# ELIMINATING THE PROBLEM OF STORED BELIEFS

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### ABSTRACT

The problem of stored beliefs is that of explaining how non-occurrent, seemingly justified beliefs are indeed justified. Internalism about epistemic justification, the view that one's mental life alone determines what one is justified in believing, allegedly cannot solve this problem. This paper provides a solution. It asks: Does having a belief that $p$ require having a special relation to a mental representation that $p$? If the answer is yes, then there are no stored beliefs, and so there is no problem. Drawing on extensive research in cognitive psychology, this paper argues that memory doesn't store the representations required for stored belief, and we don't bear the special relation to anything memory does store. On the leading "no" answer, a belief is roughly a set of dispositions. This paper argues that a justified belief is then best understood as a set of dispositions. Since these dispositions are mental, internalism can count the right stored beliefs as justified.

## 1. INTRODUCTION

**M**ost of our beliefs at any given time are in no way before our minds. They are merely *stored* in memory. And we're inclined to think that many stored beliefs are justified. After all, they were justified when they were before our minds. But what justifies them now? The *problem of stored beliefs* is the problem of satisfactorily answering this question.

Some philosophers allege that internalism about epistemic justification cannot solve this problem.[1] According to internalism, possible beings who are mentally identical at a time are equally justified in believing the same propositions at that time.[2] Mental features alone justify. Internalism implies that no contingent feature of a subject's environment affects her justification unless it affects her mental states, events, or conditions. Someone whose experiences are identical to mine but who is massively deceived by an evil demon, for example, is justified in believing the same propositions I am. Alvin Goldman (2011, p. 260) motivates the allegation against internalism with an example:

### ICHABOD[3]

Years ago Ichabod formed a belief in proposition $q$ by acquiring it in an entirely justified fashion. He had excellent evidence for believing it at that time. . . . After ten years pass, however, Ichabod has forgotten all of this evidence and not acquired any new evidence, either favorable or unfavorable. However, he continues to believe $q$ strongly. Whenever he thinks about $q$, he (mentally) affirms its truth without hesitation. At noon today Ichabod's belief in $q$ is still present, stored in his mind, although he is not actively thinking about it. I stipulate that none of his other beliefs confers adequate evidence either for believing $q$ or for disbelieving it.

Goldman finds it intuitive that at noon, Ichabod's stored belief that $q$ is justified, and he argues that internalism lacks the resources to account for this intuitive judgment. Ichabod has forgotten all his original reasons for believing $q$ and has acquired no new ones, and he is not having an experience that justifies his belief that $q$.[4] If none of Ichabod's mental features justify his belief, according to internalism, it is unjustified.

Here is a reconstruction of the general argument that Goldman (2011, pp. 260–261) and others think this sort of case supports:

### Stored Beliefs Argument

P1.  At noon, Ichabod's stored belief that $q$ is justified.
P2.  If internalism is true, Ichabod's stored belief that $q$ is unjustified at noon.
C.   Internalism is false. (P1, P2)[5]

What's more, Goldman claims that most beliefs that seem justified are relevantly similar to Ichabod's belief that $q$; countless cases that are schematically identical to ICHABOD are possible. Goldman suggests that internalism implies that these beliefs are unjustified as well, and so internalism implies a kind of skepticism about justification: if internalism is true, most seemingly justified beliefs are unjustified.[6] Apparently, any theory of justification that lacks a good solution to the problem of stored beliefs is significantly discredited. A good solution is critical to internalism's survival.

It is worth noting that externalist theories of justification face this problem too. According to externalism, a contingent feature of a subject's environment can affect her justification without affecting her mental life. There is, however, a widely endorsed, externalist-friendly solution to the problem called *preservationism*, roughly the view that memory preserves the justification of the beliefs it preserves. Preservationism allows a subject's past, and past environment, to make a difference to her current justification

without making a current mental difference. All main varieties of internalism are incompatible with preservationism, so internalism's problem of stored beliefs appears especially hard.[7]

Replies to arguments like the Stored Beliefs Argument have focused on premises like P2 (Audi 1995; Conee and Feldman 2004; 2011; McGrath 2007; Piazza 2009; McCain 2014).[8] P1 is uncontested. Interestingly, critics and advocates of these arguments have been silent about precisely what it is that having a belief requires. In this paper, I consider the two by far dominant views about belief. On the traditional view of belief, I argue, data from the cognitive psychology of memory suggests that P1 is false: we don't have *stored* beliefs at all, so there are no justified stored beliefs. The other view of belief, I argue, not only provides a new reason to doubt P2, but also reveals a new argument for internalism. I remain neutral about which view of belief is correct. But on either, I claim, internalism's (and externalism's) problem of stored beliefs is solved.

I begin by briefly examining the support for P1. Then I review the relevant empirical data on memory and the two main theories of belief, and I evaluate P1 and P2 in light of them. Finally, I respond to three objections.

## 2. Stored Beliefs and the Nature of Memory

I will make clearer what P1 states before I review its support. Just what is a *stored* belief? Many philosophers simply define it as a belief that is not occurrent. Unfortunately, they do not use *occurrent* uniformly. Some (e.g., Goldman 2009, p. 323; Moon 2012, p. 312) describe an occurrent belief as conscious and a stored belief as nonconscious. A *conscious* belief is manifest in consciousness, perhaps in a conscious judgment or conscious inference, or perhaps it contributes to the phenomenology of one's experience. Elsewhere (e.g., Goldman 1999, p. 278; 2011,

p. 260), philosophers describe an occurrent belief as active and a stored belief as inactive. An *active* belief either plays a role in action or in unconscious practical or theoretical reasoning, or it is manifest in consciousness (so all conscious beliefs are active, but not all active beliefs are conscious). And others (Audi 1995, p. 33; Senor 2009) leave *occurrent* ambiguous.

