike memory, knowing is less often regarded as a specific cognitive faculty or psychological process. Instead, knowing is usually seen as the (second-order) result of the operation of those (first-order) specific cognitive faculties, such as memory, perception, and introspection—reliabilist virtue epistemologists label them as 'intellectual virtues' (cf. Sosa, 2007). This might leave more room for knowledge to take in modal elements such as safety.

One might further object that even if there is an intuitive difference between our answers to the 'remembers-or-not' question and the 'knows-or-not' question, this difference might stem from the ambiguity between the question 'Does S (propositionally) remember *that she drank the water*?' and the question 'Does S (episodically/experientially) remember *drinking the water*?' Accordingly, if one confuses the former question with the latter one, then one is prone to give an affirmative answer. But if one sticks to the former question, which is the genuine question at issue here, then one should answer 'no'—in line with the answer for the 'knows-or-not' question. Therefore, what is reflected is not the conceptual difference between remembering and knowing, but the difference between two ways of question-phrasing.[14]

I recognise the force of this explanation, but still find it problematic. The central reason is that the difference between the two ways of question-phrasing has no substantial effect on our case. Episodically remembering a particular event is often recognised as a way of propositionally remembering particular facts about the event (see Malcolm 1963; Martin & Deutscher 1966; Bernecker 2010; etc.). For example, Bernecker argues that 'Experiential memories can be expressed not only by a combination of "remember" with a gerund (e.g. I remember having spent a few days in Dallas) but also by a that-clause (e.g. I remember that I spent a few days in Dallas)' (2011: 327). When they are expressed in the latter manner, they meet the grammatical criterion for propositional memories that Bernecker advocates. It should be less disputed that the protagonist in the case of WATER episodically/experientially remembers *drinking the water* (if proponents of ECM do plan to reject this claim,

[14] Thanks to an anonymous reviewer for raising this objection.

there also needs to be non-circular arguments). If we express this episodic/experiential memory by a that-clause, then it follows that the protagonist (propositionally) remembers *that she drank the water*. There does not seem to be anything preventing us from translating the protagonist's episodic version of memory into a propositional one, in accordance with Bernecker's grammatical criterion. After all, the protagonist has conceptions of 'drinking' and 'water'; she can articulate the content of her propositional memory belief; the water she believes that she drank *is* water indeed; her belief is true…Proponents of ECM might nevertheless insist that the protagonist's possession of episodic memory cannot provide her with corresponding propositional memory exactly because the latter requires propositional knowledge, but this will be begging the question.

The same can be said for a similar *de re/de dicto* distinction. One might diagnose that the intuitive difference is due to the ambiguity between the question 'Does she *de re* remember *that she drank the water*?' and the question 'Does she *de dicto* remember *drinking the water*?' Bernecker (2010) also notices this distinction:

> The difference between *de re* and *de dicto* memory attributions is that the former but not the latter allows for the substitution *salva veritate* of co-referential expressions…Since propositional memory attributions are usually taken to be referentially opaque and since I focus on propositional memory, I will adopt the *de dicto* reading of memory attributions (Bernecker 2010: 26–27).

In the case of WATER, this *de re*/*de dicto* distinction should not plague us, because both *de re* and *de dicto* memory can be attributed to the protagonist. That is because, the content of her memory belief is that 'I drank the *water*'. The reference of the word 'water' here is exactly the glass of genuine water, rather than any other liquid that the subject mistakenly takes to be water. Although the glass of genuine water could have easily been replaced, it turns out to be intact in the actual world. This also reflects how WATER differs from some standard Gettier-style cases. Whereas WATER is sometimes recognised as a case of *environmental luck*, the standard Gettier-style cases are mostly about *intervening luck* (see Pritchard 2009). For example, in Gettier's original case of coins, it can be said that Smith only *de dicto* but not *de re* believes that 'the man who gets the job has ten coins in his pocket'. That is because Smith mistakenly takes 'the man who gets the job' to be Jones rather than himself. Similar mistakes do not occur in WATER, as the protagonist correctly believes that what she drank was water.

I have explained why some competing explanations are ill-grounded. In case that some readers still do not share my intuitions, I shall now demonstrate why my verdict is consonant with different theories of memory. For example, a causalist (see Martin & Deutscher 1966; Bernecker 2010) reading of the case should admit that the protagonist accurately retrieves the fact that she drank a glass of unadulterated water, and there is a proper causal connection between her accurate representation at the output time and the event that she experienced. Alternatively, along the simulationist line of narratives (e.g., De Brigard 2014; Michaelian, 2016b; Addis, 2018), the protagonist's properly functioning episodic construction system does produce an accurate representation of an event belonging to her personal past. Therefore, for both causalism

and simulationism, the protagonist in WATER should be credited with successfully remembering.

