



Successfully remembering a belief and the problem of forgotten evidence

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Abstract

The problem of forgotten evidence consists of a pair of scenarios originally proposed by Alvin Goldman. In the “forgotten good evidence” and “forgotten bad evidence” scenarios, subjects hold the same memory belief while irreversibly forgetting its original, though different, pieces of evidence. The two scenarios pose a series of challenges to current time slice (CTS) theories, which posit that memory beliefs are justified solely by contemporaneous states. Goldman’s two scenarios pose an apparent dilemma to CTS theories given a naïve picture of how a memory belief is successfully retained while its evidence is irreversibly forgotten. In my view, however, CTS theories may find a solution to the apparent problem by carefully examining the conditions under which a memory belief is successfully retained while its evidence is completely forgotten. Namely, the two scenarios overlook an important difference between forgetting good evidence and forgetting bad evidence.

Keywords

Dispositionalism · Forgetting · Remembering · The problem of forgotten evidence

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1 Introduction

In “What is Justified Belief?”, Alvin Goldman (1979) raised the problem of forgotten evidence:

A characteristic case in which a belief is justified though the cognizer doesn’t know that it’s justified is where the original evidence for the belief has long since been forgotten. [...] But since the cognizer no longer remembers how or why he came to believe, he may not know

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that the belief is justified. If asked now to justify his belief, he may be at a loss. Still, the belief is justified, though the cognizer can't demonstrate or establish this. (Goldman, 1979, p. 15)

In this paper, I address the three challenges Goldman's "forgotten good evidence" and "forgotten bad evidence" scenarios pose to current time slice (CTS) theories.

In the following, I first survey how Goldman's two scenarios present a putative dilemma to CTS theories. I argue that the three challenges posed by the two scenarios can be met by carefully examining how a subject has successfully retained a memory belief after its original evidence has been forgotten. My argument will illuminate the roles of dispositions both in retaining a memory belief and in justifiably holding it. As I discuss below, losing all the epistemic grounds for a memory belief usually results in forgetting the belief altogether. This will sufficiently reveal subtle differences that are obscured in the two forgotten evidence scenarios and enable CTS theories to evade the attacks.

2 Memory beliefs, the mnemonic seeming, and CTS theories

Many, if not most, contemporary theories of epistemic justification presuppose that some of our beliefs are justified, partly at least, in virtue of how they are formed. For instance, a perceptual belief may be formed based on the visual experience of the external world, and thereby justified because certain conditions in the belief-forming process were met. In the case of beliefs that were acquired in the past and have been retained in memory—let us call this type of belief a *memory belief*, hereafter—the conditions under which the belief was originally formed are no longer met. Unless we defer to a skeptical consequence, a host of our memory beliefs somehow nevertheless remain justified. I characterize CTS theories of justification specifically for memory beliefs by their claim that the justificatory status of a memory belief depends only upon contemporaneous elements which are true of the person, while historical elements play no role (Goldman, 1979, p. 15).¹

A traditional motive behind CTS theories is epistemic internalism. According to a traditional form of epistemic internalism called access-internalism, a belief is justified only if the person has conscious access to its justifiers. One notable example of such an access-internalistic CTS theory may be found in John Pollock's (1974, p. 193) appeal to phenomenological features of the recalling experience. Pollock famously points out that the occurrent experience of recalling that *p* is accompanied by a certain 'seeming'; namely, we usually *seem* to recall that *p* when we in fact remember that *p*. Pollock claims that one's memory belief is *prima facie* justified by such 'seeming.' The seeming of recollection may be phenomenologically characterized; Conee and Feldman (2001, p. 9), for instance, cite "its vivacity and her

¹ Kelly (2016) points out that Goldman's original characterization of CTS theories is insufficient.

associated feeling of confidence.” Here, I do not try to specify the phenomenological features of the seeming which are characteristic of recollective experience, but simply call it *the mnemonic seeming* henceforth (see Pollock, 1974, p. 190).

In the following, I explain an important role the mnemonic seeming plays in the *retention* of a memory belief. It is important to remark here that I do not intend to endorse access-internalism. I would rather defend another brand of CTS theory, which is aligned with epistemic dispositionalism. In response to one of Goldman’s attacks, Conee and Feldman (2001, p. 304) declare a departure from access-internalism, and admit that “[t]he justifying is not done by any active conscious occurrence at the time, evidentialists need not appeal only to conscious occurrences as justification.” Examining Conee and Feldman’s proposal, Mathew Frise (2017, p. 293) characterized dispositionalism by the following scheme: “If S has disposition X, then S is *prima facie* justified in believing that *p*.”² In line with their view, I grant that a memory belief may be justified in virtue of being epistemically grounded by a person’s dispositions. I argue below that the *retention* of a memory belief usually requires a basis consisting of many dispositions relevant to the belief, including a disposition concerning the mnemonic seeming—especially after the belief’s original evidence has been forgotten. In the case of memory beliefs originally acquired with good evidence, I argue that the dispositions that provide the basis for its retention also constitute good epistemic grounds for the belief even after the original evidence has been forgotten.

