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THE UTILITARIAN'S GUIDE TO DREAMS

BY

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Abstract: Unpleasant dreams occur much more frequently than many people realise. If one is a hedonistic utilitarian – or, at least, one thinks that dreams have positive or negative moral value in virtue of their experiential quality – then one has considerable reason to try to make such dreams more positive. Given it is possible to improve the quality of our dreams, we ought to be promoting and implementing currently available interventions that improve our dream experiences, and conducting research to find new, more effective interventions.

1. Introduction

Philosophers have analysed what utilitarians should believe about possible courses of action within a considerable variety of domains. This includes those that are very pressing, like alleviating poverty (Singer, 1972), some that are more commonplace, like voting (Brennan, 2011), and even those very particular to our present social context, like our online behaviour (Tosi and Warmke, 2020). But despite the wide gaze our collective utilitarian eye has cast over many spheres of our lives, there remains a very large blind spot in this literature. This concerns a domain that makes up roughly a third of every human being's life but about which very little has been said: the time we spend sleeping. Upon first noticing this lacuna, it is easy to reach for justifications: Since sleep is a period in which we are not conscious, there is little to experience, and so there is little worth saying *qua* utilitarian. Alternatively, since we lack the ability to do much about our sleeping selves, there is no point considering this area of our lives because ought-implies-can. As we shall see, however, such replies are unconvincing, and this means utilitarians

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of many stripes should give far more consideration to the sleeping life of themselves and others.

This paper proceeds as follows. First, I provide some brief remarks on the kinds of theories this paper has implications for, aiming to be ecumenical with respect to varieties of utilitarianism. I then review some recent research into dreams and nightmares, arguing that nearly all of us spend much more of our lives dreaming than we realise. After characterising how much utility it may be possible to produce, I consider and respond to some objections. These are that we should not be concerned with our sleeping experiences because (i) we forget our dreams, (ii) they lack veridicality and (iii) we will habituate to any improvements, which limits the utility said interventions provide.

2. *A guide for who?*

Utilitarians paradigmatically believe that the morally right action is that which maximises utility, where utility is often understood as something like happiness, pleasure or welfare (Sinnott-Armstrong, 2021). While this paper mostly focuses on how hedonistic utilitarians – who take utility to consist only in pleasure and the absence of pain – should think about dreams, the argument is relevant for a wide range of theories, which we can characterise by mapping out three divergences from the classic formulation.

First, nothing in this paper turns on whether there is a requirement to *maximise* utility. The core claim of this paper is that we have considerable reason to improve the quality of our dream experiences. How much reason we have in any given case will depend upon whether our moral theory says, for example, that we must maximise utility, or only ensure that our actions produce a sufficient amount of utility (Shields, 2012), or produce the least amount of suffering (Popper, 1945). In what follows, I do not take a position on how we ought to aggregate utility (e.g., whether to consider the total utility produced vs. average utility produced; Parfit, 1984), whether some kinds of utility are more important than others (e.g., whether avoiding pain is more important than increasing pleasure) or how demanding the reasons we have to increase utility are (e.g., whether failure to maximise is always wrong or sometimes bad but permissible to not act on; Driver, 1992), because my argument will have implications for many theories regardless of their stance on these matters.

The second dimension along which theories can differ, and with respect to which my argument will be ecumenical, regards our theory of well-being: what is good or bad *for* people. While classic hedonism takes pleasurable experiences to be the only kind of utility, and utility to be the only factor we need to consider in our calculus for determining right action, experiences

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matter for many different theories.[1] For example, they matter for desire theories of well-being and preference utilitarianism as most people have desires/preferences to experience pleasurable experiences and avoid unpleasant ones. They also matter for objective list theorists, as pleasurable experiences are plausibly the kind of thing that contribute to a good life, and as such would be included on the theorist's list. That ϕ-ing would cause someone to have a negative experience is also a *prima facie* reason against ϕ-ing for deontologists and that a second action would cause an even worse negative experience typically gives one an even stronger *prima facie* reason to avoid that action.