Some might worry that, since simulationism and causalism are both non-epistemic theories of memory[15], I am begging the question by basing my argument on the two theories. Note that my argumentative strategy is not: (1) simulationism/causalism is right, and (2) they are against ETM, and thus, (3) ETM is wrong. This will indeed be question-begging. In fact, my argument is not even premised on the truth of either simulationism or causalism. Here, the role of the two theories is just heuristic rather than a prerequisite. Simulationism and causalism are typically motivated by empirical evidence from psychology, but the interest and the methodology of this paper are mainly epistemological. In this paper, my point in referring to those memory theories is just to illustrate that my verdicts on those counterexamples to ETC that I put forward are not just armchair. Rather, they can also enjoy support from the empirical/psychological perspective.

Some might also view causalism and simulationism as theories of episodic memory and thus worry whether they can support the protagonist's successful propositional memory[16]. My reply is: first of all, although causalism often puts great weight on memory of episodes, it is not thus merely a theory of episodic memory. For instance, Bernecker's (2010) causalism focuses on propositional memory, which, as we noted before, can be both episodic and semantic. Martin & Deutscher (1966) in their seminal work also apply their causal theory to many cases of 'remembering that'. As for simulationism, it is indeed widely regarded as a theory of episodic memory, although Michaelian (2018: 101–102) does discuss a potential way of extending simulationism to semantic memory. Nevertheless, given the grammatical definition of propositional memory and how episodic memories can be transferred into (or be presented in the form of) propositional memories, it should be fair to say that simulationism and this paper's scope are not mismatched.

Furthermore, numerous psychological studies have revealed the interdependence of episodic and semantic memory (see Greenberg & Verfaellie 2010 for a review; see Horzyk et al., 2017 for an explanation for the mechanism). In particular, empirical evidence indicates that 'the acquisition of semantic memory normally depends on the episodic system' (Yee et al., 2013: 374. For explanations of how episodic memories transfer into semantic memories, see Battaglia & Pennartz 2011; Mack et al., 2018; etc.). Besides, Fernández (2006; 2017) and Byrne (2010) go so far as to view epi-

[15] I thank an anonymous reviewer for raising this problem. However, some might also have an impression that Michaelian's reliabilist theory of memory, compared with causalism, seems to show a closer affinity to the reliabilist theory of knowledge. Bernecker (2017) even accuses Michaelian's reliabilist simulationism of amounting to an epistemic theory. I am sympathetic to this impression. Nevertheless, I also find it respectably reasonable to claim that Michaelian's simulationism, strictly speaking, is not a kind of ETM (although I categorise his VTM as an instance of ECM, a notion that is more inclusive than ETM). That is because Michaelian (2020; 2021) himself have carefully demarcated his reliabilist theory from an epistemic one. For instance, he remarks that: 'Simulationism, in contrast, treats confabulating as unreliable. Because reliability is not an epistemic concept, the simulationist is not committed to an epistemic theory of memory' (Michaelian, 2021: 19). I would like to accept his self-clarification. However, again, it does not conflict with the impression that his simulationism is more closely related to (albeit not equal to) ETM than causalism is.

[16] I am grateful to a reviewer for raising this point.

sodic memory as a propositional attitude with propositional content (for a critical discussion, see Sant'Anna 2018). Of course, my argument is not premised on this propositional attitude account of episodic memory *per se*. My point in alluding to those empirical studies is just a modest one: due to the deep content affinities between episodic memory and propositional memory, it makes sense to recognise one as propositionally remembering that 'I φ-ed' if one episodically remembers φ-ing (especially if one also believes that 'I φ-ed' on the basis of relevant episodic memories).

Another way to understand why we should attribute remembering to her is to consider the function of memory. What is the functional role of remembering? The traditional storehouse view holds that remembering is for storing and retrieving facts and experiences. The simulationist view argues that to successfully remember is to accurately imagine or simulate what has happened. In the case of WATER, both functions are fulfilled. In addition, a functionalist theory of memory is recently proposed by Jordi Fernández, who characterises the function of remembering as follows:

> (F)or any subject S and proposition *p*, S remembers that *p* just in case S has some mental image *i* such that *i* tends to cause in S a disposition to believe both that *p* and that S experienced that *p*, and *i* tends to be caused in S by having experienced that *p* (Fernández 2019: 49).

