

Sosa, Dream Ontology, and Dream Scepticism

Abstract:

Ernest Sosa defends an imagination model of dreams. His main motivation for doing so is to avoid dream scepticism—the eternal sceptical concern that we cannot have knowledge of the external world, given that we might be dreaming. In this paper, we argue that Sosa’s appeal to an imagination model of dreams does not, in fact, allow him to avoid dream scepticism. This is because, even if we accept an imagination model of dreams, we should still accept that deceptive beliefs can enter into dreams. To make the point, we develop two lines of thought. The first draws on the imagination literature. We argue that since the imagination *in general* does not operate entirely independently of our belief forming mechanisms, we should not suppose that it does so *in the particular case* of dreaming. And second, we appeal to the empirical literature on *sleep-dependent memory consolidation* to suggest that there are also empirical reasons to think that beliefs can form and update in dreams.

Keywords: Sosa; Dreams; Imagination; Scepticism; Skepticism; Belief

1. The Imagination Model and Dream Scepticism

Ernest Sosa is one of the most prominent defenders of an *imagination model* of dreams.¹ The imagination model holds that dreaming is an imaginative process, involving mental imagery. This position contrasts with the orthodox view, which holds that dreaming is akin to a waking perceptual experience—most likely, an hallucinatory one—involving the sorts of attitudes that we ordinarily have during waking experience; for instance, genuine intentions and beliefs.²

There are various reasons to accept or reject each of these positions, most of which we do not get into here.³ Instead, we are interested in one of the particular advantages that, according to Sosa, the imagination model has over the orthodox view. That is, it’s ability to free us from the worry of *dream scepticism*: the traditional sceptical problem that we cannot have knowledge of the external world, lest we might be dreaming.

¹ Sosa’s first defended his imagination model of dreams in ‘Dreams and Philosophy’ (2005). This defence is reprinted as the first chapter of his *A Virtue Epistemology* (2007). Other defenders of an imagination model, with varying commitments, include McGinn (2004) and Ichikawa (2009).

² As Sosa notes, the orthodox view has been largely presupposed throughout the history of philosophy, from Plato, to Augustine, to Descartes. The idea that dreaming is a kind of hallucination also sits well with (some of) the contemporary empirical work on dreaming (e.g. Hobson 2002).

³ See Windt (2026) for an overview of these issues.

In broad outline, Sosa's argument can be summarised as follows:

P1. If the imagination model of dreams is true, then dream scepticism can be avoided.

P2. The imagination model of dreams is true.

C. Thus, dream scepticism can be avoided.⁴

The implication in premise one is taken to hold because, on the imagination model, we do not form genuine beliefs in dreams. Even though we might *imagine* ourselves to believe the content of what we (seem to) experience in the dream world, we do not in fact form any such beliefs. And given that we do not form such beliefs, we cannot (for that reason) be deceived in our dreams, since that would require us to form deceptive beliefs. As Sosa (2009: 143) later summarises: 'On the imagination model, the difference it would make [from the orthodox view] is that if we just dream, then we are not fooled, since dreaming relevantly gives rise to no beliefs.'

And to defend premise two, Sosa appeals to a distinction between what happens *in dreams* and what happens *while we dream*. One of the examples Sosa gives is that, whilst it might be the case that *in a dream* I am being chased by a lion, this does not imply that I am, in fact, being chased by a lion *while I dream* (I am lying in bed). In Sosa's (2007: 4) words, 'From the fact that *in my dream* something happens it does not follow that it happens *while I dream*' (italics original). The same is then assumed to hold for the mental states that we (seem to) form in dreams. From the fact that I (seem to) *believe* I am being chased by a lion in a dream, or that I (seem to) *intend* to run away in a dream, it does not follow that 'in actuality' I have such a belief or intention (Sosa 2007: 4). I might *imagine* that I have such attitudes in dreams, but to imagine holding an attitude is not the same as (actually) holding that attitude. Sosa thus uses the in dream/while dreaming distinction to reject the orthodox view in favour of the imagination model (Sosa 2007: 3-4).⁵

