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## What are the benefits of memory distortion? ☆



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### 1. Introduction

The purpose of this paper is to determine whether memories can have any benefit for their subjects while being distorted.<sup>1</sup> There are a number of things that one may have in mind by ‘benefit’ while referring to memory. For that reason, the formulation of the issue that will occupy us here admits several possible readings. It will therefore make for clarity if we begin our discussion by specifying, in Section 1, the types of benefits with which we will be concerned in this discussion. One may also have different things in mind by ‘distortion,’ depending on one’s views about the function of memory. Thus, in order to formulate the topic of our discussion precisely, I will distinguish, in Section 2, two pictures of what memory is supposed to do, and two associated notions of distortion. Next, I will put forward two types of memories that, I will argue, can qualify as cases of beneficial distortion under very specific circumstances. In Section 3, I will discuss the case of so-called ‘observer memories’ and, in Section 4, I will discuss the case of so-called ‘fabricated memories.’ My contention will be that, in both cases, some of those memories can, on the one hand, be advantageous for the subject to have while, on the other hand, her faculty of memory has failed to perform its proper function by producing them. The significance of this claim for the two pictures of what memory is supposed to do will be explored in Section 5.

### 2. Epistemic benefits and adaptive benefits

There are at least two ways in which having a memory can be beneficial for a subject. One of them is epistemic. Having a memory may provide the subject with knowledge of, or at least justification for a belief about, the past. The memory does this by supplying the subject with evidence, or grounds, for a certain belief; a belief in the content of the memory or, more

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<sup>1</sup> In what follows, I will use ‘a memory’ and the plural ‘memories’ to refer to memory experiences, and I will use ‘memory’ to refer to the faculty that produces memory experiences. Hopefully the context will help to avoid confusion. The discussion of the various types of benefits that memory experiences can carry will assume that those experiences have propositional content. With that exception, nothing in the discussion that follows will hinge on precisely how one construes the notion of a memory experience.

precisely, in part of that content.<sup>2</sup> Thus, the memory allows the subject to be in ‘cognitive contact’ with an event in her past: It puts the subject in a position to think about, and refer to, that event. When the evidence provided by the memory is good evidence, it is beneficial for the subject to be in that position. For the belief that the subject can form on the basis of her memory will, in that case, be justified. Why is that good for the subject? Beliefs are the sort of mental state which can be true or false. They are in some sense normatively governed by, or aimed at, truth. From the point of view of achieving truth, it is good for the subject to have justified beliefs rather than unjustified beliefs because the former, unlike the latter, tend to be true. Furthermore, when justified beliefs are true, they are such that they could not have easily been false. This is because, when justified beliefs are true, they are not accidentally true, or true by luck. This feature of justified beliefs confers a certain stability upon them: Whereas merely true beliefs are fleeting in that they are easy to undermine, justified beliefs are more likely to remain fast in response to conflicting information.<sup>3</sup>

Notice that, in order for the subject to enjoy this type of benefit from her memories, the subject’s faculty of memory must be trustworthy in the following sense. It must deliver memories that are likely to be accurate when they have been appropriately produced.<sup>4</sup> Imagine that, for any memory of a subject, the fact that the memory in question was properly generated makes no difference as to whether the content of that memory is likely to be the case or not. Suppose, now, that the subject has a particular memory. It is hard to see why the subject would be justified in believing the content of it. After all, on the scenario that we are considering, any of the memories that the subject is having could easily be misinforming her about her past. Thus, the belief that the subject would form by taking the content of her memory at face value is not likely to achieve truth. Suppose, however, that it does. Still, it does not seem that the belief in question would be justified. For if the fact that the memory was properly generated makes no difference as to whether its content is likely to be the case or not, then it seems that the belief in question could have easily been false. It turned out to be true, but the fact that the memory on the basis of which the belief was formed was properly generated did not contribute to that outcome. It seems, therefore, that in order for the subject to be in a position to form justified beliefs on the basis of her memories (and thus benefit from them epistemically), those memories must have the property of being such that if they have been properly generated, then they are likely to be accurate.<sup>5</sup>

Another way in which having a memory can be beneficial for the subject is by being adaptive. Having a memory may allow the subject to form a belief about the past which has a certain instrumental value for her. The belief may serve to represent the past in the way in which the subject needs to represent it in order for her to achieve one of her goals.<sup>6</sup> Oftentimes, the relevant goal involves experiencing a certain type of emotion. In this scenario, the memory plays the role of supplying the subject with a representation of her past that is conducive to experiencing the emotion that is being sought by the subject; typically a positive emotion. When the memory allows the subject to represent her past in the way in which she is seeking to represent it from an emotional point of view, it is beneficial for the subject to have that memory. (We could call this type of adaptive benefit, an ‘affectively adaptive’ type of benefit.) Other times, the relevant goal involves making sense of one’s own behaviour towards, and one’s own thoughts about, some particular person or situation. In that scenario, the memory plays the role of supplying the subject with a representation of her past which makes her current behaviour towards some person or situation intelligible to herself, and it allows her to explain why she has certain thoughts towards the relevant person or

<sup>2</sup> Why the qualification? By taking one of her memories at face value, a subject may form a number of different beliefs depending on which aspect of its content she is assenting to. Thus, it is possible that the subject forms a belief in, strictly speaking, the content of her memory but, more commonly, she will form a belief in some part of that content. Since the content of a memory may contain some accurate details while containing, at the same time, other details which are inaccurate, this means that the very same memory can provide good evidence for one of the beliefs that the subject may form on its basis while not providing good evidence for another. As a result, a memory can deliver an epistemic benefit for one of the subject’s beliefs while not delivering an epistemic benefit for another.

<sup>3</sup> In addition, if knowledge has an intrinsic value, then it will be beneficial for a subject to have memories that justify her in believing some things about her past when those justified beliefs qualify as knowledge. However, we do not need to commit ourselves to the view that knowledge has an intrinsic value for memories to have an epistemic benefit for the subject. On the idea that knowledge has an intrinsic value, see (Pritchard, Millar, & Haddock, 2011).

<sup>4</sup> In fact, the requirement should be relativised to the type of belief that the subject is forming when she is epistemically benefiting from one of her memories. Otherwise, the requirement is clearly too strong: Our memories are not trustworthy in the sense that their whole contents are likely to be accurate when those memories have been properly generated. For the most part, they are bound to contain some inaccuracies even if they have been properly generated. Thus, the trustworthiness requirement, as formulated above, yields the result that we are never justified in forming beliefs on the basis of our memories, which is highly counter-intuitive. Instead, the requirement needs to be that if a subject is justified in forming a certain belief on the basis of one of her memories, then that memory must be trustworthy with regards to the subject matter of the belief being formed. And that feature of the memory may vary depending on which belief is being formed, since the subject may form a variety of beliefs on the basis of the same memory. (See note 2.) Suppose, for example, that my memory is totally unreliable with regards to colours but it is very reliable with regards to shapes. Then, I may be justified in forming a belief about what the phone number written in some piece of paper which I saw days ago was on the basis of a memory that originates in that perceptual experience of mine. But I would not be justified in forming, on the basis of the very same memory, a belief about the colour of the ink in which the phone number was written. For ease of exposition, though, I will continue to talk of trustworthiness as a requirement on memories, as opposed to a requirement on specific aspects of their contents (which would be more precise, but also more cumbersome talk).