The protagonist's mental image of drinking the glass of water seems to perfectly fit this bill. That is, the mental image causes the protagonist to believe veritically that she drank a glass of unadulterated water, which was something that she personally experienced. Furthermore, the mental image was caused due to her corresponding experience. Hence the protagonist's mental image indeed plays the functional role of memory, leading to successful remembering.

Before moving towards to the achievement condition, I would like to make one more attempt to enhance the appeal of my verdict. I think proponents of *the epistemic theory of memory* have no non-circular reason to deny that WATER is a case of remembering without knowing. For example, Steven James, albeit against non-epistemic theories of memory, grants that Bernecker's causalist account can arguably suffice to define propositional memory if it were to be complemented by two more constraints:

> (i) [A] 'reliability condition' that specifies that the cognitive processes that support a memory belief must be reliable and (ii) a 'suitable content source condition' that constrains the possible sources of the content of one's memory belief such that one remembers only if one's original belief was formed on a suitable basis, e.g. perception or inference' (James 2017: 113).

James argues that, by adding these two conditions, a non-epistemic account of memory can avoid counterexamples in which one's memory belief is formed in an unreliable or unsuitable way (such as wishfully thinking)[17]. Now let us examine WATER

[17] James holds that these two extra conditions will introduce epistemic or at least normative elements into causalism, so defects of non-epistemic theories are fundamentally epistemic. It is controversial whether

with these two conditions. A cognitive process is ordinarily recognised as reliable if it tends to produce mostly true beliefs (see Michaelian 2016a; Greco 2010; Sosa, 2007; etc.). James does not seem to reject this standard notion of reliability. Accordingly, the protagonist's memory belief is generated by a reliable cognitive process in WATER, as it is the result of her properly-functioning memory process. Moreover, her original belief that 'I drank a glass of water' was formed on a suitable basis, i.e., her perception and inference. So, both *reliability condition* and *suitable content source condition* are met in this case. There should be no reason for refusing to ascribe memory to the protagonist. Proponents of ETM might argue that perception, albeit suitable in general, is *not* a suitable basis for forming beliefs *in the case of WATER*. However, I think this defence will introduce further difficulties for ETM. That is, it gives rise to a problem that is akin to the well-known *generality problem* for process reliabilism (see Conee & Feldman 1998), to wit, the problem of specifying exactly which process it is whose reliability determines how justified one's belief is. For example, in the case of WATER, is vision simpliciter the process? Or is it vision in good lighting conditions? Or, vision of a specific kind of liquid in good lighting conditions? The idea is, the belief-forming process of a belief can be individuated in numerous ways—it can be individuated coarsely or finely, but reliabilists lack a proper standard. Analogously, if proponents of ETM identify the 'basis type' relevant in the case of WATER as not *perception simpliciter* but a more finely-specified kind of perception, a similar generality problem will be waiting in the corner. If the type of 'proper basis' is identified too coarsely, then it fails to exclude the case of WATER. If the basis is identified too narrowly, then it is subject to the so-called 'Single Case Problem' (Goldman, 1992), which occurs when a basis type is described so narrowly that only one or very few instances of it ever occur, and hence the identification is just ad hoc. Of course, I am not saying that this generality problem cannot be solved (although a universally endorsed solution is still absent in the literature), but I do believe that it constitutes one more difficulty for ETM and thus further illustrates why a non-epistemic theory is preferable.

To hammer home this point, let us consider another case of successful propositional remembering that James (2017: 119) constructs: at t1, I formed the belief that 'my car is parked in Lot C (at t1); and upon returning from holiday, at t2, it is plausible to claim that I can *remember that* my car is still parked in Lot C (at t2) before actually seeing my car. James takes this to be a paradigmatic case of inferential remembering, i.e., (propositional) remembering that involves inferential processes[18].

Now we can slightly modify this case and make it a case of lucky remembering akin to WATER. Suppose that unbeknownst to me, during my holiday (at a moment between t1 and t2), a staff in the parking lot, had he lost the lottery, would have maliciously stolen my car and removed it from Lot C. Fortunately, he won the lottery so he did no such thing. But given the inferential process that guarantees my successful

a theory (e.g., Michaelian's simulationism) endorsing these two conditions will automatically become an epistemic one. See Michaelian (2021) for a disagreement.