I use *occurrent* for active, and *stored* for inactive rather than simply unconscious. I do this because, for two reasons, it makes the problem of stored beliefs even more challenging, and I aim to rescue internalism from the greater challenge. First, inactive beliefs are less of a mixed bag. A greater ratio of them seems justified. This is in part because many unconscious yet active beliefs are paradigms of what is unjustified, like your belief that all spiders are dangerous, that your mother never loved you, that you are more likely than others to win the lottery, and so on. Second, when an unconscious belief is active and *does* seem justified, it can be easy to explain its justification by appealing to whatever *activated* it. When I realize I need food for the party, I immediately form a mental image of The Market. I unconsciously believe that The Market sells food. My mental image could activate my unconscious belief, leading to me going to The Market. Internalists can appeal to the image when explaining the justification of my unconscious belief. Perhaps the best explanation available to me for why I would picture the Market when I realize I need food is that the Market sells food. The image could therefore help justify the unconscious belief, on internalism. When the belief is inactive, however, it is more challenging to explain its justification. There is no mental image to appeal to.

P1 is attractive because Ichabod's stored belief seems ordinary, and ordinary beliefs seem justified. We have many beliefs, but few at any given time are occurrent. So most are stored. And we aren't systematically irrational. We tend to believe reasonably, even when our beliefs are inactive. So most stored beliefs like Ichabod's are justified.

But why suppose in the first place that we have many beliefs? Because it is part of the best explanation of our own experiences and behavior, and of the observed behavior of others (Dretske 1988; Fodor 1987, chap. 1; 1990, p. 4; Audi 1994, pp. 425–426; Baker 1995, p. 4; Braddon-Mitchell and Jackson 1996; Carruthers 2013). Part of what explains your reaching into your pocket to retrieve your ringing cell phone is that you believe your phone is in your pocket and want to answer it. Considerations of simplicity take us from here to the view that most beliefs are stored. When you put your phone in your pocket earlier, you believed it was there, and you believed it was there when you took it out an hour later. It's simpler to suppose that you retained your belief in the intervening time, even though that belief would be entirely dormant in memory; it's more complicated to suppose that your belief was destroyed and then later formed again.

This simpler explanation is part of the traditional folk theory of memory: memory is like a storehouse (the items we retrieve from memory are the same ones we deposited in it earlier) or like a recording device (memory records and stores copies of many of our mental states, and to recollect is to replay those recordings). Memory preserves information and our doxastic attitude toward it (belief, disbelief, or suspended judgment). Stored items may eventually lose some detail or even disappear, but otherwise the inputs and outputs of the storehouse match. The folk theory of memory is a natural one to endorse, and it has a venerable history—we find it in Plato, Augustine, various early modern philosophers, and much twentieth-century philosophy (e.g., Audi 1994, p. 420). But it is almost universally rejected in contemporary cognitive psychology. In the rest of this section, I explain why, taking many cues from

Michaelian's (2011; 2012) interpretation of the empirical literature. In the section after, I argue that the standard contemporary view has an important upshot: on only one of two main views about belief is it plausible that we have many beliefs and that most are stored.

The standard contemporary view in psychology is that memory processing is thoroughly constructive (Tulving 1982; Schacter, Norman, and Koutstaal 1998; Koriat, Goldsmith, and Pansky 2000; Sara 2000; Dudai 2004; Alberini 2005; Loftus 2005; Schacter and Addis 2007; Robin 2010). In three phases of processing—encoding, consolidation, and retrieval—information in memory typically changes significantly. To elaborate, I will start by explaining the phenomenon I call *content alteration at encoding*. Encoding is the initial process of memory storage, where information enters into memory. However, information changes considerably when encoded.[9] A subpersonal process massively pares down the amount of information entering memory. If the memory processing has propositional content, a meaning is abstracted from the lexical and syntactic properties of the information that survives the paring down. The abstracted meaning is then interpreted in light of information that is already stored and then integrated with it. The content that entered the encoding process differs considerably from what eventually is stored in memory, and from what may be accessed later on. For example, typically the "gist" of incoming information is extracted and stored, and later on, we are more likely to access the gist than the original information.[10] The encoding process also, for example, normally enlarges the boundaries of stored visual information and often changes the visual perspective. In short, there is considerable content alteration at encoding. It is the norm.

After the encoding phase, there is a memory process called *consolidation*, where content is further altered. When encoded information enters long-term memory, content about general features of that information is generated. Only then is the information stored. And, if this stored information is ever retrieved, it must again go through the content-altering process of consolidation in order to be stored again.

But even if consolidation stops, and there is a stable storage phase afterward, the retrieval process itself constrains and modifies the information we access. It is a standard view in psychology that what is stored in the brain or mind only partially determines what we recall during memory experience. Contextual features determine the rest. I call *content alteration at retrieval* the phenomenon in which the retrieval context adds to or constrains the content that is retrieved from the mind. Here are just three of the many types of things that contribute to this content alteration. One is the *cue* that prompts recollection. For example, if a prompting question "leads the witness," the subject's recollective experience is more likely to incorporate information from the leading question.[11] However, if a subject is questioned properly—for example, if asked to visualize the context of an event or to replay events in various orders—the subject can recollect a notable amount of information that might, to her, have seemed lost.[12] The manner in which stored information is cued can add to or constrain what exactly one retrieves from memory.