<sup>5</sup> Notice that the claim is not that trustworthiness is the only property of memories that may put the subject in a position to form justified beliefs on the basis of her memories. It is the weaker claim that memories must have that property in order to put the subject in that position. For that reason, it is consistent with the view that other properties of memories may also contribute to the justification of memory beliefs. In particular, it is consistent with the claim that those memories which cohere well with the rest of the subject’s mental states put the subject in a better position to form justified beliefs on the basis of them than those memories which do not.

<sup>6</sup> Strictly speaking, then, adaptive benefits are not monadic properties of memories. In other words, it actually makes no sense to say that, from an adaptive point of view, a subject’s memory is, or is not, beneficial *simpliciter*. Not only can a subject form a number of different beliefs on the basis of a single memory, but also a subject can pursue a number of different goals while she has each of those beliefs. For that reason, adaptive benefits are best seen as relations between a memory that the subject has, and one of her goals. Thus, a memory may carry an adaptive benefit for one of the subject’s goals while not carrying an adaptive benefit for another.

situation. When the memory allows the subject to represent her past in the way in which she needs to represent it for comprehending her own mental life and her own behaviour, it is beneficial for the subject to have that memory as well. (We could call this type of adaptive benefit, an ‘explanatorily adaptive’ type of benefit.) More generally, from an adaptive point of view, it is beneficial for the subject to have a memory if representing the past in the way in which that memory presents it to the subject is an effective means of satisfying one of the subject’s goals.

Notice that, in order for the subject to enjoy an explanatorily adaptive type of benefit from her memories, the subject’s faculty of memory must provide a firm structure in the following sense. It must deliver memories that cohere well with the rest of the subject’s mental states when those memories have been appropriately produced. Why is that? Imagine that, for any memory of a subject, the fact that the memory in question was properly generated by the subject’s faculty of memory makes no difference as to whether the content of that memory squares with the things that the subject has learnt about her past through testimony, and the things that the subject has inferred about her past from other things she knows. Suppose, now, that the subject has a particular memory. It is hard to see how the subject could create a representation of her past that made sense of her current behaviour and mental life by believing the content of that memory. For that memory is, on the scenario that we are considering, likely to be in tension with the behaviour and set of mental states which the subject needs to make sense of. In order for the subject to be in a position to form, on the basis of her memories, beliefs about her past which make sense of her current mental life and her current behaviour (and thus benefit from them in an explanatorily adaptive way), those memories must have the property of being such that if they have been properly generated, then they are consistent, and cohere well, with rest of the subject’s mental states.

Likewise, in order for the subject to enjoy an affectively adaptive benefit from her memories, the subject’s faculty of memory must provide a firm structure in the same sense. Why is that? Imagine that the fact that, for any memory of a subject, the fact that the memory was properly generated by the subject’s faculty of memory makes no difference as to whether the content of that memory squares with the contents of the rest of the subject’s mental states which concern the seemingly remembered event. Suppose, now, that the subject has a particular memory. It is hard to see how the subject could use that memory to create a representation of a past event which was intended to produce in the subject certain emotions; those emotions which she is seeking to experience towards the event. For the relevant emotions arguably depend on the subject’s current thoughts, needs, expectations, intentions and wishes that involve that event. And the memory which is available to the subject is, on the scenario that we are considering, not likely to be consistent with the contents of those mental states.<sup>7</sup> In order for the subject to be in a position to form, on the basis of her memories, representations of a past event which produce in her the emotions that she is seeking to experience towards that event (and thus benefit from them in an affectively adaptive way), those memories must have the property of being such that if they have been properly generated, then they are consistent, and cohere well, with the rest of the subject’s mental states.<sup>8</sup>

What is the relation between the two types of benefits? Adaptive benefits have been introduced in terms of goal satisfaction. In normal circumstances, a subject has goals of various types. Some of them are practical goals, such as the goal of being at a certain place at a certain time. Others are theoretical goals, such as the goal of having beliefs that are held for good reasons (as opposed to biases or prejudices). The question of how epistemic and adaptive benefits are related concerns, on the one hand, the distinction between these two types of goals and, on the other hand, the distinction between justified belief and true belief. Let me explain.

For the purposes of achieving a practical goal, it is enough to have a true belief about the means that will maximise one’s chances of achieving that goal. Suppose, for instance, that I have the goal of attending a meeting in the city at a certain time, and I want to catch the bus to go to the city. I seem to remember that the bus is supposed to come to the relevant stop at 10 am. On the basis of my memory, I form the belief that the bus will be at the stop at 10 am. As it happens, my memory about these matters is highly unreliable, so I am not justified in having that belief. But it turns out that the bus does show up at 10 am. For the purposes of getting to my meeting on time, it was not necessary for my belief to be justified. It turned out to be true, which is all I needed to achieve my goal. Now, justified beliefs are more likely to be true than unjustified beliefs. For that reason, if a memory carries an epistemic benefit for me, then it is likely to carry an adaptive benefit with regards to some practical goals of mine. But there is no guarantee of that, since justified beliefs may not be true. Suppose, for example, that my memory is highly reliable when it comes to public transport schedules, but the bus is late and it shows up at 10.30 am. Then, my memory carried an epistemic benefit for me. It yielded the justified belief that the bus would be at the stop at 10 am. But the belief turned out to be false, which did not help me to achieve my goal of attending my meeting. With regards to that practical goal, therefore, my memory did not carry an adaptive benefit for me. If, however, we take into

<sup>7</sup> The thought here is simply this. Suppose that I need to think about some trip that I once took with my grandmother, who has passed away, in a pleasant way. And suppose that I need to think about that trip pleasantly because I love my grandmother. Then, if my memories of the trip with my grandmother are going to help me satisfy that need, then it better be the case that, when those memories are properly generated, they are not in tension with the fact that I love her. For if my memory is functioning properly when it generates memories of my trip with my grandmother which present her to me as having qualities that are not worthy of love, then those memories will not help me think of the time that I spent with her in a pleasant way.

<sup>8</sup> Notice that the claim is not that coherence is the only property of memories that may help the subject to achieve some of her goals by forming beliefs on the basis of her memories. It is the weaker claim that, with regards to the goals of experiencing certain emotions and making sense of certain attitudes and instances of behaviour, memories must have the property of coherence in order to help the subject to achieve those goals. For that reason, the claim is consistent with the view that other properties of memories, such as trustworthiness, may also help the subject to achieve some of her goals. If a subject needs to locate an object or substance that she perceived in the past (to eat it or drink it, for example), then a trustworthy memory of where that object or substance has been perceived will clearly help the subject to satisfy that need more than an untrustworthy memory would.

consideration theoretical goals as well as practical goals, then it seems that any memory that carries an epistemic benefit for me will carry some adaptive benefit. For a memory that carries an epistemic benefit for me allows me to form a justified belief on the basis of it. And if my belief is justified, then it seems that I am satisfying my theoretical goal of believing for good reasons.

What about the converse? Do memories which carry an adaptive benefit always provide an epistemic benefit for the subject as well? It depends, once again, on the type of goal that the memory is helping the subject to achieve. If the goal in question is the theoretical goal of believing for good reasons, then it does seem that the memory will provide an epistemic benefit for the subject. But if the memory is helping the subject to satisfy one of her practical goals, then the memory does not need to do this by putting the subject in a position to form a belief that is justified. As we have just seen, a memory may be untrustworthy (and, for that reason, fail to provide an epistemic benefit for the subject), and yet it may help the subject to achieve one of her practical goals (and, for that reason, provide an adaptive benefit for her). As a matter of fact, the discussion in Sections 3 and 4 below is meant to illustrate this possibility with some interesting cases of memory.