[18] An anonymous reviewer points out that what is said to be 'remembered' here is a present state of affairs rather than a past one. I acknowledge that this distinction might be worth making here. However, I just borrow this case from James' discussion where he uses this case to defend ETM. Hence, granting that this distinction constitutes a problem, it might not be a problem just for me.

remembering at t2 in James's original case, had my car was removed, I would still believe that my car is still parked in Lot C (at t2). For James, the most consistent take on this modified case, I think (even though I wonder whether he would say so), is to insist that I also remember that my car is still parked in Lot C (at t2) despite the unenforced stealing. After all, the inferential processes that I employ in both cases are completely the same. Besides, the 'reliability condition' and the 'suitable content source condition' are both met in the modified case. That is, my cognitive process (mainly my properly-functioning retrieval process and the inferential process) that supports my memory belief is as reliable as in the original case, and my original belief was also formed on a suitable basis (the same with that in the original case). Therefore, my argument can even find support from what a proponent of ETM (despite our fundamental divergence on whether ETM is right), such as James, should also accept. Surely, I am not saying that epistemic theorists of memory *would* reject ECM, but I do suspect whether they have non-circular reasons (reasons other than the intuition that remembering requires knowing) for not doing so.

Given all these considerations, I see no reason to deny that there is successful remembering in the case of WATER, despite the absence of knowledge. If ECM is right in that remembering is a kind of knowing, then whenever there is remembering, there should also be corresponding knowing. But cases like WATER show that remembering is not always accompanied by knowing, thus ECM is wrong. A more specific moral that we can draw from WATER is: remembering can be lucky, while knowing cannot, which further explains why remembering significantly differs from knowing.

3.3 Other cases

I must admit that I am not the first who notices this difference. Shanton (2011) also argues that remembering can be unsafe/lucky by invoking a study conducted by Goethals & Reckman (1973). In the study, participants were divided into two groups: each was asked about their attitudes towards a given social issue (desegregation bussing) before the test. After that, one group was asked to discuss with an experimental confederate whose job was to reverse the participants' original attitudes by giving some persuasive arguments. The control-group did not attend such a discussion. Both groups were asked to re-report their *original* attitudes towards bussing again at the end of the test. The study indicates that, after being persuaded by the experimental confederate during the discussion and thus changing their attitudes towards bussing, those persuaded participants were more likely to confuse their pre-discussion attitudes with their post-discussion ones. Shanton argues that control-group participants who correctly remember their original attitudes could have easily formed a false belief. That is because they could have easily been divided into the discussion-participating-group and thus misremembered their pre-discussion attitudes. Therefore, control-group participants remember their attitudes, but their memory-based beliefs are unsafe.

My argument significantly differs from Shanton's, primarily because it strikes me that Shanton is talking more about *evidential luck* rather than *veritic luck* (for this point, see also Lai 2021b). It is the latter, rather than the former, that is deemed

knowledge-undermining by anti-luck epistemologists. For example, if Joe forms the true believe that 'Donald won the lottery' by overhearing the relevant news, then his belief is subject to evidential luck. Nevertheless, Joe can still be recognised as having a piece of testimonial knowledge in this case, regardless of the occasionality of his receiving the evidence (i.e., the news that he overheard). Mylan Engel, who invents the terminology 'evidential luck', characterises the subject affected by evidential luck as one that 'is lucky to be in the evidential situation she is in but that, given her evidential situation, it is *not* a matter of luck that her belief is true' (1992: 67; emphasis mine). In contrast, veritic luck is a kind of luck that, given how one forms her belief (her evidential situation included), it *is* a matter of luck that her belief is true. Considering how Goethals & Reckman's study was designed, it should be fair to say that the two groups of participants were in different evidential situations. The discussion-participating-group participants were exposed to more reasons/arguments that can distort their memories of their pre-discussion attitudes. In contrast, the control-group participants were not assigned to attend the subsequent discussion and were thus in a less bewildering evidential situation. Hence as Shanton points out, control-group participants were lucky to be in the evidential situation they were in, because each of them could have easily been randomly divided into the discussion-participating-group. Nonetheless, given their evidential situation, it is unclear whether it would still be a matter of luck that their beliefs are true. Therefore, Shanton's case is more akin to an instance of evidential luck rather than veritic luck, while mine is concentrated on the knowledge-undermining veritic luck.