Another kind of contributor is the *related information the subject has recently retrieved or learned*. Having recently recalled certain information can make one less likely to recall related information (Bjork and Vanhuele 1992, p. 156; Anderson and Bell 2001). Also, studying a list of thematically related words makes one more likely to recall incorrectly, when prompted, that the theme word was on the list.[13] And, having recently thought about information related to a question's answer makes one more likely to recall, incorrectly, that that information is the answer.[14] The information one has recently thought about

constrains or contributes to what one recol-lects.

A third kind of contributor is the *makeup of the retrieved content itself*. From the amount of detail that the retrieved informa-tion contains, we often infer (unreflectively, mechanically, and in light of background information) the original source of that in-formation, and the inferred source becomes part of the content of recollective experience (Mitchell and Johnson 2000). This process, called *source monitoring*, helps us determine whether the retrieved information originated in experience or merely in imagination.

Psychologists widely accept that the best explanation of observed content alteration at retrieval, and of various types of observed memory distortion, is that *in general*, the pro-cess of retrieving information from memory is constructive.[15] If they are right, there is considerable content alteration at retrieval. Alteration does not just occur when things go amiss. It is the norm.[16] Interestingly, none of this discredits memory. Michaelian (2011, pp. 329–330) argues that memory is, nonetheless, reliable. He claims that source monitoring uses background information and details contained in any representation produced at retrieval to determine with sufficient accuracy its origin (imagination, visual experience, etc.). Michaelian also claims that memory processing is *designed* to alter information in such a way that beliefs formed at retrieval tend to be true. And many psychologists (e.g., Bjork and Vanhuele 1992; Schacter and Addis 2007) have argued that the constructive nature of memory is an evolutionary adaptation. Schacter (2001, pp. 192–193), for example, claims that by extracting the gist of experi-ences, memory allows us to store and access useful information efficiently; we needn't store many particulars. In fact, Schacter thinks gist extraction is "fundamental" to creating and appreciating categories for ob-jects, and to organizing and generalizing from experiences.

Simply put, it is not the function of memory to store copies of inputs and then to output them later, much less to output belief in them. Rather, memory dismantles and highly selec-tively stores bits of inputs, and then adds to these inputs, and then adjusts them in light of features of the retrieval context, and only then does a recollection get its exact content, and nothing about memory by itself guaran-tees that this content will even be endorsed; whether we endorse what we retrieve is determined by our *confidence*, at the time, in what is retrieved. And a metamemorial process uses several factors from the retrieval context to produce this confidence.[17] Recol-lected content is best explained as *generated*.

## 3. Two Theories of Belief, Two Solutions to the Problem

### 3.1 Representationalism

These findings suggest that memory typi-cally is not like a storehouse. It typically alters what enters and exits it, and leaves indetermi-nate whether anything will be endorsed. This is significant given *representationalism*, the traditional view of belief. Representational-ism entails the following: if S believes that *p*, then S bears a certain relation to a mental representation that *p* (Fodor 1987; 1990; Dretske 1988; Braddon-Mitchell and Jackson 1996; Cummins 1996; Carruthers 2013). This representation is in S's "belief box"; the relation S bears to the representation is such that it tends to cause S to act and think as if *p* is true.[18] If the belief is stored, then the representation is too, and when active, it tends to cause S to act and think as if *p* is true.[19] Keeping a belief in storage requires keeping a suitable relation to a mental representation.

I claim, first, that no mental representations that match the content of our alleged stored beliefs survive memory processing. And second, that even if some matching mental representations persist, we do not bear the re-lation to them that representationalists require for belief. The content alteration at encoding,

consolidation, and retrieval and the way that endorsement depends on the retrieval context support these theses. If I am correct, then on representationalism, we do not have stored beliefs. Given representationalism, my two claims provide two arguments against P1.

To be clear, it is consistent with my first claim that memory in some sense stores information. Memory does store information, but nearly all of its content is underdetermined until accessed.[20] Even the content alteration at the encoding stage often prevents us from having the enduring representations required for enduring stored beliefs. Representationalism is supposed to explain, among other things, how a belief that *p* can be retained when no longer occurrent. The explanation is that a stored representation that *p* is in the belief box. This representation will count as being stored in this box at the time that the belief ceases to be occurrent. But when a belief ceases to be occurrent, its representational content is often still in the encoding stage of memory processing. Encoding is not instantaneous. And encoding alters that what eventually emerges typically content. Stored representations will often undergo *all three* stages of alteration, with the result that what eventually emerges will not be the same as what entered. Memory does not typically preserve representations that match the contents of our alleged stored beliefs. Memory primarily stores fragments of these contents, or stores other representations, which we use during recollection to generate the content of our alleged stored beliefs.