Focusing on what hedonists in particular should say lets us focus on the kinds of factors that create this source of reasons, even if many theories take there to be other sources of reasons and even if there are circumstances in which the reasons created by experiences are silenced or outweighed. Given that so little has been written about our sleeping lives, it will be significant enough to establish that there is this source of reasons that we ought to give consideration to, map out what kinds of variables increase or decrease these reasons, and identify what actions those reasons recommend.

The third dimension along which theories can depart from standard utilitarianism concerns the notion of moral requirement. While this may seem a somewhat puzzling possibility given utilitarianism just is a normative theory, the title of this paper also refers to a second kind of 'utilitarian' from economics, decision theory, artificial intelligence research and evolutionary biology. In these fields, it is customary to talk of beings having a 'utility function'; roughly, a mathematical representation of that being's preference for certain goods or states of affairs (Steele and Stefánsson, 2015) independent of what is in fact valuable. This is why, in some contexts, calling someone 'utilitarian' is used to mean that they are particularly effective at, or overly concerned with, maximising their preferences.

My argument is not only relevant for utilitarianism *qua* moral theory because dreams are not only a source of moral reasons. They can also be a source of prudential reasons in a variety of ways. Having dreams can be quite fun. Many people simply prefer to have new experiences, and dreams can be very novel. People also prefer to avoid experiencing the fear or anxiety that nightmares can create, and many take their dreams to be a useful tool for reflection and self-insight. Insofar as individuals are trying to satisfy as many preferences as they can, or discover what prudential reasons they have, understanding what actions can improve our dream experiences is likely to be very useful information.

[1]See Bramble (2016) for a recent defence of hedonism about well-being.

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3. Dreams

At first glance, there seems to be little reason for utilitarians (broadly construed) to be interested in the time we spend sleeping. After all, during sleep, we're unconscious, and it is hard to see how something could be good or bad for us *qua* sensation without us being conscious of it. Even if there are things that are good or bad for us independent of our conscious experience of them (e.g., being lied to and being betrayed), one might initially dismiss the thought that our time asleep should be considered in our moral assessments or prudential decision-making.

But of course, there is a kind of experience that we have when we sleep, which can make the term 'unconscious' slightly ill-fitting: dreams.[2] Dreams have recently received significant attention from philosophers regarding whether they have implications for our theories of consciousness (Windt, 2015), mind (Rosen, 2018) or sense of agency (Rosen, 2015) and whether dream reports are reliable (Schwitzgebel *et al.*, 2006; Windt, 2013). However, their implications for our ethical lives have received scant attention. They seem particularly relevant for utilitarians, notably meeting all of the variables in Bentham's (1780) felicific calculus: They can be positive or negative, shorter or longer in duration, more intense or less intense, more or less certain to occur, and more or less likely to produce other experiences (e.g., they might leave one with a pleasant sense of anxiety once one has woken up).

At this point, a card-carrying utilitarian might reply that while dreams are a kind of experience we can have while sleeping, they are often not frequent or intense enough to be worth caring about (or worth publishing an argument on in a well-respected journal). The trouble with this reasonable-sounding reply is that its justification relies on a method shown to be extremely unreliable for generating judgements in this domain: reflecting on one's memories. While memory can be reliable enough for rough estimates of many things (e.g., how many times did I go to work last week and how pleasant was each day?), we are especially bad at estimating the frequency and duration of our dreams. When asked in surveys how often they dream, people report dreaming roughly one to two times per month on average (Schredl, 2009), with very wide variability both between and within individuals.[3] But when people are asked to keep a dream diary – to write what they remember dreaming as soon as they wake – they report far more dreams than on surveys, recalling having a dream roughly 50% of the time (though again with large variation between individuals; Watson, 2003). In

[2]Indeed, Wamsley (2013) argues that dreaming should be considered a continuation of waking conscious experience.