3 Challenges posed by the forgotten evidence scenarios

In “What is Justified Belief?,” Goldman’s (1979) challenge is directed against access-internalism. Later in “Internalism Exposed,” he revises the argument to cover other brands of CTS theories, particularly evidentialism, which claims that one’s belief at time *t* is justified if and only if its truth is supported by the evidence one has at *t*:

Last year, Sally read a story about the health benefits of broccoli in the “Science” section of the *New York Times*. She then justifiably formed a

² Frise’s (2017) discussions focus on the epistemic roles of the mnemonic (“recollective”) disposition. My proposal includes more varieties of dispositions constituting the epistemic grounds for a memory belief. Frise (2018a, p. 71) proposes a similar view, stating that “[h]aving a stored belief is a matter of having a suitable set of dispositions. The simplest, most elegant account of having a justified stored belief will therefore be that it is a matter of having a suitable set of dispositions.” Regardless of Frise’s suggestion, however, I do not have to conform to a dispositional account of belief. One of my main claims in this paper is that retention of a belief requires a set of dispositions, and a certain combination of dispositions likely *leads one to retain* a true memory belief, and thereby the dispositions may also constitute its epistemic grounds. For this reason, my proposal is consistent with representationalist accounts of belief.

belief in broccoli's beneficial effects. She still retains this belief but no longer recalls her original evidential source (and has never encountered either corroborating or undermining sources). Nonetheless, her broccoli belief is still justified, and, if true, qualifies as a case of knowledge. Presumably, this is because her past acquisition of the belief was epistemically proper. But past acquisition is irrelevant by the lights of internalism (including weak internalism), because only her current mental states are justifiers relevant to her current belief. All past events are "external" and therefore irrelevant according to internalism. (Goldman, 1999, p. 280)

In the following, I refer to this version of the scenario as the *Good Evidence Scenario*, and to its subject as *Sally_g*.

Conee and Feldman (2001, p. 9) try to meet the challenge posed by the Good Evidence Scenario by appealing to two elements that are contemporaneously true of *Sally_g*. First, they point out that *Sally_g* may be justified in holding the broccoli belief by the mnemonic seeming. Second, they point out that *Sally_g* probably has new good evidence which replaces her original evidence. Given that the healthfulness of broccoli is commonly known, they argue that *Sally_g* would face no serious challenge in getting access to new good evidence for her broccoli belief as long as she is marginally reasonable.

In order to evaluate Conee and Feldman's (2001) two proposals, it is important to note that the Good Evidence Scenario poses a twofold challenge to CTS theories. Goldman (1999, p. 281) claims—reasonably, I suppose—that we forget the original evidence for a large part, if not most, of our memory knowledge. Thus, scenarios analogous to the Good Evidence Scenario must be common enough to entail a skeptical consequence. CTS theories must therefore not only specify which contemporaneous elements justify *Sally_g*'s broccoli belief, but also explain how justifiers obtained in *Sally_g*'s scenario are commonly obtained for other memory beliefs after their original evidence has been forgotten.

Claiming that *Sally_g*'s broccoli belief is justified only because it is commonsensical does not sufficiently meet the skeptical challenge posed by the Good Evidence Scenario. Even though the healthfulness of broccoli is common knowledge, we can easily imagine other forgotten evidence scenarios in which the memory belief is less commonsensical.³ Moreover, having access to a piece of evidence does not necessarily imply that one actually has the evidence. One may simply fail to notice evidence for commonsensical knowledge. For these reasons, an antagonist might respond that a large proportion of memory knowledge become unjustified after their original evidence has been forgotten because they are less commonsensical than the broccoli belief, and evidence for even commonsensical knowledge is often overlooked. Accordingly, the antagonist may insist that *Sally_g*'s broccoli belief

³ Indeed, in a later version of Goldman's scenario, the propositional content of memory knowledge is unspecified (see Goldman 2011, p. 260).

is rather an exception, and other forgotten evidence scenarios would still pose a skeptical challenge.

An appeal to the mnemonic seeming offers support in this regard.⁴ Occurrent remembering usually has certain phenomenological features that are rarely unnoticed. Hence, by appealing to these phenomenological features, CTS theorists are able to propose a principled way in which most memory beliefs may be justified, as Pollock (1974) claims. If the mnemonic seeming accompanying its occurrent remembering justifies Sally_g's broccoli belief, the mnemonic seeming also justifies most memory beliefs whose original evidence has been irreversibly forgotten.