On the best explanation of these three stages of content alteration, what memory stores provides merely the *potential* to mentally represent the matching content, in the right context of retrieval. Yet belief requires *actual* mental representation, on representationalism. Now, we might be tempted in response to be more liberal about what counts as actually mentally representing. It might be tempting to suppose that via memory we

actually mentally represent *p* in the sense that via memory we have the potential to mentally represent *p*. But this would be too liberal. Memory gives us the potential to mentally represent many things that we've never thought of, things we would consider novel if thought. But we shouldn't count as actually mentally representing these propositions yet. For if we did, we could absurdly count as already *believing* them. It's more plausible that we at most have a mere disposition to believe these propositions. Further, if we accept the more liberal account of mental representation, then representationalism is not relevantly different from dispositionalism (see section 3.2). On the more plausible and less liberal view of mental representation, the content of a belief does not endure in memory. If it does not, it is doubtful the content endures at all. We don't continuously represent the content of most alleged stored beliefs.

Why do I say "most"? Because it is consistent with the data discussed that memory processing does not alter *every* representation at some stage or other. Perhaps some persist unchanged, such as representations of well-memorized facts. But it would be odd if we had stored beliefs in only those facts. It would be odd if we had just a handful of the stored beliefs we thought we had—odder than if we had no stored beliefs. As noted above, we are inclined to posit stored beliefs in the interests of simplicity. Many occurrent belief contents diachronically match. We retain information and believe it later. *Ceteris paribus*, it's simpler to suppose that we retain doxastic attitudes too. But other things aren't equal. Our folk theory of memory is false, assigning memory a critical role it does not play. It is somewhat like a storehouse, but more like a factory. In light of the data, we *must* explain the retention of information where, for the most part, there is no retention of doxastic attitudes. It will be more complex to suppose additionally that there is any retention of doxastic attitudes, and that there

is an additional type of stored information: namely, that which we bear a doxastic attitude toward. If representationalism is true, the best explanation of our data is that memory only generates beliefs and never keeps them, and the folk-psychological view that we have stored beliefs is not literally true (though, in the next section, I explain how it is still true in a derivative sense).[21] If, after retrieving information from memory, our felt confidence leads to endorsement, belief is formed rather than activated.[22] If this is correct, P1 is false. Ichabod doesn't have a stored belief that *q*.

So far, I have discussed the support for and implications of my first claim, namely, that we do not store representations that match the content of our alleged stored beliefs. In the rest of this section, I do the same for my second claim. That claim is that *even if* memory does store matching representations, we do not bear the *relation* to these representations, which, according to representationalism, is required for belief. Even if memory stores a determinate representation, the way it is stored underdetermines our propositional attitude toward its content. If a representation is stored, it isn't stored in a "belief box."

As I noted above, contextual features partially determine whether retrieved information will be endorsed. It is not the *default* that we endorse retrieved information—it is not as if we will accept information as long as no relevant doubts emerge. Instead, the default is that during retrieval, the process of source monitoring uses heuristics to determine whether the information originated from experience or from mere imagination. The information's origin isn't encoded in memory. Whether we endorse the information depends on what the heuristics indicate, which in turn depends partly on features of the retrieval context. We don't store and then withdraw information from a belief box. We don't bear a special belief-relation to stored information.

In other words, we must read representationalists as stating a requirement on having

a stored belief that is never met. According to Carruthers (2013, p. 148), for example:

> Someone who believes that there is beer in the fridge, for instance, has a stored state composed of the concepts BEER and FRIDGE that represents that there is beer in the fridge, and which, when active is apt to interact with an occurrent desire for beer so as to issue in fridge-opening behavior, and which is apt to cause surprise if the fridge turns out to be empty.

But what's stored in memory must be interpreted when activated before it will help issue any behavior. As a result of merely *imagining* beer in the fridge, the subject can store a suitably composed "state" that represents that there is beer in the fridge. When active *and interpreted in a certain way*, the state *so-interpreted* is apt to interact with the occurrent desire and lead to fridge-opening behavior; in particular, the state must be interpreted as representing what actually is or was the case, not as representing what was imagined. If the state is instead interpreted as representing some imagined condition, it leads to other behavior, or to none at all. But what's stored isn't itself apt to interact, when active, with any sort of desire. Source monitoring must first provide the right interpretation. Then, a metamemorial process must produce sufficiently high confidence in the interpretation. So, we don't store representations in the way that having belief in their content requires. To be clear, this is not an objection to Carruthers's view, but an observation of what it leads to, given the empirical data. A stored representation is not by itself, when active, poised to play those causal roles that representationalism requires for belief. Only an endorsed interpretation of the representation is so poised. There are no stored representations in the belief box.

In case the reader is not yet persuaded, here is a reductio. A representation in the belief box is one we are poised to base actions on, such that if it is true, then our actions based

on it tend to get us what we want (Braddon-Mitchell and Jackson 1996, p. 181). If any *stored* representation meets this requirement, every stored representation that originated in imagination meets it too. After all, in the right retrieval context—one in which recollection presents an imagined episode as having happened—we are poised to base action on the episode. If the episode is accurate, then action based on it tends to get us what we want. But it is absurd that we count as believing the content of every stored representation of what we once merely imagined.

If representationalism is true, there are no stored beliefs. We don't bear the required relation to what we store, and we don't store the required representations. P1 is false. The belief box contains only occurrent beliefs. Ichabod doesn't believe that *q*. Internalism has nothing to account for here.