Another important similar objection to ETM (and thereby ECM) is given by Bernecker (2010), who puts forward many alleged counterexamples to ETM's credo that 'remembering entails knowing'. To sum up, he offers two types of counterexamples: (1) remembering without believing; (2) remembering without being properly justified. For our present purposes I will set the first type of counterexamples aside, because, on the one hand, they have invited broad criticisms (see Adams 2011; Moon, 2013; Sakuragi, 2013); on the other hand, the second type of counterexamples are more relevant to the anti-luck condition. A representative case is LIBRARY:

> At t_1 you came to justifiably believe that the library's copy of Caesar's *Commentarii de Bello Gallico* is checked out by S. The belief is false at the time. Unbeknownst to you, S did check out Caesar's *Commentarii de Bello Gallico* at t_2 and holds on to it through t_3. At t_3 you seem to remember, on the basis of your belief at t_1, that S has borrowed Caesar's *Commentarii de Bello Gallico* (Bernecker 2010: 74).

Bernecker's reading of this Gettier-style case is that the protagonist does remember that *p* ('*p*' being 'S has borrowed Caesar's *Commentarii de Bello Gallico*') at t3. However, her belief that *p* is merely luckily true, and thus fails to constitute knowledge. Many proponents of ETM disagree with this verdict, including Adams (2011), Moon (2013), and Sakuragi (2013). They report that they have found no clear intuition supporting that the protagonist remembers that *p*. For example, Adams' intuition is that the protagonist does not remember that *p*, instead, she only remembers *p*. Bernecker (2011), in response, defends himself by insisting his intuitive verdict.

Bernecker's case does not strike me as compelling as well. The oddness of Bernecker's verdict can be explained if we consider the function of remembering. Functionalists might diagnose that, firstly, the subject's mental image that S has borrowed the book does not tend to cause in the subject a disposition to form a true belief, since the mental image was based on a false belief (at t_1) and could have been misleading. More importantly, the mental image was not caused in the subject by having experienced the relevant fact. The subject did not experience, for example, seeing S borrowing the very book. Hence, successful remembering cannot be attributed, as nothing fulfils the function of memory. In contrast, in WATER, the protagonist's mental image of having drunk a glass of unpolluted water fulfills the function of memory. This enables us to see why my case is less counterintuitive than Bernecker's.

I hope to have said enough to show that the anti-luck condition does not apply to remembering. Now let us move forward to see another condition that neither Bernecker nor Shanton have addressed—the achievement condition.

4 Remembering does not need to be achievement

4.1 The achievement condition

According to Pritchard (2012), the second intuition that any full account of knowledge needs to register is *the ability intuition*. That is, knowledge is a kind of cognitive achievement in the sense that one's true belief is formed *because of*[19] the exercise of one's relevant cognitive abilities (see Greco 2003, 2007, 2010, 2012; Riggs, 2009; Sosa, 2007, 2009; Pritchard, 2012, 2015; Jarvis, 2013; Turri, 2015; Gaultier 2015). This intuition is also ubiquitous: Ernest Sosa's influential AAA-model defines knowledge as *apt beliefs* (see Sosa 2007), i.e., beliefs that are accurate (true) because of adroitness (the manifestation of one's cognitive competence). Greco's (2010) robust virtue epistemology also accounts for knowledge as an agent's achievement. Pritchard (2012) argues that the ability intuition is distinct from the anti-luck intuition[20], as there can be cases where the subject's belief is safely true without being the product of one's cognitive abilities. For example, the heatedly-discussed case of TEMP:

> **TEMP**: Temp forms his beliefs about the temperature in the room by consulting a thermometer. His beliefs, so formed, are highly reliable, in that any belief he forms on this basis will always be correct. Moreover, he has no reason for

[19] It is still open to debate how to characterise this 'because of' (or 'attribution') relation. For example, Pritchard (2012; 2015) and Bogardus & Perrin (2020) give 'because of' an explanatory reading; Sosa (2009; 2015) and Turri (2011) interpret 'because of' in terms of the manifestation relation; while Greco (2012) accounts for the attribution relation in a pragmatic way.

[20] Admittedly, many epistemologists, especially robust virtue epistemologists, disagree on this (see Greco 2010; Sosa, 2015; Zhao, 2021; etc.). For them, to ensure that one's true belief is produced by one's cognitive abilities suffices to eliminate epistemic luck. Hence, an independent anti-luck condition is redundant. This dispute does not affect my main argument. That is because the disagreement mainly lies on whether the anti-luck intuition and the ability intuition are two distinct desiderata for a full account of knowledge, rather than whether they are two important (no matter interreducible or not) desiderata.