Goldman (1999) attacks this type of reply by way of another scenario. He asks us to think of a subject who originally acquired the broccoli belief based on bad evidence:

In a variant case, suppose that Sally still has the same background belief—namely, that most of what she remembers was learned in an epistemically proper manner— but she in fact acquired her broccoli belief from the *National Enquirer* rather than the *New York Times*. So her broccoli belief was never acquired, or corroborated, in an epistemically sound manner. Then even with the indicated current background belief, Sally cannot be credited with justifiably believing that broccoli is healthful. Her past acquisition is still relevant, and decisive. [...] Sally's belief in the healthfulness of broccoli is not justified in that sense, for surely she does not know that broccoli is healthful given that the *National Enquirer* was her sole source of information. (Goldman, 1999, pp. 280–281)

Let us call this scenario the *Bad Evidence Scenario*, and its subject Sally_b. Sally_b clearly acquired her broccoli belief based on bad evidence, and thus, her broccoli belief was not justified originally. However, if the mnemonic seeming justifies Sally_g's broccoli belief, then the mnemonic seeming likewise justifies Sally_b's broccoli belief. Since the original bad evidence has been forgotten, no undefeated defeater seems to exist any longer.

Citing Michael Huemer's (1999) argument, Goldman legitimately complains about the justifiedness of Sally_b's broccoli belief, an alleged consequence of appealing to the mnemonic seeming:

Michael Huemer identifies two problems with the foundational theory. Suppose I adopt a belief in *P* in an unjustified fashion, for example, by wishful thinking. The next day I seem to remember that *P* but have

⁴ Conee and Feldman (2011, p. 304) claim that “a ‘disposition to recollect’ a proposition is a disposition to bring to mind the proposition as known” and “[i]f this disposition to recollect is sufficiently strong and clear, then in the absence of defeaters, it is strong enough evidence for him to know *q*.” Frise (2017) discusses problems with Conee and Feldman's (2011) version of dispositionalism.

no recollection of how I originally formed it. According to the foundational theory, assuming there are no defeaters, I am now justified in believing *P*. But that seems counterintuitive: *Why should the mere passage of time—plus some forgetfulness on my part—suddenly make me justified in believing P although initially I was unjustified?* (Goldman (2009), p. 323; emphasis added)⁵

The challenge here comes from the principled way in which the mnemonic seeming supposedly justifies any memory belief. Since the mnemonic seeming accompanies most occurrent memory beliefs, regardless of how they were originally acquired and retained, Sally_g and Sally_b both enjoy the same mnemonic seeming when the broccoli belief crosses their minds. To that extent, Sally_g is justified in holding the broccoli belief only if Sally_b is.

Together with the skeptical challenge, the Good Evidence Scenario and the Bad Evidence Scenario supplement each other and face many brands of CTS theories with a putative dilemma. On the one hand, if a CTS theory explains justification for Sally_g's broccoli belief by appealing to an element true only of Sally_g, it apparently fails to meet the skeptical challenge. Namely, the theory does not explain how memory beliefs in other scenarios where their original good evidence has been forgotten are justified. On the other hand, appealing to commonly-obtained contemporaneous elements such as the mnemonic seeming supposedly fails to meet the challenge posed by the Bad Evidence Scenario because it does not distinguish apparently justified memory beliefs from unjustified memory beliefs.

The Problem, for short, refers to the set of the challenges posed by each of the two forgotten evidence scenarios along with the skeptical challenge. Let us schematically summarize the Problem in this way:

- (1) CTS theories explain forgotten evidence scenarios by appealing to an element, *E*, that is contemporaneously true of the subject.
- (2) [The Challenge Posed by the Good Evidence Scenario] Most of our memory beliefs in forgotten good evidence scenarios are justified.
- (3) [The Skeptical Challenge] If *E* is not common enough to explain (2), skepticism about memory beliefs follows.
- (4) [The Challenge Posed by the Bad Evidence Scenario] Any *E* which is common enough to explain (2) justifies some apparently unjustified memory beliefs in forgotten bad evidence scenarios.
- (5) From (1), (3), and (4), CTS theories either result in skepticism about memory beliefs or make apparently unjustified memory beliefs justified. Therefore, no CTS theory can satisfactorily explain the justification of memory beliefs.

⁵ Mathew McGrath (2007, p. 4) argues against Huemer's intuition. Senor (2019) calls this problem the conversion problem. I am indebted to an anonymous reviewer for these references.

My tactics against the Problem are as follows. In the next two sections, I show how memory beliefs are retained in virtue of many of the subject's dispositions. I then discuss how particular kinds of dispositions in virtue of which a memory belief is retained also epistemically ground the belief in light of Ernest Sosa's (2007) notion of epistemic competence. In the final section, I show how comparing Sally_g's epistemic competence with regard to her broccoli belief to Sally_b's relevant dispositions meets the three challenges constituting the Problem.

4 Retention of a memory belief

One of the most influential, though increasingly less popular, views of memory is the Lockean storehouse model (Locke, 1997, Chapter X, Book II).⁶ Although the storehouse model mainly concerns episodic as opposed to semantic memory, it emphasizes preservation as the primary role of memory (see Fernández, 2019, p. 37). Analogously, *preservationism* assumes that the epistemic role of memory is solely preservative and claims that one's memory beliefs are epistemically grounded in one's past state (for a brief summary of epistemic preservationism, see Senor, 2019, Chapter 6).⁷ One of my main purposes in this paper is to refute epistemic preservationism.