Of course, there are reasons in the literature to doubt each premise. For instance, Ichikawa (2008) rejects premise one. He argues that, even on the imagination model, 'quasi-affirmations' occur in dreams, and these are sufficient for deception. Hence, even if dreaming is an imaginative process, we cannot avoid dream scepticism. And Driver (2007: 9), although not targeting Sosa's argument specifically, brings premise two into question when she writes: 'It is true that when one dreams one is walking one is not walking. But this doesn't hold up when one uses other examples—when I dream that I think, I think.'

⁴ Sosa does have another way of avoiding dream scepticism that stems directly from his brand of virtue epistemology, for those who do not accept the imagination model. He does, however, take his appeal to the imagination model of dreams to be his most forceful response, referring to his alternative approach as 'supplementary' (see Sosa 2007: Ch. 2).

⁵ Rejecting the orthodox view in this way does not imply that the imagination model is true. There could be alternative dream ontologies that are not explored. Nevertheless, the imagination model is adopted by Sosa as the most plausible alternative.

It is not our aim, however, to push either of these lines of objection here. Our aim is to develop a different line of objection against Sosa's position. Like Ichikawa, we do not think that the imagination model of dreams enables us to readily avoid dream scepticism. Thus, we also deny the implication in premise one. However, our approach is different from Ichikawa's. Rather than appeal to the notion of quasi-affirmations, which may or may not be sufficient for a kind of deception, we appeal to genuine beliefs that (we argue) arise in dreams *even on the imagination model*.⁶ Our position is that, on any plausible reading of the imagination model, we should allow that genuine beliefs can form as a result of the relevant imaginary processes, and that these beliefs can be deceptive.

To this end, we appeal to two lines of thought. The first draws on the imagination literature to suggest that, even if dreaming is an imaginative process, we should not suppose that dreaming operates entirely independently of our belief forming mechanisms. This is because the imagination can give rise to beliefs when we are awake, so we should also suppose that the imagination can give rise to beliefs when we are asleep. And the second line of thought involves some of the empirical literature on the cognitive function of sleep and dreams. Specifically, we focus on the process of *sleep-dependent memory consolidation* to suggest that there is, at least to some extent, an empirical link between dreaming and belief formation—again, even if we presuppose a fundamentally imaginative model of dreams. The general theme of our objection to Sosa is thus that, even if we adopt an imaginative model of dreams, we cannot deny that beliefs can form and update in dreams. Finally, we explain why the preceding considerations force us to confront dream scepticism anew.

2. The Imagination and Belief Formation

In the imagination literature, there is an ongoing debate about whether the imagination can justify beliefs (or act as a source of knowledge). Various possibilities have been suggested. For example, that the imagination can justify modal beliefs (Kung 2010; McGinn 2004: 138), that it can justify conditional beliefs (Langland-Hassan 2016; also see Nichols and Stich 2000), and that it can justify contingent beliefs about the world (Kind 2016, 2018; Williamson 2016).⁷ To develop our argument, we draw on some of the insights of these views. However, our project is more modest in one important respect.

Unlike these theorists, we do not aim to establish (nor do we need to establish) that the imagination can *justify* belief. For dream scepticism to take hold, it is sufficient to show that the imagination can, as a matter of psychological fact, give rise to genuine beliefs. That is to say, we are interested in descriptive psychological facts about belief formation; not claims about the justificatory relationship between the imagination and belief. If the imagination *can* give rise to beliefs (as a descriptive fact), then we are in a

⁶ See Sosa (2017: 35-6) for his reply to Ichikawa.

⁷ For a helpful collection on this topic, see Kind and Kung (2016).

position to be deceived by those beliefs. This is the case whether or not those beliefs are justified, since both justified and unjustified beliefs can still be deceptive.

With that said, the main two points we want to make about the imagination in general, are as follows. The first is that the imagination can indeed give rise to beliefs. The second is that the imagination doesn't need to be *voluntary* to do so.