[3]For example, Bulkeley (2012) and Stepansky *et al.* (1998) find that ~30% of people recall them several times a week, while another ~30% report less than once a month.

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fact, these higher figures from dream diaries still grossly underestimate total dream time. People who are woken up in the middle of their sleeping report being able to recall dreams at substantially higher rates than when they are asked to use a dream diary. It seems that most dreams fade almost entirely from memory shortly after being experienced.

This information should greatly pique our interest. Many people with utilitarian inclinations put considerable effort into spending the ~16 h they are awake each day into increasing utility (either moral or prudential). The ~8 h we spend sleeping per day is potentially an additional 50% of time in which we could also increase utility, which most people have never even considered improving. So, how much of this 8-h period do we typically spend dreaming?

When woken up in the middle of rapid eye movement (REM) sleep, people report dreaming ~80% of the time and ~40% of the time when awoken from non-REM sleep (Nielsen, 2000). REM sleep makes up 20%–25% of our total sleep time, while non-REM sleep makes up 75%–80% of our sleep time. Previous estimates that we dream for only 2 h a night (e.g., Crick and Mitchison, 1983; Hobson, 1988), since this is how long we typically experience REM, seem to be mistaken. While non-REM sleep dreams tend to be relatively more thought-like, less bizarre and less emotionally charged than REM sleep dreams on average, they regularly include genuine phenomenal experiences.

Before we infer that people spend up to ~49%[4] of their sleep time dreaming, one might worry at this point that people may not be dreaming in the periods right before they are woken. Since we've already established that memory is very unreliable here, perhaps it's the case that, for example, subjects have a dream, then have a period of no dreaming, but are able to remember the dream they had without realising how long ago it was. Scientists think that such possibilities are unlikely. It has notably been found that when woken and asked to describe as much of their dream as possible, subjects' report length and narrative structure drops dramatically as the interval between the end of a REM period and being woken increases (Hobson *et al.*, 2000). This suggests that, in general, dreams are the kind of thing that we lose memory of very quickly, and so subjects are often only remembering their most recent dream. This, in turn, suggests that the 40% and 80% figures apply for much of the non-REM and REM periods, respectively. So as some initial bounds, we can say that most people spend between 40% and 80% of their sleep time dreaming.

This is a lot of time spent having experiences that we could potentially improve. For reference, an average of 1 h of dreaming per night adds up to

[4]80% REM dreaming × 22.5% REM duration + 40% nREM dreaming × 77.5% nREM duration = 49% total dream time. These calculations are also complicated somewhat by the existence of 'white dreams' where subjects report having been dreaming but being unable to recall any details.

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3.3 years over the course of an 80-year lifetime. Or, to make our grasp of the figures slightly more accurate, it adds up to the equivalent of what we would ordinarily think of as 5 years, given we are ordinarily only awake for 16 h/day and tend to intuitively think of sleep as time in which we are unconscious.[5]

Before we proceed to thinking about the quality of our dreams, it is worth mentioning that there is another way to increase the utility of the time we currently spend sleeping, which should be of interest. It is possible that we could, one day, avoid the opportunity costs typically incurred by sleeping by removing the need to sleep at all. For example, the drug methylphenidate is used to treat narcolepsy and purportedly can be taken regularly off-label to avoid sleeping for long periods without negative side effects (Tannenbaum, 2014), though it is too soon to assess the safety and effects of long-term use on large swathes of the population. Since the potential utility that nootropics like methylphenidate could create has received significant attention from bioethicists (e.g., Savulescu *et al*., 2011), I'll set this option aside and restrict my focus to the topic of improving the quality of our sleep experiences.