Before discussing how memory beliefs are justified, however, I first focus on how memory beliefs are retained. If memory were like a storehouse of beliefs, then retaining a memory belief would be just like leaving a cardboard box in storage. This is, at best, a misleading picture. In my view, successfully retaining a memory belief at least requires maintenance of a complex set of mutually-related dispositions relevant to the belief content. Given this picture, when a person has retained a memory belief after the original evidence has been irreversibly forgotten, the person has maintained many dispositions relevant to the belief content, while losing other dispositions relevant to its evidence alone. This is not a likely scenario, as I argue below.

The primary disposition relevant to the retention of a memory belief must be a disposition to represent an occurrent thought accompanied by the mnemonic seeming. Let us call it a *memory disposition*. Properly functioning memory sustains a memory disposition which more or less reliably provides a sign of genuine

⁶ Psychologists have found ample evidence against the storehouse model and addressed the constructive nature of human memory. The philosophical literature on this topic has greatly expanded over the last decade, especially after Michealian (2016).

⁷ Bernecker and Grundmann (2017, pp. 526–527) distinguish between two types of preservationism; content preservationism and epistemic preservationism. It is worth noting that the dispute between content preservationism and constructivism is relevant to my argument here, but I agree with an anonymous reviewer that ultimately my position is consistent with both theories.

recollection; namely, one is usually disposed to the mnemonic seeming when one remembers something, and not so disposed usually when one remembers nothing.⁸

A memory disposition concerning a belief plays a central role in its retention. As long as it appears to the subject to be a more or less reliable sign of genuine recollection, the mnemonic seeming provides the subject with a *prima facie* reason to take the belief to be from his or her own past, and hence provides a basis for the subject to hold a pro-attitude toward the belief.⁹ Absent any specific reason to distrust his or her memory or past self, a person would maintain the same pro-attitude by deferring to the original judgement made by his or her past self (see Owens, 2000, p. 154).

Meanwhile, one's memory disposition alone may not provide sufficient support for retaining a memory belief. For instance, when a person has a compelling reason to suspect that the mnemonic seeming may deceive him—such as when the seeming is often deceptive—the person might question whether the occurrent thought is really a memory even when he or she seems to recall it.¹⁰ In such a scenario, and absent any supporting evidence, the occurrent thought with the mnemonic seeming might be considered merely haphazard. Then, whether the subject holds a pro-attitude toward the occurrent thought hinges upon other contemporaneous conditions, including many dispositions other than the memory disposition. In the next section, I argue that a memory belief tends to be forgotten without the support of such contemporaneous conditions.

I have one additional remark on the notion of memory disposition. Though *memory* disposition may sound retrospective, it has no historical implications. Conee and Feldman (2011, p. 305) say, for example, that “a disposition to recollect is a potentially momentary state.”¹¹ A memory disposition thus characterized is, in a sense, a mere disposition to ostensible recalling. Thus, in appealing to one's memory disposition, there is no concern that CTS theories implicitly smuggle an appeal to the subject's history into their explanation.

⁸ We may not be aware of the precise reliability of the mnemonic seeming, but we will eventually notice if it is very unreliable (e.g., when things we seem to remember are inconsistent with present observations and things learned from others).

⁹ See McGrath (2016) and Goldman's (2016) reply concerning the difference between justification for acquiring a belief and justification for retaining a belief. Senor (2019, pp. 5–7) provides a good summary.

¹⁰ An anonymous reviewer points out that there is always some reason to question the mnemonic seeming. I concur. Nonetheless, we habitually trust the mnemonic seeming.

¹¹ An anonymous reviewer points out that even though a disposition to recollect may be a momentary state, other dispositions constituting one's epistemic competence may not be. Even so, an appeal to epistemic competence as epistemic grounds for a memory belief does not deviate from CTS theories. CTS theories do not reject any justifiers with a history. Having evidence requires a certain duration (a momentary holding of evidence does not make much sense), but that does not make evidentialism less of a CTS theory.

5 Forgetting and the basis for retention

Retaining a belief is not like leaving its content in mental storage. For the same reason, forgetting a belief is not merely an arbitrary loss of its content in storage. In this section, I focus on how the process of forgetting proceeds—particularly the shift from the middle stages to the finish—in order to illustrate how the retention of a memory belief can become unstable after its original evidence has been completely forgotten.¹²

Sometimes, “forget” means a slip of one’s mind. When one of my colleagues sends me a message asking where I am, I respond, “I’m sorry. I completely *forgot* the meeting today.” (Let’s say today is the 25th of August.) Of course, I did not *completely* forget the meeting on the 25th of August in the sense that I did not lose all of the relevant information. The relevant information was still accessible; indeed, I immediately understood the meaning of the message.