### 3.2 Dispositionalism

The leading rival to representationalism is *dispositionalism*. If representationalism is false, then P1 may be plausible. But I will argue that if dispositionalism is true, then there is new reason to doubt P2. Dispositionalism states that S believes that *p iff* S has a suitable combination of dispositions pertaining to *p* (Audi 1972; Baker 1995; Schwitzgebel 2002; 2013; Matthews 2013).[23] More than one combination is suitable. The dispositions can be behavioral, cognitive, or phenomenal—a subject who believes that *p* is disposed to act or think in certain ways, or to have certain experiences. If you believe your cell phone is in your pocket, you may be disposed *to tell* that to others, *to infer* that you have a way of calling your spouse, or *to feel* confident that you have your phone on you. Importantly, believing that *p* does not require having a mental representation that *p*, much less bearing a special relation to a mental representation that *p*.

Dispositionalists standardly admit that it is hard if not impossible to specify exhaustively and non-circularly which combinations of dispositions pertaining to *p* are suitable, or what suffices for having one of these dispositions (Audi 1972, p. 43; Baker 1995, p. 161; Schwitzgebel 2002, pp. 251–252; 2013, pp. 91–92). If this is the correct account of belief, then the correct account is *open-ended*—in many cases, its implications are unclear or indeterminate. As a result, it may be hard if not impossible to identify uncontroversially precisely which beliefs a subject has, even if we have all the relevant information. Now, if the correct account of belief is open-ended, then a sufficient condition for *justified* belief can be open-ended. If some implications of the true theory of belief are unclear, some implications of some sufficient condition for justified belief will be unclear too.

Here is a plausible open-ended sufficient condition: S's belief that *p* is justified if S has a suitable combination of dispositions pertaining to *p*. The suitable combinations here are among those that suffice for belief. But not all combinations that guarantee there is belief also guarantee the belief is justified. Typically, when it is clear that a subject has a combination sufficing for belief, it will also be clear whether it justifies. When you weren't thinking about whether your phone was in your pocket, you still believed it was there, and that is true because of your dispositions. And because of your dispositions, it's true that your belief was *justified*: you were disposed to have a corroborating recollective experience pertaining to your phone's location prior to acting as if or inferring that the phone was in your pocket, and you were disposed to feel confident it was there.

True, it may be hard if not impossible to specify exhaustively and non-circularly which combinations of dispositions pertaining to *p* are the justifying ones, or what suffices for having one of these dispositions.[24] And true, S's having the justifying set of dispositions may not guarantee that S mentally represents *p* or that S bears a special relation

to a mental representation that $p$. But all of this is true of the dispositions that suffice for S *believing* that $p$. The limits and liberties of our theory of belief carry over to our theory of justified belief.

If the above is correct, then there is no reason to believe P2, that is, to believe that internalism fails to account for the justification of Ichabod's belief that $q$. Recall that Goldman (2011, p. 260) stipulates that "whenever [Ichabod] thinks about $q$, he (mentally) affirms its truth without hesitation." Presumably, Ichabod isn't just arbitrarily affirming $q$ when he thinks about it. Rather, he affirms $q$ in response to a reason to affirm $q$—a recollective experience supporting $q$, a feeling of familiarity regarding $q$, or some other relevant phenomenon that occurs while he thinks about $q$. This suggests that, even when he isn't thinking about $q$, Ichabod has a disposition to have reason to affirm $q$. After all, every time Ichabod thinks about $q$, he has such a reason. Other things being equal, this disposition justifies his belief. Since dispositions are mental, internalism can cite them as justifying. If this is correct, P2 is unsupported.

Similar remarks apply to the many possible cases that are schematically identical to ICHABOD. Goldman does not show that internalism leads to skepticism. Of course, it could be that Ichabod has other dispositions such that, all things considered, his belief is unjustified: maybe he is disposed to affirm without hesitation everything he thinks about; maybe he is disposed to find $q$ so desirable that he cannot resist affirming it. If so, ICHABOD is underdescribed, and we have simply been misled into judging that his belief that $q$ is justified. In that case, P1 would be doubtful.

Now, Earl Conee and Richard Feldman (2011, pp. 304–305) have already claimed that Ichabod's dispositions *can* explain the justification of his stored belief that $q$. Their support for their claim apparently just is that it is intuitively plausible. However, my observations above now allow internalists

*to argue* that Ichabod's dispositions not only can explain, but also *best* explain the justification of his justified stored beliefs. Suppose dispositionalism is true. Having 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. When a stored belief is justified, this account posits nothing beyond what dispositionalism already posits. Any other account of the justification is needlessly complex. By stipulation, Ichabod justifiedly believes that $q$. This already requires that we posit that Ichabod has some set of dispositions sufficient for believing that $q$. It's simplest to suppose that that particular set is sufficient for justifiedly believing that $q$. (Had Ichabod's belief been unjustified, he would have had a different set of dispositions that suffices for believing that $q$.) Any theory appealing to contingent nonmental features (to, for example, the reliability of relevant belief-sustaining processes) when accounting for Ichabod's justification appeals to more than it must. Interestingly, internalists can now use ICHABOD *against* externalism. Not only can internalism get ICHABOD right, but it can do so most elegantly.

## 4. Objections

I have claimed that if either of the leading theories of belief—representationalism or dispositionalism—is true, then there is a solution to the problem of stored beliefs for internalism. The theories reveal different solutions. I will address two objections to the representationalist solution that concern skepticism. Then I will address an objection to both solutions.

Here is the first objection concerning skepticism. If P1 is false, then an apparently unpalatable form of skepticism is true: we have few justified beliefs. All beliefs are occurrent, so all *justified* beliefs are occurrent, yet not many beliefs are occurrent at any

given time. It's important to note, however, that this skepticism results from representationalism and data on memory processing, not from internalism. So we should not infer that *internalism* leads to skepticism, or that *internalism's* solution to the problem of stored belief is bad.