4. *Dream improvement and utility*

In order to work out how much we can improve our dreams, it is important to first identify some relevant variables. We've already established the frequency and duration with which dreams currently occur on average, but these could, in principle, be modified. If we assume that dreaming is, on average, better than not dreaming – similar to how existing and having experiences is typically better than having no experiences (e.g., being in a coma) or not existing (cf. Benatar, 2006) – then, since we don't currently spend all of our sleep time dreaming, one way to increase utility is to simply increase the proportion of our sleep time that is spent dreaming.

Another relevant variable is the number of people who could benefit from interventions that improve our dreams. This will depend upon the specifics of the intervention and how difficult it is to implement, all-things-considered. But it should be noted that dream interventions have an unusually high potential for scalability, since dreams are something that almost *every* human experiences. Though many interventions that give us positive experiences are intuitively more important than research into improving dream quality, very few have the potential to benefit 7.9 billion people who sleep every day.[6]

[5]For example, when one thinks about all the good things that one will experience over the next 24 h, one tends not to (at least without prompting) think about their time dreaming.

[6]Readers should try to take steps to correct for scope insensitivity, a common phenomenon where we fail to be sufficiently sensitive to the scale of a benefit or harm (Dickert *et al*., 2015). For example, when asked how much they would pay to save 200,000 birds, the figure people give is remarkably

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A particularly important variable when considering how much utility we could create concerns the content of our dreams and what we experience. Clearly, if we can make our dreams more enjoyable, or make them feature events we find pleasurable, this will increase utility. A somewhat surprising finding from laboratory studies is that dreams are reported to be much less bizarre or unrealistic than people assume (though scene changes and small distortions are common; see Zadra and Domhoff, 2011, pp. 588–589, for a review). This discrepancy between our stereotypes of what dreams are like and how they tend to be described when people are woken in sleep studies occurs because we are much more likely to remember dreams that are particularly bizarre (Worthen *et al.*, 2005).

But nevertheless, the ability of dreams to include events that are not bound by ordinary laws and expectations (due to sensory input being actively suppressed, preventing competition from externally driven perceptual processes) could make finding interventions that cause our dreams to have a particular kind of content difficult. For example, it would be hard to not only create a dream in which (say) one has a pleasant adventure, it would also be hard to ensure said adventure doesn't feature too much of the risky and unpleasant parts of adventures, or include one's unlikeable landlord, or change to being predominantly a replay of a tense interaction one had with their landlord earlier.

A more cautious analysis will note that what variables improve utility depend on the type of dream under consideration. In particular, which variables improve utility changes when it comes to considering *nightmares*. Nightmares can be very unpleasant.[7] They can cause us to experience terror, fear, confusion and isolation and even feel like we are going to die. It seems plausible that many nightmares leave us worse off than if we had no dream at all. And so, if we could simply reduce the time people spend having nightmares – perhaps by reducing total dream time among people who have frequent nightmares – this would be the kind of thing that increases utility, without needing to worry about how to improve the content of our dreams directly.

How frequent are nightmares? On surveys, 2.5%–6% of adults report having nightmares at least once a week, while 8%–29% report having them monthly (Sandman *et al.*, 2013; Zadra and Donderi, 2000). But in studies using dream logs, 12.7% of subjects' reported dreams were experienced as negative (Robert and Zadra, 2014).[8] While this is a good place to

similar to the figure they give when asked how much would be willing to pay to save 2000 birds (Hutchinson *et al.*, 1995).

[7]Though a reviewer correctly points out that some people enjoy some nightmares, similar to how many people enjoy horror movies.

[8]Contemporary studies with valid estimates of nightmare frequency by waking people up in a laboratory are almost non-existent because the novel location changes the dream content significantly, and most studies focus on unrepresentative populations, typically those with sleep disorders. In laboratory wake-up studies on subjects with no disorders, 20%–36% of dreams directly feature aspects of

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start when considering interventions, we should remember that (holding fixed the total amount of time spent sleeping and dreaming) turning neutral dreams into positive ones may be just as worthwhile as reducing negative dreams altogether; an improved dream is an improved dream, whosever improved dream that may be. Even if it turns out to be too difficult to design interventions that let us directly manipulate the content of our dreams, interventions that target what we might think of as our sleeping mood, or the overall affective tone of dreams, would still be very worthwhile.