Why did I fail to access the information—the meeting date—in a timely manner? It might have been because my surroundings provided no appropriate cues for the memory disposition. It is more likely, however, that I in fact encountered many opportunities in which appropriate cues for my recollection of the meeting date could be provided by way of a host of other relevant dispositions. For instance, I would feel as if I had a previous engagement on August 25th if I saw the August page of a calendar. I would feel urged to double-check the meeting date when thinking of its agenda. These dispositions are relevant to my recollection of the meeting date to the extent that their manifestations would have provided me cues for the recollection of the meeting date in due course. In such a scenario, however, I have missed many cues for other relevant dispositions, and thus failed to recall the meeting date.

Many of the relevant dispositions did not get manifested in the above scenario probably because they have become less reliable in the sense that appropriate cues easily failed to trigger them. The longer a piece of memory is retained, the less reliable its relevant dispositions tend to become.¹³ Let us call this stage in the process of forgetting *partial forgetting*. In partial forgetting of a memory belief that *p*, the memory disposition concerning the belief that *p* as well as many other relevant dispositions are degenerated and to a certain degree less reliable.

Partial forgetting may or may not gradually proceed to complete loss of a memory, or *complete forgetting*. Although what exactly counts as complete forgetting may pose a difficult question, a sufficient condition for complete forgetting is clear

¹² Philosophers and psychologists typically characterize forgetfulness in terms of inaccessibility and information loss (see Bernecker, 2018; Michaelian, 2011; Tulving & Pearlstone, 1966). For an inclusive treatment of the concept of forgetting in both senses, see Frise (2018b). It is noteworthy that forgetfulness was hardly a topic in analytic epistemology until recently (see e.g., Michaelian, 2011, p. 399).

¹³ Trace decay due to the passage of time is well-supported by psychological research, although other factors encourage or discourage forgetting (see e.g., Bower, 2000, pp. 12–14).

enough.¹⁴ When one is no longer able to consistently manifest the memory disposition as well as all the relevant dispositions, one has completely forgotten a belief.

In his attack against Goldman, McCain (2015, p. 475) correctly points out that a memory belief is usually held with plenty of evidence contemporaneously available to the subject. This is partly because successful retention of a memory belief requires a basis for its retention. Reliable and sufficiently strong mnemonic seeming offers some support, but retention is not very stable without relevant pieces of information. Even after the original evidence has been lost, one is usually able to link a memory belief to some other information at hand, regardless of whether or not the information constitutes epistemically good grounds for the belief. The information linked with an occurrent thought hinges upon a person's other dispositions. For instance, my memory belief that Shohei Otani is playing for the Angels is entrenched in my disposition to entertain visual images of a tall man in a red uniform when I hear the word "Showtime," and my knowledge that he is the man and the red uniform is that of the Angels.

When one is unable to link an occurrent thought with the mnemonic seeming to any apparently relevant information in one's repertoire, one has reason to wonder whether the thought might be a mere ostensible memory. Suppose a certain eight-digit number occurs to me. The number is in fact my old friend's telephone number, but I have completely forgotten this knowledge and lost all relevant information about the number. Sometimes I seem to recall the number, so I take the eight-digit number to be a genuine piece of memory. Naturally, however, I cannot come up with any idea about what the number means. Under these conditions, maintaining the same level of pro-attitude becomes increasingly improbable over time (see also Kelly, 2016, p. 53).¹⁵ I would probably pay no attention to the number if it occurred to me at some point. Eventually, it would become more rational for me to find the number to be merely random, and a piece of ostensible memory. Years later, I would lose the memory disposition, and the number would no longer occur to me, and thereby the number would be completely forgotten.

In this way, not only a memory disposition but also numerous other relevant dispositions play integral roles in the shift from partial to complete forgetting. Even when one's memory disposition concerning a belief is clearly and stably manifested, degeneration of other relevant dispositions may prompt the shift. Meanwhile, when a good number of relevant dispositions are to a certain degree maintained, degeneration of the memory disposition may not ultimately culminate in complete forgetting.¹⁶

¹⁴ We may completely lose access to belief content while holding some other relevant dispositions, for example. Think of Mark Rowlands's (2016, Chapter 3) Rilkean memory.

¹⁵ Kelly (2016, pp. 56–57) correctly points out that the intuition that holding a memory belief without the original evidence is less likely makes "convincingly deploying such cases against current time slice views" a challenging task.

¹⁶ Think of a dementia patient who is consistently able to return to a previous home. The person does not recognize nor seem to remember the place upon arrival. Suppose someone tells the person that he or she used to live there. Does the person relearn the fact? I am inclined to say

A certain combination of dispositions not only supports retention of a memory belief, but also constitutes excellent epistemic grounds for the belief. Ernest Sosa's (2007) notion of epistemic competence as a disposition to truth provides important insight into the justificatory status of a memory belief when its original evidence has been forgotten. According to Sosa (2007, p. 29), "a competence is a disposition, one with a basis resident in the competent agent." Moreover, Sosa (2007, p. 33) argues that "[f]or any correct belief that *p*, the correctness of that belief is attributable to a competence only if it derives from the exercise of that competence in appropriate conditions for its exercise, and that exercise in those conditions would not then too easily have issued a false belief."