To sum up, memories can have an epistemic benefit for the subject, and they can also have an adaptive benefit for the subject. Furthermore, those benefits may be related or not, depending on the subject's goals. However, in order for a memory to carry either of those two benefits, the subject's faculty of memory must be functioning properly when it delivers it. Interestingly, 'functioning properly' seems to mean something different in each case. The two types of benefits that we appreciate in memories reveal two conceptions of what memory is supposed to do; two conceptions of the function of memory. These two conceptions are often assumed to be opposed to each other and, for that reason, they give rise to competing notions of what a distorted memory is. Let us consider the two pictures of memory in order.

### 3. Preservative memory and reconstructive memory

There is a popular conception of memory within philosophy according to which the function of memory is content preservation. Memory is supposed to register and store the content of those (typically, perceptual) experiences that we had in the past by producing memories which inherit their contents from those experiences. On this 'storage' conception of memory, then, a subject's faculty of memory functions properly when the contents of the memories delivered by it match the contents of the subject's past experiences on which those memories originate.<sup>9</sup> And, with this preservative notion of proper function, comes an associated notion of distortion: On the storage conception of memory, a subject's faculty of memory has produced a distorted memory when the content of that memory does not match the content of the subject's past experience on which the memory originates.

To the extent that one appreciates the epistemic benefit of having properly generated memories, one will find the storage conception of memory appealing. After all, if a subject's faculty of memory adequately carries out the preservative function that this conception of memory attributes to it, then this will allow a memory produced by it to be epistemically beneficial for the subject.<sup>10</sup> Would something weaker than the preservation of the whole content of the original experience be enough for the resulting memory to be epistemically beneficial for the subject? Let us recall that the epistemic benefit that a memory may have for a subject depends on the belief that the subject is forming on the basis of that memory. And what is required for the memory to be beneficial relative to the belief that the subject is forming is the reliability of, not the whole content of the memory, but only the parts of it which are relevant for the content of the belief being formed. Suppose, for example, that my faculty of memory is reliable with regards to which actions I witnessed in the past but not with regards to which people were involved. Suppose, furthermore, that I have a memory of my brother tickling my sister mercilessly while we were kids. As it happens, it was me, and not my brother, who ticked my sister mercilessly. Now, imagine that I form, on the basis of that memory, the belief that someone was ticked mercilessly while I was a kid. In that case, my memory is epistemically beneficial with regards to that belief, but the whole content of the experience on which that memory originates has not needed to be preserved for it to carry that epistemic benefit. It was enough that my faculty of memory was trustworthy with regards to certain aspects in the contents of the memories that it delivers, namely, the actions being remembered.<sup>11</sup>

On the other hand, there is a popular conception of memory within psychology wherein memory is not a passive device for registering and reproducing contents. It is instead a faculty akin to imagination in its creative capacity. The main tenet of

<sup>9</sup> Versions of this picture can be found, for instance, in (Aristotle, 1972, 28–32), (Locke, 1975, 149–153), (Hume, 2000, 12), (Broad, 1937, 239–41), (Malcolm, 1963, 208), (Martin & Deutscher, 1966, 163) and (Shoemaker, 1984, 19). Thomas Reid, for example, seems to endorse this view when he claims: 'Things remembered must be things formerly perceived or known. I remember the transit of Venus over the sun in the year 1769. I must therefore have perceived it at the time it happened, otherwise I could not now remember it' (Reid, 1969, 326).

<sup>10</sup> The reason for this is the following. If the function of the faculty of memory, when it produces a memory, is to reproduce the content of the perceptual experience on which that memory originates, then it will be the case that if the faculty of memory carries out its function appropriately, then the resulting memory is likely to be accurate. For the only scenario in which a memory that preserves the content of the original perceptual experience could be inaccurate is by originating on a past episode of misperception. And this is not, as a matter of fact, the likely scenario.

<sup>11</sup> Why is this important? Often our memories are reliable with regards to the general idea about, or 'gist' of, an event that we experienced or witnessed in the past even though they are not reliable with regards to the details of it. (On memory for gist versus detail, see (Koriat, Goldsmith, & Pansky, 2000).) An issue that arises, then, is whether the gist accuracy of a memory is enough for it to carry an epistemic benefit for the subject. The point above is that this will depend on which belief the subject is forming on the basis of her memory; which belief the memory is supposed to justify. If it is a belief about the gist of the event, the memory will carry, in virtue of its reliability, an epistemic benefit for the subject. If, on the other hand, the subject's belief concerns the details of the event, the memory will not carry such a benefit for the subject.

this 'narrative' conception of memory is that, in memory, we are engaged in an inventive project wherein we build representations of our past by integrating content that we have acquired through our own experience with content from other sources, such as testimony, inference and imagination. Elizabeth Loftus, for example, describes this picture as 'a new paradigm of memory, shifting our view from the video-recorder model, in which memories are interpreted as the literal truth, to a reconstructionist model, in which memories are understood as creative blendings of fact and fiction.'<sup>12</sup> The reference to an element of fiction in the integration process is telling. For memory, on this conception, is not meant to represent the past as we experienced it to be the case. Instead, the function of memory is to reconstruct the past in order to help us build a smooth and robust narrative of our lives.

On the narrative conception of memory, then, a subject's faculty of memory functions properly when the contents of the memories that it delivers have been reconstructed so as to easily fit together with the contents of the subject's beliefs about her past. And, with this reconstructive notion of proper function, comes an associated notion of distortion: On the narrative conception of memory, a subject's faculty of memory has produced a distorted memory, when the reconstructive process has not yielded a memory that meshes well with the contents of the subject's beliefs about herself and her past and, for that reason, it does not fit into the subject's narrative of her life. To the extent that one appreciates the adaptive benefit of having properly generated memories, one will find the narrative conception of memory appealing. After all, if a subject's faculty of memory adequately carries out the reconstructive function that this conception of memory attributes to it, then this will allow the memories that the faculty produces to be beneficial for the subject from an adaptive point of view.<sup>13</sup>

Having distinguished these two conceptions of memory, two questions naturally arise. One question is which of the two conceptions is right in describing what the function of memory is. We will address that question in Section 5. A different (and, at this point, more pressing) question is which of the two conceptions is right in describing what memory does; whether it is the function of memory to carry out the relevant operation or not. The answer to this question seems to be that, to some extent, both conceptions are right. Reconstruction is a matter of degree. The more input from sources of information other than the experience on which the memory originates, the more reconstructed will the content of that memory be. And there may be extreme cases in which no part of the memory's content has been inherited from the experience on which the memory originates. (Perhaps some pathological cases of confabulatory memory fall into this category.) But the fact of the matter is that most of our memories contain some pieces of information that they have inherited from the contents of the experiences on which they originate. Conversely, preservation is also a matter of degree. The more information is inherited from the content of the original experience, the more preservative will the content of the resulting memory be. And there may be extreme cases in which the whole content of the memory has been inherited from the experience on which the memory originates. (Perhaps cases of so-called 'eidetic' memory fall into this category.) But the fact of the matter is that most of our memories contain some pieces of information that they have not inherited from the contents of the experiences on which they originate. It seems, then, that our memories preserve, to some degree, the information that we acquired in past experience and, to some degree, they reconstruct it. Which explains the attraction and popularity of both conceptions of memory.