Imagining and Belief. There are many possible examples of the imagination giving rise to beliefs in the literature. One of which is Williamson's (2016: 116) hunter case. Williamson asks us to consider 'a hunter who finds his way obstructed by a mountain stream rushing between rocks'. The hunter must decide whether or not he can jump the stream (as doing so would be to his advantage). The question is: can the hunter make this decision, at least in part, based on his imagination? According to Williamson, he can. The hunter is able to imagine himself jumping the stream—in a way that is constrained by what he knows about e.g. his jumping abilities—and come to a belief about whether or not he will succeed. If he imagines that he can jump the stream, then he might form the belief that he can. If he fails in his imaginative trials, then he might form the belief that he cannot. Williamson (2016: 116) describes this as 'a natural method for gauging one's capacities in such situations'. And other familiar examples are available. For instance, imagining whether we can fit a stroller in the trunk of a car (Kind 2016: 146), or whether we can fit a new bed through a bedroom door (e.g. Egeland 2014).

Now, the concern for epistemologists at this point—and indeed, the concern of the theorists who raise these cases—is whether the resulting beliefs are justified. However, as we have said, justification is not our current interest.⁸ Instead, we simply want to claim that such cases show that the imagination can, under certain circumstances, influence belief formation. In response to Williamson's hunter case, it is one thing to say that the hunter forms a *justified* belief thanks to his imaginative exercise; it is another thing to make the descriptive psychological claim that the imagination *can* cause the hunter to form beliefs (justified or not).⁹ The latter is a much more moderate claim, and one that we think theorists on both sides of the justification debate can agree on. At least, in order to deny that the imagination can influence beliefs, critics would have to deny that there is any causal link between the imagination and belief whatsoever. This is much more implausible claim than that there isn't a justificatory link between the imagination and belief.¹⁰

⁸ Reference to be added. Removed for anonymity. [XXX]

⁹ Of course, if the hunter forms the belief that *p*, then there is a sense in which he might *take himself to be* justified, in that moment, in believing that *p*. But this is irrelevant to whether or not he *is* in fact justified.

¹⁰ That there is a causal link between the imagination and belief is further exemplified by the case of forming beliefs in response to fiction, that we discuss below.

Involuntary Imagining. One thing that the above examples have in common is that the imaginative process involved is *voluntary*. In these cases, the subject chooses to engage in an imaginative process with the explicit intention of finding out the truth. The hunter imagines jumping the stream with the aim of deciding whether or not he will succeed. Imagining, however, is not always like that. Imagining is often *involuntary*. That is to say, it is not initiated nor sustained by the explicit intentions of the imaginer. This might be, for instance, when we spontaneously find ourselves fantasizing or day dreaming about something, even though we have no intention to do so; or it might be when we are overwhelmed by some imaginative episode that won't go away (such as when we cannot rid our minds of the face of a menace, after watching a horror movie). Hence, the point we also want to make is that involuntary imagining can, just like voluntary imagining, give rise to belief. There is nothing special about voluntary imagining in this respect.

We can again use Williamson's hunter case, with a minor modification. It is just as easy to imagine the hunter *spontaneously* day dreaming about jumping a stream (i.e. with no intention to do so), and coming to hold a belief about his ability to make the jump. In this way, imaginative episodes might *present* themselves to us; and as a result, we might form beliefs. There is an analogy to draw here with the way in which we form beliefs in response to fiction—which we can also consider a kind of imaginative exercise. For instance, when we read a novel, we do not (usually) have voluntary control over the content of the novel, yet the content might cause us to form beliefs. That this kind of belief formation occurs has been demonstrated in the empirical work of Green and Brock (2000), which shows that reading fiction can indeed lead to belief formation. To give one of their examples, after reading a fictional story about a girl getting stabbed to death by an escaped psychiatric patient, participants in a study were likely to have their beliefs affected by the content of the story, even though they knew beforehand that the story was fictional.¹¹ What we want to say about involuntary imagining is the same. On occasion, the imagination presents us with content that we did not intentionally initiate (or maintain), but which can cause us to form beliefs.