A memory belief is retained with a basis for its retention—a host of dispositions. Dispositions that contribute to the retention basis for a memory belief, including a memory disposition, do not guarantee the truth of that memory belief. Thus, even when one retains a memory belief with a solid basis, the belief may fail to be epistemically well-grounded.¹⁷ Meanwhile, it is more likely that a memory belief is epistemically well-grounded when its retention basis comprises a host of *truth conducive* dispositions. The inclusion of a certain set of dispositions in the retention basis may incline one to link a true belief to good evidence rather than not, and thereby retain the true belief with some evidence such that the person continues to be well-justified in holding the true memory belief even after its original evidence is long gone. On the contrary, even when one has a solid retention basis for the belief—such as when one blindly trusts one's memory disposition—if one is not competent enough, the basis may incline one toward bad evidence, and thereby the belief may lack sufficient epistemic grounds.

In the final section, I show that it is likely that Sally_g remains epistemically competent after the original evidence has been completely forgotten, and thereby her broccoli belief is still justified. I also argue that subjects in common good evidence scenarios are somewhat like Sally_g, so that the Skeptical Challenge is met. Unlike Sally_g, as I argue, Sally_b is likely to remain epistemically incompetent even after the original evidence has been completely forgotten. Thus, the Challenge posed by the Bad Evidence Scenario will be met at last.

6 Difference between Sally_g and Sally_b

Let us start with Sally_g. Her broccoli belief had formerly been firmly rooted in her knowledge in virtue of her epistemic competence when the belief was acquired. She read an article on the healthfulness of broccoli in the "Science" section of the *New York Times*. This fact alone does not seem to constitute good *enough* evidence.

that the person has retained the knowledge even after the memory disposition has been lost. Note that relearning is typically characterized by loss of appropriate causal connection (see e.g., Robins, 2020, p. 125).

¹⁷ Thus, in my view, memory dispositions (and their manifestations) by themselves do not justify a memory belief, although they usually contribute to a solid retention basis.

Potentially, for example, she might have been ignorant of the trustworthiness of articles in the *New York Times* in general, or in the “Science” section specifically. Thus, Sally_g’s broccoli belief must have hinged upon plenty of her relevant knowledge and dispositions which led her to base the broccoli belief on the original evidence.

Naturally, the epistemic grounds for Sally_g’s broccoli belief simultaneously constituted a part of its retention basis. Unless there is reason to believe that a major part of the retention basis has been lost, even after Sally_g has completely forgotten the original evidence, a scenario in which she maintained a good part of the relevant dispositions and knowledge is more likely. Thus, it is likely that retention of an originally well-justified memory belief has a firm basis, and the basis also contributes to the epistemic grounds of the belief after its original evidence has been forgotten.

Of course, Sally_g might have lost all of her retention basis for the broccoli belief aside from its memory disposition. Then, her broccoli belief may lack any good epistemic grounds, so that she is no longer justified in holding the belief. At the very least, however, such a scenario is atypical. This is because, after losing the original evidence, it becomes increasingly difficult for Sally_g to maintain her pro-attitude toward the healthfulness of broccoli unless she acquires a new basis for it. At some point, Sally_g comes to wonder why she believes that broccoli is healthful, and her loss of the entire retention basis even undermines her trust in the mnemonic seeming accompanying the belief. At this point, nothing prevents Sally_g from inclining toward the complete-forgetting of her broccoli belief. Accordingly, stable retention of the broccoli belief alone alongside loss of its entire basis becomes a rather improbable scenario in the long run.

In more probable scenarios, even after losing the original evidence, Sally_g remains more or less epistemically competent enough to justify her broccoli belief. If she wondered about the evidence for her broccoli belief, she would feel as if the belief must have been from a reliable source; it could sound particularly plausible to Sally_g when someone talks to her about the healthfulness of broccoli. It is thus not mere coincidence that Sally_g has linked the broccoli belief to other, equally good evidence. She could easily find new grounds for the broccoli belief, partly because it is commonsensical. Furthermore, Sally_g is likely to maintain many of the dispositions which led her to the original good evidence for her broccoli belief. For instance, she may be attracted to information about healthy diets from reliable sources (e.g., she is an enthusiastic fan of the Food Channel and reads many food magazines). It is likely then that she remains disposed to collect pieces of good evidence for her broccoli belief in the course of her daily activities. Even after the original evidence has been lost, Sally_g must have had numerous opportunities to acquire new good evidence rather easily due to her remaining dispositions. Absent any reason to suspect otherwise, we thus have good reason to assume that Sally_g’s broccoli belief is still epistemically well-grounded because she remains as epistemically competent as she was before the original evidence was forgotten.