Pulling apart the preservative function of memory from its reconstructive function helps us to appreciate that the original issue of whether memories can have any benefit for the subject while being distorted actually divides into two issues: The first one is whether it is possible for a subject's faculty of memory not to carry out its reconstructive function while it generates a memory, and yet for that memory to have an epistemic benefit for the subject. The second one is whether it is possible for a subject's faculty of memory not to carry out its preservative function while it generates a memory, and yet for that memory to have an adaptive benefit for the subject. In what follows, I will concentrate on addressing the latter issue. I will argue that memories which have been unreliably produced can nonetheless have an adaptive benefit for the subject based on two cases of memory distortion; so-called 'observer memories' and 'fabricated memories.' Let us now turn to these two interesting types of memories.

#### 4. Observer memories of trauma

A memory may present a past event to its subject from two types of visual perspectives. One of them is the type of perspective from which the subject would have experienced the event if the subject had witnessed it (or had went through it) in the past. By having a memory that presents a past event from a perspective of this type, the subject visualises the event, but she does not visualise herself as part of it. Let us call memories that present events from a perspective of this type, 'first-person' or 'field' memories. A memory may also present a past event from the type of perspective that a different observer would have had to occupy in the past in order to witness the remembered event with the subject as a participant of it. By having a memory that presents the past event from a perspective of this type, the subject visualises not only the event but she also visualises herself, as it were, from the outside. Let us call memories that present events from a perspective of this type, 'third-person' or 'observer' memories. In this section, I wish to put forward the claim that observer memories can qualify as a case of beneficial memory distortion.

<sup>12</sup> In (Loftus & Ketcham, 1994, 5). On the narrative picture of memory, see (Barclay & De Cooke, 1988) as well.

<sup>13</sup> The reason for this is the following. If the function of the faculty of memory, when it produces a memory, is to reconstruct the subject's past in order to create a robust and smooth narrative of her life, then it will be the case that if the faculty of memory carries out its function appropriately, then the resulting memory meshes well with the subject's current mental states. And this is, as we have seen, a feature of memories which they are required to have for them to provide an adaptive benefit for the subject.

In order to argue that observer memories can be beneficial despite being distorted one must, first of all, make the case that they are indeed distorted. From a preservative point of view, it seems quite clear that they are. Suppose that, years ago, I suffered an accident while driving, and I now remember the accident by having an observer memory of it. In virtue of having this memory, I picture the event from the point of view of a nearby pedestrian on the street, thus being able to visualise some details of my own physical appearance while I was at the wheel. Suppose that, on the basis of my memory, I form the belief that, at the time of the accident, I appeared to be unshaven and my hair appeared to be dishevelled. These facts about my appearance are not facts that I perceived at the time of the accident. (Let us stipulate that I was not looking at myself in the mirror while driving.) Thus, the source of this information in the content of my observer memory must be other than the perceptual experience on which my memory originates. It must be testimony, the imagination or perhaps reasoning from some other facts that I remember about myself. In either of those cases, it seems that my observer memory will be distorted with regards to the content of my belief. For the relevant parts of the content of my memory (my having looked unshaven at the time, for instance) do not belong to the content of any of my perceptual experiences during the accident.<sup>14</sup> Thus, it seems that my faculty of memory has not carried out its preservative function adequately while delivering that observer memory. But has it, nonetheless, produced a memory that is somehow beneficial for me to have?

Let me introduce some terminology that may be useful at this point. By having a mental state of a certain type (such as a perception, a sensation or a memory), a subject may experience some emotions or moods. We could call these the 'affective properties' of the mental state. Also, by having a mental state of a certain type, the subject may have experiences that are qualitatively similar to the experiences produced by the subject's senses during episodes of perception. Let us call these the 'sensory properties' of the mental state.<sup>15</sup> Let us also use 'feeling' as an umbrella term that refers to both the affective and the sensory properties of a mental state. Furthermore, let us refer to a mental state that is rich in affective properties as 'affectively rich,' to a mental state that is rich in sensory properties as 'sensorily rich,' and to a mental state that is rich in both as 'phenomenally rich.' Let us also call mental states that are not sensorily, affectively or phenomenally rich, respectively, 'sensorily dry,' 'affectively dry' and 'phenomenally dry.'

Now, there are reasons to think that, whereas field memories tend to be phenomenally rich, observer memories tend to be phenomenally dry. Consider, for example, the following findings in two classical studies on the field/observer distinction (Nigro & Neisser, 1983): Subjects who describe the contents of their field memories often mention their feelings at the time that they witnessed, or went through, the relevant events whereas subjects who describe the contents of their observer memories make significantly fewer references to their emotions and sensory experiences at the time.<sup>16</sup> And, conversely, subjects who are trying to describe their feelings at the time that they witnessed, or went through, a remembered event tend to remember that event from the field perspective whereas subjects who are only trying to describe the circumstances surrounding the remembered event tend to remember it from the observer perspective. The narrower point that field memories are affectively richer than observer memories seems to be confirmed by more recent findings. It seems, for example, that a subject who remembers an event from her past is more likely to have a field memory of it when the remembered event has a strong emotional significance for her than when it does not (Talarico, LaBar, & Rubin, 2004). Taken together, these findings suggest that field memories, as opposed to observer memories, have very salient phenomenal properties for the subject.

If field memories are phenomenally rich whereas observer memories are phenomenally dry, then one might wonder whether it is possible to change the phenomenology of remembering a past event by switching from remembering it from a field perspective to remembering it from an observer perspective. In particular, one might wonder whether one might be able to diminish, or dampen, the phenomenal properties of the memory by performing that switch. And, interestingly, there does seem to be some evidence suggesting that this effect is possible (Berntsen & Rubin, 2006). Now, if it is possible to change, and in fact diminish, the phenomenal properties of a memory of a past event by switching from remembering the event from the field perspective to remembering it from the observer perspective, then one can imagine a scenario in which it may be advantageous for a subject to perform that switch. This is the scenario in which the event constituted a traumatic experience for the subject in the past.

It seems that traumatic events tend to be remembered, by default, from the field perspective (Porter & Birt, 2001). Assuming that field memories are phenomenally rich, a subject who remembers a traumatic event from the field perspective will presumably be forced to relive some of her emotions and sensory experiences during the event, which is likely to result in further trauma for her. It would seem, therefore, that such a subject would benefit from switching to remembering the traumatic event from the field perspective to remembering it from the observer perspective. For if remembering the traumatic event from the observer perspective does indeed dampen the phenomenal properties of remembering the event, then having an observer memory of the traumatic event should alleviate the suffering associated with reliving it in memory. It should

<sup>14</sup> From a reconstructive point of view, the memory is not distorted, since reconstruction of the past event in memory has happened in such a way that the resulting memory coheres well with my beliefs about my past, such as the belief that I had a traffic accident, the belief that I was driving at the time, and so on. In fact, discussions of observer memory which take place against the background of the narrative conception of memory will not consider observer memories to be cases of memory distortion. (See, for example, (Sutton, 2010).) My aim in this section, however, is not to argue for a particular notion of distortion. It is only to make the case that observer memories are cases in which a subject's faculty of memory did not carry out its preservative function, and yet it is still possible for the resulting memory to have an adaptive benefit for the subject.

<sup>15</sup> In the particular case in which the mental state is a perception, the sensory properties of the mental state are the experiences actually produced by the operation of the subject's senses. (Here I am assuming that the relation of qualitative similarity is, like the relation of similarity, a reflexive relation.)