At this point, we want to again emphasise that we are not claiming that the beliefs formed in these cases are justified. We are only making a descriptive claim. And what we also want to emphasise is that the beliefs formed in these cases need not be *true*. The hunter who imagines jumping the stream might come to believe that he will succeed, even though he will not. And when we form beliefs from fiction, we might (and probably often do) unwittingly form false beliefs. It would be strange to think that we could *only* form true beliefs from the imagination. The claim is thus that imaginative exercises, such as those

¹¹ See Sullivan-Bissett and Bortolotti (2017) for further discussion of this research, including this example.

described, can influence belief. But nothing we have to say commits us to the idea that the beliefs formed must be true, nor justified.

It is therefore in this respect that we hold that the imagination is not totally out of the *doxastic circuit*. This is the case even if the imagination is, where truth and justification are concerned, out of the *cognitive circuit* (to use O'Shaughnessy's [2000: 345] expression). It is reasonable to suppose that both voluntary and involuntary imaginings can cause beliefs to form, as a matter of descriptive psychological fact.

3. Dreams and Belief Formation

Assuming that the above claims about the imagination are correct, the case we now want to make is that the imagination model of dreams must allow that dreams can—as particular instances of imaginative processes—likewise give rise to beliefs. To make our case, in this section, we appeal to both hypothetical cases and real dream reports; before, in the following section, we turn to some empirical evidence to support our claim. We consider some objections along the way.

Hypothetical Cases. The kinds of cases we have in mind are, in principle, no different from the cases used to show the same about the imagination in general. The following is again adapted from Williamson's hunter case.

Suppose that a hunter has a dream about a stream that is located nearby his house. Previously, he has never formed any beliefs about whether or not he can jump over the stream, but he is familiar with the stream and the surrounding area. In the dream, the hunter recognises the stream *as* the stream near his house and (for whatever reason) decides to jump over it. Moreover, as it happens, he is successful, and because of his success in the dream, he forms the *belief* that he has the ability to jump over the *actual* stream by his house. We might also suppose that he carries this belief over into waking life; and (perhaps) that he uses it in future deliberation. How should we interpret this kind of case?

Given our understanding of the relationship between the imagination and belief, and assuming an imagination model of dreams, we want to say something like the following. The hunter's dream is an instance of an involuntary imagining. This involuntary imagining involves an imaginative process that gives rise to imagined states—for instance, the imagined scene of the stream before the hunter. However, due to this imaginative process, the hunter happens to form the belief—as a descriptive psychological fact—that he is able to jump the stream. On this interpretation, dreaming can give rise to beliefs, just like any other instance of involuntary imagining. Dreaming is still interpreted as a fundamentally imaginative process, but we have allowed for the fact that such a process can have a causal influence on beliefs.

Now, just as we are not claiming that beliefs caused by imaginings are ever justified or true, we are also not claiming that beliefs formed in dreams are ever justified or true. It might well be the case that we

never ought to form beliefs in dreams, if indeed we can help it. All we are saying is that, on the basic assumptions that (i) to dream is to imagine, and (ii) imagining can influence belief formation, it follows that dreams can influence beliefs. That is to say, unless we are to suppose that dreaming is not really an ordinary imaginative process at all—a point on which we might agree, but in which case we would need a whole new theory of dreams that diverges from any straightforward interpretation of what *dream-imagining* is.¹²

Dream Reports. At this point, a critic might wonder whether such hypothetical cases track reality. Do people really have dreams that cause beliefs to form, in the way we have described? After all, we have repeatedly said that we are interested in matters of descriptive psychological fact. It is thus helpful here to note that a case can also be made that real instances do in fact occur. There are many examples of (real) dream reports that can be interpreted as involving dreams influencing beliefs in the way described above.