Note that Sally_g has maintained most of her relevant dispositions ever since she originally acquired the broccoli belief, but the history of her dispositions makes no contribution to the belief's epistemic grounds. Sally_g's broccoli belief is epistemically well-grounded only in virtue of Sally_g's epistemic competence, that is, because the dispositions constituting her belief's retention basis are generally truth conducive. Thus, historical elements play no role in the justifiedness of her broccoli belief.

Naturally, the less commonsensical the content of a memory belief is, the less easily one can acquire a new piece of evidence for it. Even so, the subject of a common good evidence scenario who has a less commonsensical piece of knowledge should be much better disposed to acquire some new evidence after losing the original evidence than those who do not have the knowledge at all. The subject was once epistemically competent enough to have acquired the original good evidence, and *ceteris paribus*, he or she is likely to remain so. If my observation here is correct, even after the subject has completely forgotten the original evidence, the memory beliefs in common good evidence scenarios usually have good epistemic grounds.¹⁸

An antagonist might respond that there remain cases in which Sally_g retains the broccoli belief without having any of the relevant dispositions which contribute to the original good epistemic grounds for the belief. She no longer remembers how she originally acquired the belief, but it seems to her that broccoli is healthful. Except for the memory disposition, she apparently lacks any dispositions which help her to acquire new good evidence for the belief. The antagonist questions how my proposal can explain the apparent justifiedness of her belief in such a scenario.¹⁹

I do not claim here that it is impossible for Sally_g in some scenarios to hold the broccoli belief while losing all the relevant dispositions except for the memory disposition. My proposal implies that her memory belief in such a scenario is unjustified, despite the antagonist's intuition that the belief should be justified. If my previous argument is successful, however, the scenarios that the antagonists might find problematic are much less frequent than they perhaps suppose. One tends to forget a belief completely once only the memory disposition remains, but the rest of the retention basis has been lost. Even when a subject is described as having no good reason to retain a memory belief other than the mnemonic seeming, there is a reason to suspect—so I argue, at least—that the subject's epistemic status is simply under-described. After all, it is not easy to list all the dispositions relevant for the retention of a memory belief. For example, Sally_g can search on the Internet and easily confirm the truth of her broccoli belief if she is epistemically competent enough to distinguish reliable sources from unreliable ones. She must have numer-

¹⁸ Given a dispositionalist account of belief, maintaining dispositions as a part of the retention basis for one's memory beliefs may be equivalent to holding of a set of coherent beliefs. Then, my position might be aligned with coherentism, but I take no stance on this point here.

¹⁹ An anonymous reviewer raised this concern.

ous similar dispositions behind the acquisition and retention of the broccoli belief. If Sally_g's broccoli belief was acquired in virtue of her epistemic competence, it is unlikely for her to have lost her competence as soon as she forgot the original evidence. To that extent, these unspecified relevant dispositions—some from when she originally acquired the broccoli belief and others acquired afterwards—are generally truth conducive. Likewise, many good evidence scenarios in which a subject appears to lack any reason for retaining a memory belief are under-described. According to my characterization of the Problem, CTS theories can meet the Skeptical Challenge by explaining *most* good evidence scenarios away, and by discounting scenarios in which Sally_g allegedly loses *all* the relevant dispositions as ambiguous or exceptional cases.

So far, both the Challenge Posed by the Good Evidence Scenario and the Skeptical Challenge have been met. The final question now is: how does this solution evade the Challenge Posed by the Bad Evidence Scenario? If *E*—Sally_g's contemporaneous justifier— is commonly obtained in typical good Evidence Scenarios and epistemically grounds her broccoli belief, then how can it be absent in typical Bad Evidence Scenarios?

First of all, Sally_b is more inclined to completely forget the broccoli belief than Sally_g.²⁰ After all, unlike Sally_g, Sally_b did not have a solid retention basis for the broccoli belief when it was acquired. She had read and trusted an article in the *National Enquirer*. Her original evidence was probably not well-supported by her other beliefs. Furthermore, she did not seem to have many dispositions which inclined her to retain the broccoli belief except for the memory disposition. When she comes to wonder why she believes that broccoli is healthful, she probably relies on the mnemonic seeming. As we saw above, at some point it would become natural for her to find the thought to be an arbitrary, ostensible memory, and thereby eventually forget the broccoli belief completely.

In cases where Sally_b has stably retained the broccoli belief after she has completely forgotten the original evidence, some of her dispositions which originally led her to the broccoli belief probably remain and contribute to the retention basis for her broccoli belief. She still reads and trusts the *National Enquirer* or similarly unreliable sources. Then, she is no more likely to have access to good evidence for the broccoli belief than before. We thus have no reason to grant Sally_b the same kind of epistemic grounds for the broccoli belief that Sally_g should have acquired after they have both completely forgotten the original evidence. Sally_g is likely to earn new, *good* evidence for her broccoli belief, and analogously, Sally_b is likely to earn new, *bad* evidence for it instead.