<sup>16</sup> For similar findings, see (McIsaac & Eich, 2002).

allow the subject to achieve some ‘phenomenal distancing’ from the traumatic event.<sup>17</sup> Thus, it seems that observer memories of past events may carry an adaptive type of benefit for the subject despite being distorted. Specifically, it seems that they may be affectively adaptive for her. For representing a past event from an observer point of view can, when that event has been traumatic for the subject, be an effective way of satisfying one of the subject’s goals. The goal in question is, in this case, to alleviate the suffering associated with reliving the event in memory.

Admittedly, things are not quite that simple. Let us keep in mind that whether or not a memory of a subject is adaptively beneficial for her depends on which of the subject’s goals we are focusing on. A memory may help the subject to achieve one of her goals while not helping with, or perhaps even hindering her prospects of, achieving another. This may be the case with observer memories. Even though a case can be made that observer memories of trauma are adaptively beneficial with regards to the short-term goal of achieving some affective relief, they may not help the subject to achieve the long-term goal of maintaining a healthy self-concept. Picturing oneself from the outside, as it were, might be more conducive to subjecting oneself to evaluation and, thus, it might increase the risk that one finds certain aspects of how one is perceived not to be satisfactory enough.<sup>18</sup> Thus, there may be a cost involved in adopting the observer perspective while remembering traumatic events. And yet, observer memories can be adaptively beneficial for the subject. The important point to bear in mind in order to accommodate both of these facts at the same time is that a subject does not draw, from her memories, adaptive benefits *per se*. Instead, the adaptive benefit of a subject’s memories must be relativised to each of the subject’s goals.

## 5. Fabricated memories of abuse

Over approximately the last twenty years, there has been a debate in cognitive science, sociology, psychiatry and the law on whether or not accounts of long-forgotten episodes of childhood trauma elicited by some memory recovery techniques, such as hypnosis and the use of sodium amytal, should be taken at face value. After undergoing treatment as part of certain approaches to psychotherapy, a subject may claim to remember a traumatic event that happened to her as a child, even though she was not able to remember it before her treatment. The issue in this debate has been whether such reports should be trusted as expressions of accurate memories or not.<sup>19</sup> Those who believe that these reports should be trusted refer to the mental states being expressed through them as ‘recovered memories’ whereas those who believe that these reports should not be trusted as expressions of accurate memories refer to the mental states being expressed through them as ‘false memories.’ On the false memory camp, theorists such as Richard Ofshe have claimed that memories cannot be completely lost and, later, be recovered (Ofshe & Watters, 1994). In addition, false memory theorists have argued that inaccurate memories can easily be induced under experimental conditions (Loftus & Ketcham, 1994). Theorists on the recovered memory camp, by contrast, have disputed the contention that psychotherapists have the power required to implant fabricated memories of whole events (Harvey & Herman, 1994). Furthermore, they have appealed to independent evidence suggesting that the reactivation of traumatic experiences of other types, such as trauma during war, can occur after periods of time in which individuals experience relatively few symptoms (Schooler, 1994). In this section, I will assume that *some* of the reports of recovered memories of long-forgotten episodes of childhood trauma which arise during psychotherapy are not expressions of accurate memories. I will assume that they are reports of a kind of memory which, due to the psychotherapist’s intended or unintended acts of suggestion, the subject mistakenly takes to be an accurate memory of some (typically traumatic) past event. I will refer to these memories as ‘fabricated’ memories.<sup>20</sup> In this section, I wish to put forward the claim that fabricated memories of traumatic events could, in extremely unusual circumstances, qualify as cases of beneficial memory distortion.

In order to argue that fabricated memories of traumatic events can be beneficial despite being distorted one must, first of all, make the case that they are indeed distorted. From a preservative point of view, it should be uncontroversial that they are. Suppose that I have a memory of my childhood in which I represent an uncle who was visiting at the time as having molested me by touching me in a sexual way. It turns out, however, that the uncle in question never molested me. Thus, the source of that piece of information in the content of my memory must be other than my past perceptual experiences of him. Let us stipulate that this memory has arisen during psychotherapy and it is, as a matter of fact, a memory fabricated by me as a result of my therapist’s use of some techniques of suggestion. In that case, it seems that my fabricated memory is certainly distorted. For it fails to present my uncle to me in any way in which I apparently perceived him to be in the past. Thus, it seems that my faculty of memory has not carried out its preservative function adequately while delivering the memory that I am having. But has it, nonetheless, produced a memory that it could be beneficial for me to have?

It is hard to imagine how any of the actual cases of fabricated memories of traumatic events and, especially, fabricated memories of abuse could possibly be beneficial for the subject. In actual cases of fabricated memories of abuse, the subjects

<sup>17</sup> On phenomenal distancing for emotional properties of remembering, see (D’Argembeau & Van der Linden, 2004). On phenomenal distancing for sensory properties of remembering, see (McNamara, Benson, McGeeney, Brown, & Albert, 2005).

<sup>18</sup> This would explain, for example, why depressed adolescents have been found to be more likely to have observer memories than field memories (Kuyken & Howell, 2006).

<sup>19</sup> For recent discussions of this issue, see, for example, (Belli, 2012), (Mendez & Fras, 2011), (Goodman et al., 2011), and (Dalenberg & Palesh, 2010).

<sup>20</sup> I will reserve the term ‘false memory’ for the view according to which all reports of allegedly recovered memories of long-forgotten traumatic events during psychotherapy are in fact reports of fabricated memories. Notice that I am being neutral on whether the false memory view, thus construed, is correct or not. I am only assuming that there are such things as fabricated memories, which seems hard to deny in light of the evidence produced by those in the false memory camp.

involved are misled into thinking that they have been abused with terrible consequences. Not only can the subjects themselves be traumatized by those memories, but also their families can be torn apart and reputations can be destroyed by subsequent accusations of abuse. In actual fact, lives are often ruined by fabricated memories of abuse. Nevertheless, one can conceive some highly unlikely sets of circumstances in which, arguably, having a fabricated memory of a past episode of abuse could carry an adaptive benefit for the subject. My contention is that it is in fact possible to imagine two such sets of circumstances; a set of circumstances in which it is affectively adaptive for the subject to have such a memory, and a set of circumstances in which it is explanatorily adaptive for her. Let us consider the two scenarios in order.

Let us imagine that, early in my childhood, I once witnessed my uncle giving a terrible beating to my mother; his sister. In fact, let us imagine that it was so early in my childhood that I am no longer able to recover that memory. Many years later, I invariably feel the desire to hate my uncle whenever I need to interact with him. Every time that I am in his presence, I realise that, quite simply, I want to hate the guy. This makes me ashamed of myself since, not being able to remember anything about the violent incident that I once witnessed, I cannot find anything particularly despicable about my uncle. And I strongly disapprove of the type of person who, as I see it, I would become by hating someone unwarrantedly. So I do not allow myself to experience hate towards my uncle. And yet, I wish that I was able to hate him. I cannot deny it. I am fully aware of my desire to hate him. And worse, I am fully aware that, in spite of the fact that all my efforts to find some justifying reason for it have failed, my desire to hate my uncle remains. The resilience of this desire is upsetting for me, so I find myself in a strange dilemma: On the one hand, I have a desire whose satisfaction would have very negative evaluative consequences for my own self-concept. On the other hand, I cannot get rid of it. I experience it as an intrusive desire; a desire that is beyond my rational control. One can picture how the whole situation would be deeply disturbing for me.