The history of scientific and technological progress provides many possible examples, according to which certain advances have been attributed, at least in part, to dreams. These examples include Dmitri Mendeleev's dream of the periodic table (discussed in Kedrov 1966: 30); August Kekulé's dream about the structure of benzene (see Roberts 1989: Ch. 14; and West 2009: 236-7); and Elias Howe's dream that led to the invention of the sewing machine (Draper 1900: 160). To focus on one of these examples, the following is Draper's description of how Howe came to make the final adjustments necessary to invent the sewing machine:

'His original idea was to follow the model of the ordinary needle, and have the eye at the heel. It never occurred to him that it should be placed near the point, and he might have failed altogether if he had not dreamed he was building a sewing machine for a savage king in a strange country [...] He thought the king gave him twenty-four hours in which to complete the machine and make it sew. If not finished in that time death was to be the punishment. Howe worked and worked, and puzzled, and finally gave it up. Then he thought he was taken out to be executed. He noticed that the warriors carried spears that were pierced near the head. Instantly came the solution of the difficulty, and while the inventor was begging for time he awoke. It was 4 o'clock in the morning. He jumped out of bed, ran to his workshop, and by 9, a needle with an eye at the point had been rudely modeled. After that it was easy. That is the true story of an important incident in the invention of the sewing machine.' (Draper 1900: 160)

¹² Of course, Sosa would immediately reject this interpretation, since his in dream/while dreaming distinction (outlined above) implies *a priori* that attitudes formed in dreams cannot be genuine (they are all imagined). We discuss our disagreement with Sosa on precisely this point in more detail below.

The way we interpret this case, and others like it, is structurally the same as the hypothetical case of the hunter's dream (discussed above). In this case, Howe, in his dream, underwent a process of involuntary imagining related to a problem he had been working on. During this process, he was subjected to many mental images, and some of those images caused him to form a belief. In particular, he formed a belief about where to locate the eye of the needle in his sewing machine. He then awoke, and retaining this belief, went on to make a working sewing machine. Now, we don't want to go so far as to say 'Let us learn to dream, gentlemen, then perhaps we shall find the truth' (as Kekulé famously said in a speech celebrating his discovery of the structure of benzene, also credited to a dream).¹³ As we have said, we don't want to say that beliefs formed in dreams are likely to be true. But what we do want to suggest is that the possibility of imaginative processes in dreams leading to beliefs (whether those happen to be true or not) is not just hypothetical. According to our interpretation, in line with such dream reports, real instances of dreams can and do influence beliefs.

But is this interpretation really plausible? If imagining really can give rise to beliefs (as we have suggested), then we take it that the imagination giving rise to beliefs in dreams follows quite naturally. However, there is one important alternative interpretation that is particularly pressing; one that is especially pertinent to Sosa's own account of dreams. Can we really say that we form beliefs *in dreams* or is it better to say that we only form beliefs *after we wake up* (even supposing that those beliefs are in part formed thanks to a dream)? In keeping with the spirit of Sosa's in dream/while dreaming distinction (outlined in section 1), it might be said that, even though *ideas* (or some such) can come to us in dreams, this does not imply that we form beliefs about those ideas *while we dream*. Perhaps images in dreams can serve as a source of ideas (perhaps even useful ones), but it is only once we wake up that we can properly be said to form any relevant beliefs.

Here, we come directly back into contact with Sosa's rejection of the orthodox view of dreams. If we presuppose that, necessarily, whatever happens *in dreams* cannot, in virtue of being in a dream, be real, then it also necessarily follows that we cannot form any (real) beliefs in dreams. And if that's the case, then we are forced to say that it could *only* possibly be the case that we form (real) beliefs after we wake up. In other words, our interpretation of the above cases would have no hope of getting off the ground. It is ruled out *a priori*.