> thinking that there is anything amiss with his thermometer. But the thermometer is in fact broken, and is fluctuating randomly within a given range. Unbeknownst to Temp, there is an agent hidden in the room who is in control of the thermostat whose job is to ensure that every time Temp consults the thermometer the 'reading' on the thermometer corresponds to the temperature in the room. (Pritchard 2012: 260)

It seems plausible to say that Temp's belief is safe, as in all close possible worlds the hidden agent would always ensure the truth of Temp's belief. Nonetheless, Pritchard and many others (e.g., Vaesen 2011; Kelp, 2013; Carter, 2016; Zhao, 2021) hold that knowledge cannot be ascribed to Temp[21], mainly because his (safe) true belief is not a product of his cognitive ability but of the intervention of the hidden agent. Therefore, Temp's belief is not his epistemic achievement.

Accordingly, if ECM is correct, then memory also needs to be a kind of achievement just like knowledge is. This conception, as mentioned before, is spelt out by the recently proposed *virtue theory of memory*, which sees memory as an achievement (Michaelian, 2021: 21). In what follows, I will show that this achievement conception of memory is wrong, and thus remembering significantly differs from knowing because the latter is a sort of achievement while the former is not.

4.2 Non-virtuous remembering

Firstly, consider a renowned case where the achievement condition of knowledge is unmet:

> **ALVIN**: Alvin has a brain lesion. This lesion wreaks havoc with Alvin's noetic structure, causing him to believe a variety of propositions, most of which are wildly false. An odd fact about the sort of brain lesion that Alvin has, however, is that it always causes the sufferer to form the (true) belief that (s)he has a brain lesion. Accordingly, Alvin truly believes that he has a brain lesion (see Plantinga 1993: 199).

In all close possible worlds where Alvin forms the belief that 'I have a brain lesion' via the same way with the actual world (viz., by virtue of the effect of the very sort of brain lesion), Alvin's belief will always be true. Although Alvin's belief is safe, a widely-shared intuition is that it fails to constitute knowledge (see Plantinga 1993; Greco 2010; Pritchard, 2012; Palermos, 2014; Williams & Sinhababu, 2015; Bogardus & Perrin, 2020; etc.), since its truth has nothing to do with his cognitive agency or ability. It is the bizarre effect of the brain lesion, rather than the manifestation of his cognitive competence, that ensures Alvin's belief is true. In this sense, Alvin's true belief is not a cognitive achievement and thus not an instance of knowledge. Now, consider the memory-centred counterpart of this case:

[21] For exceptions, see Hudson (2014) and Beddor & Pavese (2020).

ALVIN-M Alvin has a brain lesion. This lesion wreaks havoc with Alvin's noetic structure, causing him to believe a variety of propositions, most of which are wildly false. An odd fact about the brain lesion that Alvin has, however, is that it causes the sufferer to form the (true) belief that he has a brain lesion. Accordingly, Alvin has always been holding the true belief that he has a brain lesion. One day, when asked 'Do you remember suffering from any brain damage?' Alvin replies, 'Yes, I *remember that* I have a brain lesion'.

In this case, Alvin still arguably lacks knowledge for the same reasons. However, it is plausible to say that Alvin *does* remember *that* he has a brain lesion. Alvin's reply sounds appropriate. After all, we can conceive that the mechanism of the bizarre effect of the lesion is exactly generating a persisting memory trace (engram) or a contiguous series of memory traces that Alvin would not have had if he had never suffered from the lesion. If that is right, then again, we encounter an asymmetry between remembering and knowing in terms of their relations to epistemic achievement/virtue/competence.

The crux of this asymmetry, I suspect, perhaps lies in the fact one's individual pieces of memory do not need be the result of something constitutive of one's cognitive agent. Sometimes, they are even allowed to be at odds with the rest of the agent's cognitive system. This is what differentiates remembering from knowing. Greco's diagnosis of the lesion case is that the process that Alvin forms his relevant belief, albeit reliable, is so *strange* that it falls short of *cognitive virtue*. According to Greco, '(c)ognitive virtues cannot be strange because virtues are part of character, and character is constitutive of the agent' (see 2010: 152). So, at least, one's knowledge cannot be at odds with the rest of her cognitive system. In contrast, sometimes one's way of remembering something can be *strange* and *unintegrated*. Envision some memory implantation/enhancement technologies, for example, an implanted chip helping an amnesic patient to remember what she has experienced. The patient might has lost most of her memories including the one regarding being implanted such a chip. She might have no idea why she keeps those memories restored in the chip and thus feels strange. It is even conceivable that the patient also suffers from serious memory disorders such as confabulation and misremembering and hence her chip-based memories are sometimes at odds with the rest of her cognitive system. However, this does not affect the fact she still possesses those memories, just like an amnesic patient can still successfully remember something despite her largely decayed or messed-up memories, and those mnemic successes can be by courtesy of some aid external to the patient's cognitive agent. ALVIN-M analogously illustrates the same point—the piece of memory that Alvin has can be seen as being implanted by the lesion in an equally strange manner.