Still, a solution that results in an unpalatable skepticism may be bad, and may therefore be useless to internalists. So it is worth considering: Is this skepticism unpalatable? I think not, for two reasons. First, the skepticism does not state that many beliefs that seem justified are not. It states just that we don't believe many propositions we had thought we believed, and so *a fortiori* we don't justifiedly believe those propositions. Second, I think the representationalist solution can still accommodate our intuitive judgments about justification.

Here is a sketch of an accommodation: In a *derivative* sense, we still count as having many stored beliefs that can themselves count, also in a derivative sense, as justified or as candidates for knowledge. Let *D-* indicate this derivative sense. Normally, when you aren't thinking about the cell phone in your pocket, you D-believe it is there. You are disposed to believe it is there. And you are disposed to believe that, earlier, you believed (perhaps when you first slid it in) it was there. And you are *not* disposed to think that you would be changing your mind about the matter by believing it is there. This suggests:

DB. S D-believes that *p iff* (1) S is disposed to believe that *p*, (2) S is disposed to believe that S believed that *p*, and (3) it is not the case that S is disposed to believe that S's most recent doxastic attitude toward *p* was other than belief.

If S D-believes that *p*, then S is inclined to believe that *p*. Further, S isn't inclined to think that believing *p* would be new for her, nor inclined to think she is changing her mind on the matter. D-believing is not just a matter of being prone to believe, but also a matter

of being prone to find one's believing to be familiar. On the following accounts, I claim, we have plenty of D-justified D-beliefs and D-knowledge:

DJB. S's D-belief that *p* is D-justified *iff* (1) S D-believes that *p*, and (2) S is disposed to believe that *p* justifiedly.

DK. S D-knows that *p iff* (1) S D-believes that *p*, and (2) S is disposed to know that *p*, and (3) *p* is true.

DB, DJB, and DK are first approximations of accounts of D-belief, D-justified D-belief, and D-knowledge. They need refinement, but will do for now.

For all propositions that we had thought a subject uncontroversially had stored beliefs in, that subject counts as having D-beliefs in them. For all propositions that we had thought a subject uncontroversially had *justified* stored beliefs in, that subject counts as having D-justified D-beliefs in them. Consider what we had thought about Ichabod. It seemed that Ichabod had a justified stored belief that *q*. This seeming is misleading since (on representationalism) there are no stored beliefs. However, Ichabod D-believes that *q*. He is disposed to believe that *q* (Goldman stipulates that "whenever he thinks about *q*, he (mentally) affirms its truth without hesitation"). And he is disposed to believe he believed that *q*—presumably, when affirming *q*, to him, it isn't as though he is believing *q* for the first time. And he is not disposed to believe he has subsequently disbelieved or suspended judgment in *q* ("However, he continues to believe *q* strongly").

Further, Ichabod's D-belief that *q* is D-justified. That is, he is disposed to occurrently believe that *q* justifiedly, and he D-believes *q*. Presumably, whenever he thinks about *q*, it is his recollecting *q* that prompts him to affirm *q* (otherwise, ICHABOD is underdescribed and misleading). This result is not unique to ICHABOD. For any proposition we were inclined to think a subject had justified stored

belief in, I claim, we will be inclined to think the subject has a D-justified D-belief in it. If the subject has a D-justified D-belief in it, our intuitive judgments about justification are accommodated. This is compatible with the view that there are no stored beliefs.

A skepticism is unpalatable if it threatens all nonderivative justification. Interestingly, such a skepticism would also threaten all D-justification: since it threatens all nonderivative justification, it would prevent condition (2) of DJB from being satisfied in any given case. However, the representationalist solution to the problem of stored beliefs does not threaten our D-justification. On this solution, it could be that we have plenty of D-justified D-beliefs. The scope of our justification could be as broad as we had thought it was. We may not have expected to have much of this justification in a mere derivative sense, but we also did not expect to have many of our beliefs in a mere derivative sense.[25] Importantly, there is no reason to find this unpalatably skeptical.

We have seen that the first objection to the representationalist solution centers on implications of representationalism, not on implications of internalism. The second objection concerning skepticism challenges internalism more directly. Suppose representationalism is true. Even if we lack stored beliefs, and thus lack justified stored beliefs, it might seem that we are still nonderivatively *justified in believing* the propositions we thought we had justified stored beliefs in. Internalism owes an account of this propositional justification. Internalism must explain, for example, why believing that *q* is the justified attitude for Ichabod, even though Ichabod doesn't actually believe that *q*. Similarly, it's plausible that there are possible beings who are relevantly like us, but who *do* meet the representationalist requirements for having stored beliefs. These beings are our experiential twins, but have a different underlying psychology, such that they have the seemingly justified stored beliefs it had seemed that we had.

So, internalism also owes an account of the doxastic justification of these beliefs. Without fitting explanations, internalism appears unpalatably skeptical. It would threaten too much nonderivative justification.

One way that the representationalist solution can avoid this skepticism is by incorporating an element of the dispositionalist solution. If S's having certain dispositions toward *p* justifies S in believing that *p*, then a suitable account of propositional justification is available on the representationalist solution, even if beliefs are not themselves sets of dispositions.