On this point, there are two respects in which our account is at odds with Sosa's. The first concerns what we have said for so far. Even if we want to rule out the possibility of forming beliefs in dreams *a priori*, it is not obvious that Sosa's appeal to an imagination model of dreams can achieve these metaphysical

¹³ Kekulé as cited in Roberts (1989: 80).

ambitions. As we have argued, the imagination (in general) can give rise to beliefs, so we should also assume, on an imagination model of dreams, that dreams can give rise to beliefs. That is to say, Sosa needs a different theory of dreams altogether if his psychological view is to remain consistent with his preferred ontology. The imagination model is not going to work. And our second point of contention is that we simply do not agree with Sosa's basic methodology for understanding the nature of dreams. For us, the kinds of mental states that enter into dreams, and the interactions between them, cannot be decided *a priori*. It is a largely empirical matter. At the very least, we think that empirical considerations should be taken into account when attempting to understand the nature of dreams. If there are good empirical reasons to suppose that, say, dreams can cause us to update our beliefs, then these should be taken into account. And, as we now suggest, we think there are such empirical reasons available.

4. The Cognitive Role of Dreams

The claim in this section is that there is empirical evidence to suggest that the cognitive functions of dreams can have a causal impact on the representation of factual matters, and as such can influence beliefs. The specific mechanism we focus on is *sleep-dependent memory consolidation*. Based on the evidence considered, we aim to draw two related conclusions. The first is that studies on sleep-dependent memory consolidation demonstrate, at the very least, that the question of whether beliefs can form in dreams should be open to further empirical inquiry, in contrast to Sosa's *a priori* approach. And second, we take these studies provide support for the claim—if not directly, then indirectly—that beliefs can, as an empirically plausible possibility, get updated in dreams.

Memory consolidation is 'the idea that neural processes transpiring after the initial registration of information contribute to the permanent storage of memory' (Nadel & Moscovitch 1997, 217). And there is now significant evidence to suggest that sleep enhances this process (Stickgold 2005). Many cognitive benefits of memory consolidation during sleep have been recorded beyond simple retention, such as improved performance in probabilistic learning (e.g. improved accuracy in category learning); in transitive inference (e.g. allowing subjects to deduce 'A > C' from 'A > B' and 'B > C'); and in spatial navigation (e.g. enhancing mental maps of virtual environments), etc.

To focus on a concrete example, we can look at the study by Pace-Schott et al. (2012), involving the Iowa Gambling Task (IGT). In the IGT, participants were instructed to maximize 'points' by picking cards from four decks. Unbeknownst to the participants, two of the decks (decks C and D) were advantageous in the long run, in the sense that they provided higher overall average scores. Whereas the other two decks (A and B) were disadvantageous in the long run, in the sense that they provide lower overall average scores; however, it is also the case that this latter set of decks occasionally resulted in much higher or lower scores in individual instances than the former set. The participants in the study were then divided

into a *sleep-group*, who performed the tasks after a good night's sleep, and a *wake-group*, who performed the task after a day of continuous wakefulness. The result was that members of the sleep-group showed significantly higher scores (i.e. they earned more points) and—which is especially important—*better rule understanding* (i.e. they correctly identified which decks are advantageous and disadvantageous) than those in the wake-group.

This suggests that sleep-dependent processing of information allowed the participants to develop a clearer propositional insight into which decks were advantageous and disadvantageous, arguably by forming new beliefs about e.g. the rules of the game and how to successfully act according to those rules.

Now, in itself this study does not guarantee that belief updating necessarily occurs in sleep (nor, for that matter, in dreams—we return to this point shortly). However, this interpretation is further supported with corroborating evidence in other related sciences. For instance, this interpretation is coherent with neuroimaging data during sleep as well as the correlation between improved cognitive performances and sleeping patterns (for an overview, see Stickgold 2005).

These kinds of studies are important in the current context because they give empirical support to the plausibility of beliefs updating in sleep. There are, however, two concerns we want to address. The first concerns the fact that the Pace-Schott *et al.* study is primarily about *memory updating* rather than belief updating. And the second concerns how the Pace-Schott *et al.* study is primarily about the cognitive role of *sleep* rather than dreams. We discuss each in turn.