Recall that we fleshed out the mechanism of the brain lesion's memory-conducive effect by resorting notions such as 'memory traces' or 'engrams', which are usually taken to be the hallmark notions of the causal theory of memory. Opponents of causalism, in particular, simulation theorists of memory might thus reject the case of ALVIN-M by rejecting the central role that memory traces play in episodic memory. Instead, simulationism argues that episodic memory is one form of episodic imagina-

tion. That is, to remember is to imagine or simulate an event in one's personal past, just like mental time travel:

> (T)he only factor that distinguishes remembering an episode from merely imagining it is that the relevant representation is produced by a properly functioning episodic construction system … which aims to simulate an episode from the personal past (Michaelian 2016b: 97).

Accordingly, simulationists might refuse to ascribe successful remembering to Alvin. They might find it somewhat farfetched to recognise a lesioned brain as a properly functioning episodic construction system. To accommodate this concern, consider again the case of TEMP. A widely-accepted verdict is that Temp lacks knowledge about the temperature in the room. But is Temp entitled to report that he *remembers* the temperature of the room after he left the room? I do not see anything depriving Temp of the right to legitimately report so. As Pritchard and his proponents point out, Temp's true belief cannot be properly explained in terms of the exercise of his cognitive abilities. Nevertheless, there is nothing odd in saying that Temp *remembers* the temperature *because of* the help of the hidden agent. An adequate explanation of one's successful remembering is compatible with giving the major credit to something external to one's cognitive agent (consider again, the case of an implanted chip). The source of the retrieved true belief (viz., how it was formed in the first place) is less relevant for characterising successful remembering.

Note that in the case of TEMP, we do not need to[22] explain Temp's mnemic success in terms of memory traces or the like. Instead, it is plausible to attribute Temp's representation about the temperature to the proper functioning of his episodic construction system. Different from Alvin, Temp's mnemic system is not lesioned. A simulationist reading of this case can thus be: Temp succeeds in simulating an episode of consulting the thermometer (which reads, say, 34°C) from his personal past by courtesy of his reliable memory faculty. His successful episodic memory thus provides grounds for his successful propositional memory that 'the temperature in the room was 34°C'. One might object that Temp only remembers that he saw the reading on the thermometer was 34°C, but he does not remember that the temperature in the room was 34°C. However, it is unclear what the motivation for making this distinction would be, besides service to the achievement conception of memory. After all, the temperature indicated by the thermometer's reading is exactly the temperature in the room, and Temp also subjectively equates the two things. Therefore, they should be identical both *de dicto* and *de re*.

Another objection might be that, even though the formation of Temp's belief of the temperature has little to nothing to do with the exercise of his cognitive ability, Temp's remembering the temperature *is* because of his exercise of his mnemic ability, so it counts as his achievement. Before proceeding to see how a modified case can be immune to this objection, let us take stock of what has been achieved by the case of TEMP. Note that even if the aforementioned objection is right in that Temp can be

[22] Of course, this is not to say that a causalist reading of Temp's mnemic success is indefensible or unwelcomed. I shall remain neutral on the causalism/simulationism debate in this paper.

credited with a *mnemic achievement*, it only challenges the idea that remembering does not need to be (any form of) achievement, rather than my more general conclusion that remembering is not a kind of *epistemic achievement* that amounts to knowing. This objection is silent on the intuition that Temp remembers but does not know the temperature in the room. The case of TEMP suffices to illustrate that remembering is not a kind of knowing. Now the remaining question is whether remembering needs to be a sort of *mnemic achievement* in the sense that one's accurate representation is due to the exercise of one's mnemic abilities. A modified TEMP's case gives a negative answer:

TEMP-M Temp formed his beliefs about the temperature in the room by consulting a properly functioning thermometer (which reads, say, 34°C). His beliefs, so formed, are highly reliable, in that any belief he forms on this basis will always be correct, including this time. Two weeks later, owing to the passage of time, Temp's memory decays and becomes blurred. However, unbeknownst to Temp, there is a benevolent genius who is in control of Temp's mnemic system whose interest it is to ensure that every time Temp retrieves his memory about the temperature in the room, his relevant representation is always true. Without the genius's intervention, Temp's relevant memory would have long since been distorted due to the passage of time.