More importantly, I think it is reasonable to resist our inclination to attribute propositional justification for believing the propositions we had thought we non-occurrently believed. I suggest that we're mainly inclined to attribute this justification only because we're inclined to accept that (i) any subject who is experientially like us is systematically rational, that (ii) *if* any subject experientially like us has non-occurrent doxastic attitudes, then most of these attitudes are justified, and that (iii) any subject experientially like us has non-occurrent doxastic attitudes. (i) is plausible because *we* aren't systematically irrational. And (i) seems to support (ii). (iii) is plausible because it seems *we* have non-occurrent beliefs. But on representationalism, all beliefs are occurrent. (iii) is false. We were inclined to attribute propositional justification because we were misled. It is reasonable to suppose instead, then, that our propositional justification here is only generated, during recollection.

We can say something similar about our experiential twins who have the stored beliefs it seemed we had. Once we see that we can account for our intuitions about *our* justification even if (iii) is false, then (ii) seems unsupported. Notably, (i) does not support (ii). Systematically rational beings could have stored beliefs that typically lack non-derivative justification, as long as most

of these beliefs are D-justified and as long as recollection will generate non-derivative justification for most of them. This keeps our experiential twins from counting as systematically irrational, and it sufficiently accommodates our intuitions about their justification.

These first two objections suggested that the representationalist solution provided too little justification. The final objection suggests that the representationalist solution (when paired with DB, DJB, and DK) and the dispositionalist solution each provide *too much* justification. Consider an example that Goldman (1999, pp. 278–279) uses to challenge Richard Feldman's (1988) early attempt to explain how dispositions can justify: "Suppose a train passenger awakes from a nap but has not yet opened his eyes. Is he justified in believing propositions about the details of the neighboring landscape? Surely not. Yet he is *disposed*, merely by opening his eyes, to generate conscious evidential states that would occurrently justify such beliefs." Call the napping train passenger *Mr. Knapp*, and call the propositions about the details of the neighboring landscape *landscape propositions*. If DJB attributes to Mr. Knapp D-justified D-beliefs in the landscape propositions, then DJB attributes too much D-justification. Similarly, if Mr. Knapp's dispositions are such that he justifiedly believes the landscape propositions, then his dispositions provide too much justification. Intuitively, Mr. Knapp does not yet have justified beliefs in the landscape propositions.

Fortunately, DJB does not attribute to Mr. Knapp D-justified D-beliefs in the landscape propositions. This is because Mr. Knapp lacks D-beliefs in those propositions. Condition (2) of DB is not satisfied, since Mr. Knapp is not disposed to believe that he ever believed the propositions. Condition (3) is not satisfied either, since Mr. Knapp is disposed to believe that his most recent attitude toward those propositions was suspended judgment, not belief. Since Mr. Knapp lacks D-beliefs in those propositions, he doesn't satisfy condition (1) of DJB.

Similarly, on the dispositionalist solution, Mr. Knapp does not have justified beliefs about the landscape. On dispositionalism, it is in virtue of having certain dispositions that we have beliefs. Dispositionalists restrict these dispositions to those that don't involve acquiring new information via the senses (Baker 1995, pp. 161–162). Mr. Knapp is merely disposed to *form* beliefs in the landscape propositions on the basis of new sensory information. He has not formed them yet. So, the dispositionalist solution doesn't imply that he has justified beliefs in them.

## 5. Conclusion

I have drawn on research in contemporary cognitive psychology and reviewed the two leading theories of belief in an effort to show that the problem of stored beliefs can be solved. A central, common objection to internalism fails. Internalism is better-off than its critics suppose. Since the folk theory of memory is false, both internalists and externalists will need to reconsider how they evaluate our (alleged) stored beliefs.

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## NOTES

Trust. The opinions expressed in this paper are my own and do not necessarily reflect the views of either organization.

1.   See Senor (1993; 2009); Goldman (1999; 2009; 2011); Williamson (2007). Huemer (1999) alleges that traditional internalism cannot solve the problem. In Frise (2017a), I explain that there are in fact several problems concerning stored beliefs, but for simplicity here, I just discuss the above and call it *the* problem. Sometimes stored beliefs are described as *standing* or *dispositional*. And sometimes a belief is both occurrent (before one's mind) and stored in memory. A merely stored belief is stored but not occurrent. For simplicity, I will drop the "merely."

2.   Cf. Conee and Feldman (2004, p. 56). This merely states one implication of internalism. Internalism may have others—for example, that only what is specially accessible to a subject determines what she is or isn't justified in believing. I remain neutral here on the best way to formulate internalism.

3.   Everything except the name of the case, which comes from me, comes from Goldman (2011, p. 260). He presents the case specifically against Conee and Feldman's *evidentialism*, a version of internalism. Elsewhere, Goldman (1999; 2009) presents similar cases against internalism in general, so I treat ICHABOD as a challenge to internalism in general.

4.   The detail about forgetting may be misleading, as it is relevant primarily to a distinct problem: the problem of forgotten evidence. A theory of justification must explain how a belief can remain justified when the original evidence for it is forgotten. But the original evidence for even an *occurrent* belief can be forgotten. So, even if the problem of stored beliefs is solved, the problem of forgotten evidence remains. And memory experiences might justify some beliefs that lack their original evidence. This helps solve the problem of forgotten evidence, but not the problem of stored beliefs. For more on these two problems, see Frise (2015).

5.   For simplicity, this argument eliminates some steps in Goldman's (2011, pp. 260–261) that concern knowledge.

6.   This fixes a slight defect in Goldman's reasoning. Goldman claims that according to internalism, many of our stored beliefs aren't justified. But in order for skepticism to follow, we must add that these beliefs seem justified.