Consider, now, the fabricated memory wherein I represent my uncle as molesting me while I was a child. Fabricating this memory would provide me with a reason which, in my view, entitles me to hate my uncle. And this, in turn, would allow me to experience hate towards him without any harm to my own self-concept. Thus, it seems that, in this scenario, my fabricated memory of abuse is beneficial despite being distorted. I benefit from having it in the sense that representing a past episode of abuse that never happened turns out to be an effective way of satisfying one of my goals. The goal in question is, in this case, to manage to occupy, consistently with my own set of values, an emotional state that I feel the need to experience. To that extent, my fabricated memory of abuse has an affectively adaptive benefit for me.

We may also imagine a set of circumstances in which my fabricated memory of abuse is explanatorily beneficial for me to have. In order to describe it, one only needs to tweak some of the details in the conceivable scenario sketched above. Let us suppose that I did witness my uncle giving a terrible beating to my mother, and that I am no longer able to remember that event. Let us imagine, however, that I do not currently experience the desire to hate him. But I do find that I am inclined to behave negatively towards my uncle whenever I need to interact with him. I avoid giving him a hug or shaking his hand, I often find a reason to leave the room during a family reunion that involves him, I accidentally break his Christmas gifts, and so on. Let us suppose that I have insight into the fact that my behaviour reveals a dislike for him. However, not being able to remember the beating that I once witnessed, I cannot find a reason for that behaviour. I cannot explain why I am behaving in a hurtful way towards my uncle when I need to interact with him, which is puzzling for me. It is also upsetting, in that my disposition to behave in a hurtful way towards him remains despite all my failing efforts to find an explanation for it. That is, the fact that I cannot make that behaviour intelligible to myself has done nothing to change it. Thus, I feel alienated from some of my dispositions to action. I experience them as dispositions that are beyond my rational control. It is easy to picture how this conflict would be equally disturbing for me.

Consider, now, the fabricated memory wherein I represent my uncle as molesting me while I was a child. Fabricating this memory would provide me with a reason which, in my view, explains why I am inclined to behave negatively towards my uncle. And this, in turn, would allow me to experience my relevant actions as actions that are rational: It would seem rational for me to perform those actions given that I can find a reason for performing them. Thus, it seems that, in this scenario, my fabricated memory of abuse is beneficial for me despite being distorted. Once again, I benefit from having it in the sense that representing a past episode of abuse that never happened turns out to be an effective way of satisfying one of my goals. The goal in question is, in this case, to make sense of some behavioural dispositions which I am unable to shake off. To that extent, my fabricated memory of abuse has an explanatorily adaptive benefit for me.

Once again, though, things are not quite that simple, for reasons that will be reminiscent of our discussion of observer memories. Recall that a memory may help its subject to achieve one of her goals while not helping with, or perhaps even hindering her prospects of, achieving another. And, for that reason, the memory may carry an adaptive benefit for the subject with regards to the former goal, but not with regards to the latter one. This may be the case with fabricated memories. Even though it can be argued that fabricated memories of abuse could be beneficial with regards to the goal of allowing oneself to feel a certain emotion towards a person or event, or the goal of making sense of one's own mental states and behaviour towards that person or event, they may not help the subject to achieve some of her other goals. As noted above, thinking of oneself as having been abused is likely to result in trauma. It is also likely to damage one's social relations. (This is obvious when it comes to one's relations with the person wrongly accused of being the abuser.) From the point of view of the goals of avoiding trauma and maintaining fulfilling social relations, therefore, it is not adaptively beneficial for a subject to fabricate a memory of having been abused. And yet, there are contexts in which it is possible for fabricated memories of abuse to be adaptively beneficial for the subject. Once again, there is no inconsistency here, provided that adaptive benefits are related to the subject's goals.

## 6. Beneficial memory distortion and the function of memory

Let us take stock. In Section 2, we have seen two pictures of what memory is supposed to do. On one of those pictures, memory is supposed to preserve the information that we acquired through perception in the past. On the other one, memory is supposed to build a narrative of our personal past. In Section 1, we have seen the benefits of memory performing each of those two functions appropriately while producing memories; an epistemic benefit and an adaptive benefit for the subject. However, in Sections 3 and 4, we have also seen that memory may fail to perform one of its functions adequately while producing memories which are, in some sense, beneficial for the subject to have. Specifically, we have seen that a subject's faculty of memory can be unreliable while delivering some memories which have some value for the subject, either from an affectively adaptive point of view or from an explanatorily adaptive point of view. What does this possibility mean for the two conceptions of memory sketched in Section 2?

There are two ways of looking at the relation between the storage conception of memory and the narrative conception of memory. If one takes what we may call an 'exclusive' approach to them, then one will believe that memory is either a faculty that is meant to perform a preservative function within our cognitive economy, or it is a faculty that is meant to perform a reconstructive function within it; but not both. On this approach, then, either the function of memory is to preserve the information that we acquired in the past through perception, or the function of memory is to build a narrative of our personal past. In the former case, the narrative conception of memory is wrong whereas, in the latter case, it is the storage conception of memory that is wrong. Either way, both of them cannot be right.

If one takes an exclusive approach towards the relation between the storage and narrative conceptions of memory, and one endorses the narrative conception of memory, then observer memories of trauma and fabricated memories of abuse do not qualify as cases of beneficial distortion after all. Specifically, if the narrative conception of memory is correct and the storage conception is wrong, then neither observer memories of trauma nor fabricated memories of abuse are distorted. For if the considerations offered in Section 1 are correct, then those memories must have been, in a certain sense, appropriately produced in order for them to be adaptively beneficial for the subject. The relevant sense is that memory must have carried out its reconstructive function appropriately while delivering them.

Observer memories of trauma, for example, cannot help the subject to achieve some phenomenal distancing from the remembered traumatic event if they do not cohere well with the rest of things that the subject remembers about the event, and the things that she knows about her own physical appearance in the past. Suppose, for example, that my observer memory of my traffic accident does not represent me as having the physical traits that I believe I had at the time of the accident. Suppose, furthermore, that my observer memory does not represent my car as having the colour, shape and size that I believe it had at the time of the accident. Then, I will not be able to identify myself as the person who suffered the accident by having that observer memory. It is difficult to see, then, how that memory could allow me to stop remembering the traffic accident from a field perspective and start remembering it in a more phenomenally detached way. After all, if I cannot identify myself as the person who suffered the accident, then why would I recognise the mental state that I am occupying as a memory of something that happened to me at all?

Similarly, fabricated memories of abuse cannot help the subject to achieve some emotional state that she is seeking to experience, or some understanding of her own current behaviour and mental life, if they do not cohere well with the rest of things that the subject remembers about the circumstances surrounding the alleged episode of abuse, and the things that she knows about the participants in that episode. Suppose, for example, that I have a fabricated memory of abuse involving my uncle, but it is not consistent with some of the things I know about what was going on at the time. Suppose that I know that my uncle was not in town when, according to my fabricated memory, I suffered his sexual abuse. Suppose that I also know that the house where he is supposed to have visited us did not look at all like my memory is presenting it to me. Let us say that my memory does not even represent my uncle as I believe he looked like at the time. It would be surprising if, given these inconsistencies, I still proceeded to trust my fabricated memory as a memory of a genuine event in my past. In fact, I might even be able to suspect that the memory that I am having has been fabricated by me. It is difficult to see, then, how that memory could give me a justifying reason for allowing myself to experience hate towards my uncle, or it could provide me with an explanatory reason of my behaviour towards my uncle.