About the first concern, it is true that memory consolidation studies are primarily about memory updating, rather than belief updating. But they can easily be re-interpreted as studies of belief updating, such that participants come to change their beliefs about some topic. For instance, in the Pace-Schott *et al.* study, it appears to be the case that the sleep-group came to *believe* that decks C and D were advantageous in the long run, at least implicitly. Moreover, even if these studies cannot in themselves be understood as studies of belief updating, they nonetheless still tell us something about the possibility of belief updating during sleep. Given the similarities and (partial) overlap between memory and belief, empirical studies of memory updating during sleep should be expected to tell us something about belief updating during sleep as well. It is difficult to see how we can update our memory if we do not update *some* of our beliefs.

And about the second concern, it is true that the Pace-Schott *et al.* study is primarily about the cognitive role of sleep, and not necessarily the cognitive role of dreams. This is because it is conceivable that consolidation is, say, a purely neurobiological process in NREM sleep, and that dreaming does not play a crucial role. However, there is again further empirical evidence to suggest that the cognitive benefits of sleep cannot be completely separated from dreaming. Stickgold (2005), for example, suggests that REM

sleep and its associated dreaming are integral parts of a two-step consolidation process and the enhancement of emotionally charged or complex cognition. And a meta-analysis by Hudachek & Wamsley (2023) found a strong and statistically significant association between dreaming about a recent learning task and improved memory performance after sleep. While the relationship was significant for all types of learning tasks, subgroup analysis revealed that task-related dreaming during NREM sleep was more strongly associated with memory improvement than dreaming during REM sleep.

What we take this evidence to suggest is that (i) belief updating during dreams should be taken as an open empirical question—again, not something to be ruled out *a priori*. There is still a lot of empirical work to be done on sleep and dreams, but given the complexity of the relationship between sleep, dreams, and cognition in waking life, it seems wrong to rely on *a priori* assumptions about the kinds of mental states that can enter into dreams. And (ii), given what current studies on memory consolidation in sleep show, along with the seemingly important cognitive connections between sleeping and dreaming, it looks like a very real possibility that beliefs can update in dreams. And if this is the case, in addition to the considerations outlined in the previous section, we have good empirical reasons to suppose that real beliefs can form and update in dreams.

5. Dream Scepticism Returns

To return to the problem of dream scepticism, where does all of this leave us? That depends on the ontology of dreams we are left with. Assuming that genuine beliefs can enter into dreams, that ontology starts to look something like the following.

Dreaming is a fundamentally imaginative process, involving (mainly) mental imagery. However, as a consequence of this process, we can come to form some beliefs *in* dreams. And it is because of these beliefs that we must again confront dream scepticism.

Since we can form beliefs in dreams, we can also form deceptive beliefs in dreams. As we have said, there is no reason to suppose that the beliefs we form in dreams are either justified or true. (It would be a stretch to say that the beliefs we form in dreams are necessarily *not* deceptive.) And given that there is no way to *tell* that we are dreaming when we dream (lucid dreaming aside), we are not in a position (whilst still dreaming) to tell which states in dreams are imaginings and which are genuine beliefs. Consider again the case of the hunter's dream (discussed in section 3). The hunter dreams that he is jumping a stream, and for that reason, comes to (genuinely) believe that he can jump the (actual) stream. However, given that he cannot tell the difference between what he is imagining when dreaming and what he really believes when dreaming, he is not in a position to tell when he is being deceived, and when he is merely imagining. It is then precisely this uncertainty that re-establishes dream scepticism as a legitimate concern.