Proponents of the Problem might claim that forgetting the original bad evidence removes the undefeated defeater in the scenario, and hence that Sally_b's

²⁰ An anonymous reviewer points out that this might not be the norm given the illusory truth effect. Such cases do not affect my argument since the illusory truth effect makes the subject unjustified in holding the belief just as Sally_b remains unjustified after completely forgetting her bad evidence.

broccoli belief has become justified. If my observations so far are correct, it is very unlikely that her original bad evidence was the *sole* defeating element. Goldman (2009) is correct in complaining that simply forgetting bad evidence for a belief would not improve the epistemic grounds for the belief. Forgetting one piece of bad evidence does not necessarily incline one toward good evidence. Sally_b had a host of beliefs and dispositions which undermined her epistemic grounds—if any—for her broccoli belief, and she is likely to have retained many of those beliefs and dispositions even after she completely forgot the original evidence.

Even if forgetting the original bad evidence removes some undefeated defeaters, their removal is not necessarily a sign of Sally_b's epistemic improvement. Forgetting the original bad evidence improves the epistemic grounds for her broccoli belief only insofar as she has become epistemically more competent than before. Sally_b might have been exposed to potentially good evidence for the broccoli belief at some point. Even so, she would have failed to take notice of its evidential implications unless she had earned better epistemic competence by then (e.g., she has learned things about nutrition, and tends to read trustworthy magazines). Absent any such epistemic improvements, Sally_b's broccoli belief is more likely to have remained unjustified even after its original undefeated defeaters were removed. As long as Sally_b remains epistemically as incompetent as before, she would have acquired other bad evidence for the broccoli belief and faced different undefeated defeaters. Hence, no matter what justifies Sally_g's broccoli belief in the Good Evidence Scenario, Sally_b's broccoli belief would not likewise be justified in this type of scenario.

Because the healthfulness of broccoli is commonsense, when Sally_b wonders whether her broccoli belief is really true, she may be able to find plenty of good evidence for it. Suppose now that ever since Sally_b forgot the original bad evidence, she has acquired many dispositions which have led her to good evidence for the belief.²¹ In this scenario, Sally_b is no longer as incompetent as she used to be, and her broccoli belief has come to be epistemically well-grounded. Only in this type of scenario do Sally_g's and Sally_b's broccoli beliefs have equally good epistemic grounds, *E*, so that both should be justified.²² At the same time, Sally_b should have

²¹ In my proposal, Sally_b's broccoli belief may be as epistemically well-grounded as Sally_g's despite their different histories if they have become equally epistemically competent. This is an advantage of my proposal over epistemic preservationism, including reliabilism (see McGrath, 2016, pp. 73–74).

²² An anonymous reviewer raises concern about a Bad Evidence Scenario in which Sally_b has acquired dispositions which improve her chances of acquiring sufficient grounds for her belief, but those dispositions have not yet led her to good evidence. I agree that, in such a scenario, Sally_b's broccoli belief may not be justified yet. However, whether or not her belief is doxastically justified depends not only upon whether she is epistemically competent (i.e., has truth conducive dispositions), but also upon whether her dispositions constitute the belief's retention basis. Even when Sally_b has become epistemically competent, her originally unjustified belief may not be grounded in her improved epistemic competence. In this scenario, Sally_b's new dispositions did not constitute the retention basis for her broccoli belief, although it is hard to specify when exactly the belief comes to be retained in virtue of her new set of dispositions.

achieved significant epistemic improvements by then. I wonder whether anyone complains about the justifiedness of Sally_b's broccoli belief in this scenario, for it is just as epistemically well-grounded as Sally_g's. No apparently unjustified belief is justified in such a variant of the Bad Evidence Scenario. Hence, this type of scenario provides no support to the Challenge Posed by the Bad Evidence Scenario in the Problem.

7 Concluding remark

The problem of forgotten evidence, consisting of three challenges— the Challenge Posed by the Good Evidence Scenario, the Skeptical Challenge, and the Challenge Posed by the Bad Evidence Scenario—is thus resolved by a certain brand of CTS theories. Sally_g's broccoli belief is justified as long as she remains epistemically competent after she has forgotten the original evidence. Hence, the Challenge Posed by the Good Evidence Scenario is met. A common forgotten good evidence scenario in which one retains a belief without any epistemic grounds is atypical, so the Skeptical Challenge is met. Also, the retention bases for Sally_g's and Sally_b's broccoli beliefs continue to differ, even after the original evidence has been completely forgotten. After all, Sally_g and Sally_b retained the broccoli belief in virtue of their different dispositions. Therefore, granting justification for Sally_g's broccoli belief in the Good Evidence Scenario does not imply the same for Sally_b, and thus, the Challenge Posed by the Bad Evidence Scenario is met.

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