Thus, if one takes an exclusive approach towards the relation between the storage and narrative conceptions of memory, and one assumes that memory can only have a reconstructive function, then one must conclude that memory has performed its function properly while delivering those observer memories of trauma and fabricated memories of abuse which are adaptively beneficial for the subject to have. Otherwise, they could not be adaptive in the first place. Admittedly, this conclusion allows the narrative theorist to capture the intuition that there is something right, and not distorted, about the way in which those memories have been generated. And this is indeed an intuition worth capturing. We do feel its pull. Unfortunately, though, there is a significant cost to adopting this position.

As we saw in Section 1, if the fact that memory is carrying out its function appropriately when it delivers a memory makes no difference as to whether that memory is likely to be correct, then one cannot be justified in forming beliefs about one's personal past on the basis of one's memories. And, for that reason, one's memories cannot provide one with knowledge of one's personal past. Now, if one believes that the function of memory is exclusively reconstructive, then it seems that this is precisely the conclusion that one should draw. For the fact that memory has carried out its reconstructive function

appropriately while producing a memory is no indicator of whether that memory is likely to be accurate or not. (As a matter of fact, the types of memories discussed in Sections 3 and 4 illustrate this point.) Thus, an exclusive approach to the relation between the storage and narrative conceptions of memory, combined with an endorsement of the latter, leads us to the conclusion that memory cannot provide us with knowledge of our personal past. This seems too high a price to pay for preserving the view that those memories which are adaptively beneficial for the subject are, in some intuitive sense, not distorted.

Things are not better if one adopts an exclusive approach towards the relation between the storage and narrative conceptions of memory, but one endorses the storage conception instead. In that case, one can capture the intuition that there is something distorted about the way in which observer memories and fabricated memories are generated since, as we saw in Sections 3 and 4, they are indeed distorted from a preservative point of view. But there is a significant cost to adopting this position as well. For the fact that some of those memories can be, under certain circumstances, beneficial for the subject becomes, then, a mystery. Let me explain.

The storage theorist who takes an exclusive approach towards the two conceptions of memory is committed to the view that the faculty of memory never carries out its function appropriately when it produces observer memories and fabricated memories. However, if memory is not carrying out its function adequately when it produces observer memories and fabricated memories, then it is hard to understand why some of those memories can actually do some good for the subject. After all, in Sections 3 and 4, we have seen that the reason why some of those memories can be beneficial for the subject is that they serve a certain purpose for the subject. They are aimed at providing something for the subject; something that the subject is in need of. (The aim in question may involve either an emotion or an explanation.) But if memory is never doing what it is supposed to do when it generates those memories, then it is hard to see why, in some cases, the generation of those memories happens to serve a purpose for the subject. What explains the fact that those memories are meant to achieve a certain goal, a goal that it is in the subject's interest to achieve, if they have been accidentally generated?

An alternative approach to the relation between the storage and narrative conceptions of memory is what we may call an 'inclusive' approach to them. According to it, memory is a faculty that is meant to perform a preservative function within our cognitive economy, and it is also a faculty that is meant to perform a reconstructive function within it. On this approach, then, the function of memory is to preserve the information that we acquired in the past through perception, and the function of memory is to build a smooth narrative of our personal past as well. What is the relevance of the considerations offered in Sections 3 and 4 for this approach?

If one takes an inclusive approach towards the relation between the storage and narrative conceptions of memory, then one can capture two important intuitions about beneficial observer memories and beneficial fabricated memories which have been highlighted above; the intuition that there is something wrong, and the intuition that there is something right, about the way in which those memories have been generated. On the one hand, there is something wrong in that memory has not performed its preservative function adequately while delivering those memories. This is why we are inclined to think that there is a sense in which they are distorted. Capturing this intuition by accepting that there is a preservative function of memory which, in those cases, has not been carried out appropriately allows us to hang on to the idea that, in order for our memories to yield knowledge of our personal past, memory must carry out its function appropriately while delivering them. For this is indeed true of the preservative function of memory. On the other hand, there is something right about the way in which observer memories of trauma and fabricated memories of abuse have been generated when those memories are beneficial for the subject. For if the inclusive approach is correct, then memory has a reconstructive function as well. And it seems that memory has performed that function adequately while delivering those memories. After all, the considerations above suggest that, unless memory maintains a certain coherence within the subject's mental states when it delivers observer memories of trauma and fabricated memories of abuse, those memories cannot be adaptively beneficial for the subject. Assuming that there can be, as argued in Sections 3 and 4, beneficial cases of such memories, it seems that we must accept that memory has performed a certain function appropriately while delivering those memories, namely, a reconstructive function. The outcome of these considerations, therefore, seems to be that the correct approach to take towards the storage and narrative conceptions of memory is the inclusive approach.

The view that the function of memory is both to preserve the information that we acquired in the past through perception, and to build a smooth narrative of our personal past, is not new. It resonates, for example, with the so-called 'Self-Memory System (SMS)' conceptual framework (Conway, 2005; Conway & Pleydell-Pearce, 2000; Conway, Singer, & Tagini, 2004). One of the central claims within the SMS framework is that memory must negotiate two demands; that of accurately recording ongoing activity ('correspondence' in the SMS terminology) and that of maintaining a coherent record of the self's past activity ('coherence' in the SMS terminology). The idea is that a healthy faculty of memory will meet those demands in an appropriately calibrated way. Now, that central idea in SMS is similar to, but different from, the view that has been offered here. For the reasons why, according to the view offered here, the preservative and reconstructive functions of memory are important are different from the reasons why, within the SMS framework, it is important for our memories to meet the demands of correspondence and coherence.

I have argued that building a smooth narrative of one's past is necessary for the purposes of experiencing a certain emotion towards some events in one's past, and for the purposes of making sense of one's attitudes towards that event. By contrast, the reason why, within the SMS framework, it is important for our memories to meet the demand of coherence is that

our memories must sustain an enduring sense of self. Otherwise, our versions of our past selves will become detached from reality.<sup>21</sup> The difference is that, whereas it is necessary for one to achieve a certain emotion towards an event in one's past (or for one to make sense of one's attitudes towards that event, for that matter) that one has a stable sense of self, a stable sense of self does not seem to be sufficient for one to achieve those emotional or explanatory goals. After all, we would not want to claim that all subjects who have not emotionally processed, or have not achieved some emotional closure with respect to, some traumatic event in their past no longer have a consistent sense of self.<sup>22</sup>

I have also argued that possessing a faculty of memory that reliably preserves the information that we acquired in the past through perception is necessary for the memories that such a faculty produces to afford knowledge of our personal past. By contrast, the reason why, within the SMS framework, it is important for our memories to meet the demand of correspondence is that our memories must keep track of where we are in the process of achieving a certain goal. Otherwise, dysfunctional repetitions of action sequences will ensue, since we will not accurately remember having already performed the necessary actions to achieve some of our goals. The difference is that, whereas it is correct that if a memory provides a subject with knowledge of her past, then it will allow her to keep track of the fact that she has just performed an action that needs to be performed in order to achieve one of her goals, the converse is not the case. All the subject needs in order to keep track of the fact that she has just performed an action which she is required to perform in order to achieve one of her goals is the true belief that she has just done so. And, as we saw in Section 1, a true belief which allows us to achieve one of our goals does not need to be justified and, for that reason, it does not need to amount to knowledge.<sup>23</sup>