As Sosa writes, assuming that beliefs *do not* form in dreams:

‘If one *is* only dreaming, then one cannot be pondering any such question as whether one might be only dreaming, and one could not possibly assent to any answer, whether affirmative or negative. Knowing this, how can one sensibly deliberate on whether one might be dreaming? On our conception of dreams, one is automatically, rationally *committed* to supposing that one is not just dreaming, whenever one inquires at all.’ (Sosa 2007, p. 20)

However, if we allow that even just *some* beliefs form in dreams, this response to the sceptic isn’t going to work. On the imagination model, it might often be the case that in dreams we *do not* assent to propositions such as *I am not dreaming* (we merely imagine that we do); but on our current understanding, there are also going to be times that we *do* assent to such propositions. There can be times, for instance, when the imaginative conditions of the dream give rise to precisely the belief that *I am awake*—when, of course, I am not. This is in principle no different from the hunter coming to believe that he can jump the stream due to the imaginative processes that take place in his dream.

The point the sceptic can thus raise is that we have no way to tell when such beliefs arise—whether we are awake or asleep. The kind of scepticism we are left with takes hold *not* because we are deceived into believing everything that happens in dreams (as per traditional dream scepticism); but because we *sometimes* form deceptive beliefs in dreams, and it is impossible to tell these beliefs apart from mere imaginings. In other words, despite not being deceived by the entire content of our dreams, there is still a sufficiently robust sceptical concern to establish dream scepticism. The problem is that, as soon we allow any interaction between imaginings (in dreams) and beliefs (in dreams), we are again confronted with a sceptical challenge.

Of course, Sosa would reject the idea that this interaction is possible on *a priori* grounds (as discussed above). But if we are correct to insist on (i) an ordinary understanding of the imagination as it pertains to the imagination model of dreams; and (ii) a more empirical approach to understanding the nature of dreams; then—as we have suggested—there is good reason to think that this interaction between the imagination and belief in dreams can, and indeed does, occur.

5. Conclusion

The view of dreams we have presented has a relatively messy ontology. Dreaming is taken to be a fundamentally imaginative process, but in dreams we can *also* have beliefs. In this respect, we might refer to the model we have outlined as a kind of *hybrid model*. It combines features of both the imagination model and the orthodox view of dreams. With that in mind, it might be asked whether such a view has

any of its own merit *as* a theory of dreams. To close, we want to say a couple of things about this hybrid model, and what we think we have and haven't established.

The first point we want to make is that we have not attempted to defend a hybrid model of dreams *per se*. Our argument has been conditional. If we accept a fundamentally imaginative model of dreams, then we should also allow that beliefs can enter into dreams. In this sense, we do not think that there can be a *pure* imagination model of dreams. So we are left with a hybrid view. The further implication is that, as we have argued, we cannot appeal to an imagination model of dreams to avoid dream scepticism, despite Sosa's claims to the contrary.

But we also want to add that the hybrid model described does not run contrary to all of the benefits of a (pure) imagination model, even though it does force us to again confront dream scepticism. First, since the hybrid view does not imply that we believe our dreams wholesale, it doesn't run into problems of mass belief inconsistency nor of rapid belief revision—which is a problem, as Ichikawa (2009: §4.1) points out in the form of a dilemma, for the orthodox view. At worst, the hybrid model implies that we might *occasionally* hold inconsistent beliefs or *occasionally* rapidly revise beliefs, which is hardly unusual. And second, the hybrid view remains consistent with the idea that we are not morally responsible for our dreams. As Sosa (2007: 6-8) points out, accepting the imagination model allows us to account for the intuition that we are not morally responsible for our intentions in dreams, since what we intend to do is not real. Nothing about the hybrid model we have outlined necessarily impedes on this fact. It is consistent with this model that our intentions in dreams are not real, just like our actions are not real. However, with that said, we must admit that it would be much more in the spirit of our view to inquire into whether (i) the imagination can influence intentions, and (ii) what the empirical evidence suggests about intentions in dreams, than to rule the possibility of intentions in dreams out *a priori*.

All things considered, we have argued that Sosa is wrong to appeal to an imaginative model of dreams to avoid dream scepticism; but for what it is worth, it might also turn out to be the case that something like a hybrid model of dreams is necessary. How mental states form and interact is a messy business. Perhaps more so in dreams than anywhere else.

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