Now the question is whether Temp remembers *that* the temperature in the room was 34°C. Again, I do not see reasons for claiming 'no', especially if we agree that an implanted memory-enhancing chip will not deprive someone of successful remembering. This verdict can again align with the simulation theory of memory. For example, De Brigard argues that:

> (W)hen we try to remember an event, memory's underlying retrieval mechanisms reconstruct an optimized mental representation from the encoded perceptual information according to probabilistic constraints dictated by previous experiences (2014: 177).

Accordingly, the benevolent genius's magic can be read as what ensures the optimization algorithm that Temp employs yields an accurate simulation corresponding to the past fact. For the simulationist account of remembering above, what matters is the accurate optimization algorithm *per se*, rather than to what the algorithm is creditable. For an unenchanted subject, the accurate optimization algorithm is the product of one's episodic construction system; for the enchanted Temp, the accurate optimization algorithm is due to the genius's magic. As aforementioned, Greco requires that virtues must be part of one's character, which is something constitutive of one's agent. The genius's magic has nothing to do with Temp's characters or agent, and thus fails to constitute his cognitive virtue. As a result, Temp's reliably accurate memory is not *his* achievement, given that achievement is ordinarily understood as successful performance due to one's virtues. Nevertheless, Temp successfully remembers the temperature in the room by virtue of the genius's magic.

Again, one might worry that simulationism is a theory of *episodic memory*, and I have not provided a specification of what the mnemic achievement conditions for

propositional memory are[23]. I have two replies. First, given the grammatical definition of propositional memory and the interdependence between episodic and semantic memory stated before, it should be fair to say one's successful episodic memories can support one's successful relevant propositional memories. Second, more importantly, what I employed is a general condition for achievement inherited from the relevant literature, rather than a specific one for propositional memories. When virtue epistemologists (as well as proponents of Variant 4 of ETC) claim that knowledge is a kind of achievement, the notion 'achievement' is ordinarily understood as 'a kind of success from virtue'. While virtue, according to Greco, has to be part of one's character, and character is constitutive of the agent. Therefore, if one's remembering (episodic or propositional) counts as an achievement (epistemic or mnemic), then it must be a kind of success due to something constitutive of the agent. Accordingly, our protagonists do not have mnemic achievements in ALVIN-M and TEMP-M. Alvin's successful remembering is due to his bizarre brain lesion, which is too strange to be constitutive of his agent, according to Greco. Similarly, Temp's successful remembering is due to the benevolent genius's magic (which is, to be fair, as strange as Alvin's brain lesion) rather than something constitutive of his agent.

5 Concluding remarks

This paper has shown that the epistemologically orthodox epistemic conception of memory is wrong. Remembering is not a kind of (nor entails) knowing, as the former does not need to meet necessary conditions for the latter. Let me close this paper with two disclaimers:

First, this paper only discusses two influential conditions that are thought to be necessary for knowledge, but the asymmetry between remembering and knowing might be borne out in many other aspects. For example, one might argue that remembering is usually taken to be gradable, while knowing-that is not, or that, memory appears to be non-normative (see Michaelian 2021) while knowledge is. These approaches might be worth exploiting, but I shall stay neutral here as they need to address some apparent challenges. For instance, there are dissenting views that knowledge-that is also gradable (see Hetherington 2011; Lai, 2021a, 2022) and voices that knowledge is also non-normative (see Sylvan 2018). Besides, as mentioned in the beginning of this paper, ETM is much less popular among scholars who investigate memory in an empirical/psychological fashion. Just as Craver (2020) points out, the notion of 'remembering' has long been discussed in two distinct senses, viz., the epistemic/normative sense (which is reflected in ETM) and the empirical sense (which focuses on the psychological process of remembering). Simulationism and causalism usually understand 'remembering' from the empirical perspective. Therefore, sometimes 'memory empiricists' (*a la* Craver) and epistemic theorists are suspected of talking past each other. I hope that my arguments can contribute to bridging the two senses of 'remembering'. In particular I hope to provide memory empiricists, who used to

[23] Thanks to an anonymous reviewer for raising this problem.

reject ETM from the non-epistemic perspective, with epistemological grounds for rejecting ETM.

Second, I do not guarantee that the anti-luck condition and the achievement condition must all be necessary for knowledge, but I do think that they provide us with a representative framework to compare the conceptual natures of knowing and remembering. Readers who reject all the two putative conditions are welcomed to interpret my conclusion as a conditional: *if* the two conditions are necessary for knowledge, *then* ECM is wrong. In any case, the conceptual connection between remembering and knowing is much looser than epistemologists usually take it.

Funding: This work was supported by Shanghai Pujiang Program [grant number 21PJC081]

Declaration The author declares that there is no conflict of interest.

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