What lesson can be drawn, then, from our discussion in this section? If the inclusive approach to the functions of memory is the correct approach to take, then it seems that we can draw an interesting lesson from the fact that there is such a thing as beneficial memory distortion. Instances of beneficial memory distortion teach us that memory has various functions, and they teach us that the adequate performance of each of those functions can, conceivably, come apart from each other. Memory distortion, in other words, reveals that memory is supposed to do various things. At the very least, it is supposed to preserve the information that we acquired through perception in the past, which is why instances of beneficial memory distortion are instances of distortion. And it is supposed to provide us with a narrative of our personal past, which is why instances of beneficial memory distortion are beneficial. Furthermore, cases of beneficial memory distortion illustrate the fact that memory can, in principle, do the latter without doing the former. Ultimately, then, what cases of beneficial memory distortion teach us about the nature of memory is that memory performing its reconstructive function does not necessarily depend on memory performing its preservative function. There is no logical or conceptual link that ties our notions of those two functions together. In that sense, our capacity to reconstruct our personal past in memory is different from our capacity to acquire knowledge of it through memory.<sup>24</sup>

## References

- Aristotle (1972). *De Memoria*. In R. Sorabji (Ed.), *Aristotle on memory*. London: Duckworth.
- Barclay, R., & De Cooke, P. (1988). Ordinary everyday memories: Some of the things of which selves are made. In U. Neisser & E. Winograd (Eds.), *Remembering reconsidered* (pp. 91–125). Cambridge: Cambridge University Press.
- Belli, R. (2012). *True and false recovered memories: Toward a reconciliation of the debate*. Dordrecht: Springer.
- Berntsen, D., & Rubin, D. C. (2006). Emotion and vantage point in autobiographical memory. *Cognition and Emotion*, 20, 1193–1215.
- Broad, C. (1937). *Mind and its place in nature*. London: Routledge.
- Conway, M. A. (2005). Memory and the self. *Journal of Memory and Language*, 53, 594–628.
- Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self memory system. *Psychological Review*, 107, 261–288.
- Conway, M. A., Singer, J. A., & Tagini, A. (2004). The self and autobiographical memory: Correspondence and coherence. *Social Cognition*, 22, 495–537.
- Dalenberg, C., & Palesh, O. (2010). Scientific progress and methodological issues in the study of recovered memories and false memories for trauma. In R. Lanius & E. Vermetten (Eds.), *The impact of early life trauma on health and disease: The hidden epidemic* (pp. 225–234). Cambridge: Cambridge University Press.
- D'Argembeau, A., & Van der Linden, M. (2004). Phenomenal characteristics associated with projecting oneself back into the past and forward into the future: Influence of valence and temporal distance. *Consciousness and Cognition*, 13, 844–858.
- Goodman, G., Ogle, C., Block, S., Harris, L., Larson, R., Augusti, E., et al (2011). False memory for trauma-related Deese-Roediger-McDermott lists in adolescents and adults with histories of child sexual abuse. *Development and Psychopathology*, 23, 423–438.
- Harvey, M., & Herman, J. (1994). Amnesia, partial amnesia and delayed recall among adult survivors of childhood trauma. *Consciousness and Cognition*, 3, 295–306.

<sup>21</sup> As Conway and collaborators put it, “self-coherence binds the current working self to remembered reality and supports the generation of different images or versions of the self-in-the-past and the self-in-the-future” (Conway et al., 2004, 496).

<sup>22</sup> Interestingly, if on the one hand coherence in one's memories is (as claimed within SMS) necessary for a stable sense of self and, on the other hand, a stable sense of self is necessary for one's memories to be either explanatorily or affectively adaptive, then coherence in one's memories is necessary for them to be either explanatorily or affectively adaptive. Thus, this claim about the connection between coherence and those adaptive benefits of memories, a claim which I have independently argued for in Sections 1 and 5, follows from SMS. It is therefore weaker (and, for that reason, both less controversial but also less interesting) than the central claims of SMS.

<sup>23</sup> Interestingly, if on the one hand accurately recording ongoing activity in memory is (as claimed within SMS) necessary for a subject to keep track of the fact that she has performed an action which she needs to perform in order to achieve one of her goals and, on the other hand, knowing that she has performed the action in question is enough for keeping track of that fact, then memory providing an accurate record for the subject is necessary for the subject to know that she has performed that action. Thus, this claim about the connection between accuracy and knowledge, a claim which I have independently argued for in Section 1, follows from SMS. It is therefore weaker (and, for that reason, both less controversial but also less interesting) than the central claims of SMS.

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- Hume, D. (2000). A treatise of human nature. In D. F. Norton & M. J. Norton (Eds.). Oxford: Oxford University Press.
- Koriat, A., Goldsmith, M., & Pansky, A. (2000). Toward a psychology of memory accuracy. *Annual Review of Psychology*, 51, 481–537.
- Kuyken, W., & Howell, R. (2006). An exploratory study of autobiographical memory in adolescence: The role of depression and trauma. *Cognition and Emotion*, 20, 466–487.
- Locke, J. (1975). Essay concerning human understanding. In P. Nidditch (Ed.). Oxford: Oxford University Press.
- Loftus, E., & Ketcham, K. (1994). *The myth of repressed memory*. New York: St. Martin's Press.
- Malcolm, N. (1963). *Knowledge and certainty*. Englewood Cliffs: Prentice Hall.
- Martin, C., & Deutscher, M. (1966). Remembering. *Philosophical Review*, 75, 161–196.
- McIsaac, H. K., & Eich, E. (2002). Vantage point in episodic memory. *Psychonomic Bulletin and Review*, 9, 146–150.
- McNamara, P., Benson, E., McGeeney, B., Brown, A., & Albert, M. L. (2005). Modes of remembering in patients with chronic pain: Relation to current pain. *Journal of Nervous and Mental Disease*, 193, 53–57.
- Mendez, M., & Fras, I. (2011). The false memory syndrome: Experimental studies and comparison to confabulations. *Medical Hypotheses*, 76, 492–496.
- Nigro, G., & Neisser, U. (1983). Point of view in personal memories. *Cognitive Psychology*, 15, 467–482.
- Ofshe, R., & Watters, E. (1994). *Making monsters: False memories, psychotherapy and sexual hysteria*. Berkeley: University of California Press.
- Porter, S., & Birt, A. R. (2001). Is traumatic memory special? A comparison of traumatic memory characteristics with memory for other emotional life experiences. *Applied Cognitive Psychology*, 15, 101–117.
- Pritchard, D., Millar, A., & Haddock, A. (2011). *The nature and value of knowledge: Three investigations*. Oxford: Clarendon Press.
- Reid, T. (1969). Essays on the intellectual powers of man. In B. Brody (Ed.). Cambridge: MIT Press.
- Schooler, J. (1994). Seeking the core: The issues and evidence surrounding recovered accounts of sexual trauma. *Consciousness and Cognition*, 3, 452–469.
- Shoemaker, S. (1984). *Identity, cause and mind*. Cambridge: Cambridge University Press.
- Sutton, J. (2010). Observer perspective and acentred memory: Some puzzles about point of view in personal memory. *Philosophical Studies*, 148, 27–37.
- Talarico, J. M., LaBar, K. S., & Rubin, D. C. (2004). Emotional intensity predicts autobiographical memory experience. *Memory & Cognition*, 32, 1118–1132.