7.   I think preservationism is false, and I think it poorly solves the problem of stored beliefs (see Frise, 2017b), and so I think externalism still needs a good solution to the problem of stored beliefs.

8.   I challenge these replies in Frise (2017a).

9.   I draw these points about encoding from Michaelian (2011, p. 325), who draws some of them from Alba and Hasher (1983).

10. This helps account for the phenomenon discussed below, whereby we are very likely to recall incorrectly, when prompted, that a list of thematically related words contained the theme word.

11. See Schacter (2001, chap. 5). Michaelian (2011) discusses this phenomenon and many others I mention in this section. I am using "recall," "recollect," and their cognates nonfactively.

12. See Fisher and Geiselman (1992); Schacter (2001, pp. 119–120). Research on one particular questioning method—the "cognitive interview"—has shaped the way many police question witnesses and suspects, and has improved the accuracy of courtroom testimony.

13. See Deese (1959); Roediger and McDermott (1995). The "Deese/Roediger-McDermott procedure" that elicits the mistaken recollection is so effective that Schacter (2001, p. 98) describes it as a "reliable" way of inducing false memories.

14. See Kelley and Lindsay (1993), who show that, for example, recently hearing the name "Hickock" makes one more likely to report it when asked about Buffalo Bill's last name.

15. Michaelian (2011, pp. 327–328) supports this point by citing the facts that, for example, there is considerable retrospective bias (our occurrent beliefs often color what we recall) and that confabulation is fairly easy to induce. Cf. Schacter (2001, chaps. 4 and 5).

16. Notably, many philosophers already accommodate the fact that content changes at certain stages in memory. Michaelian (2011; 2012) respects all stages of alteration. Bernecker (2008, p. 164) allows remembering to include cases of tense-updating and existential generalization. Dokic (2001) allows memory to generate content about episodic memory, namely, that it is information directly from the subject's past experience, rather than from testimony or inference. Debus (2007) and Sutton (2010) accommodate perspectival alteration in memory. See also Matthen (2010); Vosgerau (2010); Shanton (2011).

17. See Koriat and Goldsmith (1996). Koriat and Helstrup (2007, pp. 265–268) suggest that these contextually sensitive factors include the amount of effort and time that retrieval required.

18. The representation is often thought to have its content in virtue of having a structure that corresponds to the structure of a brain state (which may be local or distributed). The structure may be linguistic (Fodor 1987) or perhaps map-like (Braddon-Mitchell and Jackson 1996).

19. See Carruthers (2013, p. 148). However, Fodor (1987, pp. 21–25) claims only that in "core cases" of belief, the representation plays a causal role. A core case is one in which a belief is an episode in a mental process, for example, a step in a chain of thought or a causal basis of action. Since a stored belief in this paper is by hypothesis inactive, Fodor is therefore silent about whether having a stored belief that *p* requires bearing a certain relation to a mental representation that *p*. He does state requirements for having a "dispositional belief," but by this, he just means having a *disposition to believe*. Fodor is altogether silent about what having a stored belief requires. I will assume that Carruthers's view is representative of representationalism.

20. Vosgerau (2010, pp. 839–843) argues for this on *a priori* grounds. Crucially, he claims that on any theory of representation, X is a representation only if X is in use; otherwise, X's content is indeterminate. Memory does not store content, but rather templates for constructing content. My argument, however, is empirical, and is neutral about Vosgerau's crucial claim.

21. In other words, we are victim to something like the refrigerator-light illusion, that is, the (perhaps rare) illusion that the refrigerator light stays on when the door is shut: S occurrently believed *p* in the past, and whenever S checks, S still believes *p*; the simplest explanation of this is that S's belief that *p* has persisted when not occurrent. But this explanation is no longer adequate. Also, we are often victim to a second illusion. Research from Goethals and Reckman (1973) and Ross (1989) suggests that our sense of what we believed in the past is frequently biased by our present beliefs and other mental states (for philosophical discussion, see Shanton 2011, pp. 92–101). Often, we infer that we believed that *p* simply because we now believe that *p* or have reason to believe that *p*. In other words, we infer that the refrigerator light was on when the door was open earlier, simply because it is on while the door is open now! As a result, in many cases, we think we had beliefs we in fact lacked.

22. Cf. Michaelian (2011), who argues that memory generally generates content and denies that there are stored beliefs. However, he does not explain how his argument supports this denial. Perhaps he assumes that representationalism is true, but he does not state a condition necessary for having stored beliefs and argue that it is not satisfied, nor does he explain why we lack belief in the relatively few representations that might persist throughout all of memory processing. And he does not apply his theses to the problem of stored beliefs.

23. Philosophers have defended two other theories of belief, but for obvious reasons, I needn't examine them. First, there is *eliminativism*: we lack beliefs of any kind. This unpopular view straightforwardly denies P1. Second, there is *interpretationism*: roughly, S believes that *p* only if attributing belief that *p*

to S explains S's behavioral patterns. Interpretationism is relevantly similar to dispositionalism, allowing a schematically similar reply to the Stored Beliefs Argument.

24. Conee and Feldman (2011, pp. 304–305) propose some specifications, which I challenge in Frise (2017a).

25. For discussion of related but distinct views, see Ginet (1975, pp. 154–157); Conee and Feldman (2004, p. 236); Piazza (2009).

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