Assuming it is possible to improve our dreams (methods detailed below), there are two inherent difficulties in quantifying the utility of said improvements. The first concerns how to compare improvements within dreaming: What kind of scale can we use to measure change? Is having one less nightmare per week 'worth' the same as having two additional positive dreams per week? The second difficulty concerns how to compare those improvements against other, non-dream benefits. For example, how many dollars, or hours of labour, would it be worth to rid, say, 10,000 people of bad dreams for their entire lives?

These challenges are significant, but it should be emphasised that they arise for almost any topic that requires assessing how much weight to give to interventions that improve people's experiences, not just those regarding dreams. In practice, the most common way of overcoming these difficulties is to find people who have experienced both conditions under consideration, who can reflect on what those experiences were like and compare them in some all-things-considered way. For example, in health care, to work out how preferable it would be to be rid of a condition, bioethicists, medical professionals and economists ask people with the condition how many years off the rest of their current life they would trade in order to be rid of their illness, using this to find a common yardstick known as quality-adjusted life years (QALYs) (Cubbon, 1991). These aggregated figures can then be used to compare interventions that have qualitatively different costs and benefits (e.g., a single $1000 surgery to restore sight compared to fifty $20 antidepressants).

Applying this exact method to our topic at hand is somewhat difficult, as our sleeping selves who experience the dreams are typically not as rational and informed as our waking selves are. All of us have had the experience of making decisions in our dreams that seemed to make sense at the time, but, upon reflection, would have been quite illogical or imprudent if they were made in real life. Our sleeping selves don't have access to the information and memories we do to make useful comparisons, and once we awake

the laboratory environment (Picard-Deland *et al.*, 2021; Schredl, 2003, 2008), and there is a dramatic reduction in dreams featuring aggression or hostility (Paul *et al.*, 2015; Zadra and Domhoff, 2011).

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and become coherent enough to answer such questions, our memories of said dreams begin fading.

However, this is not to say we are completely unable to make an assessment. Most of us remember *some* dreams, which we can use to make some ballpark characterisations.[9] To imagine the benefit that would be gained, we need to imagine being presented with the opportunity to (say) avoid having a nightmare tonight or to improve our dream so that it becomes much more positive. What effort or resources would we (*qua* utilitarians) be willing to spend to produce such outcomes?[10]

It may not be possible to give a precise answer to this question in terms of dollars, work hours or research priorities, or to find some other factor that can be a yardstick with which to calculate, for example, dollars per nightmare. However, it should be clear that, given (i) the unpleasantness of nightmares, and the extent to which we would prefer to have more pleasant dreams rather than less, (ii) the frequency with which we each have dreams and nightmares, (iii) the length of our lives and (iv) the large number of people who would stand to benefit from interventions that improve their dreams, we have considerable moral and prudential reasons to improve our dream experiences. This is all I wish to establish; I am happy for future research to consider the finer details. But for now, these reasons count in favour of a variety of interventions. For example, we have reasons to directly try to improve our own dreams, to inform others so they can do the same, to educate the public more broadly and to collectively fund research to find new interventions. The moral importance of our sleeping experiences is perhaps something we realise briefly whenever it occurs to us to wish someone 'sweet dreams'.

[9]Some caution is needed here; recall that we are more likely to remember dreams that are more bizarre.

[10]Reported intuitions may differ among readers; we should attempt to correct for any status quo bias (the tendency to perceive the current state of affairs to be more preferable than an alternative simply because it is current; Bostrom and Ord, 2006), loss aversion (the tendency to perceive incurring losses to be worse than foregoing equivalent gains; Novemsky and Kahneman, 2005) or the availability heuristic (the tendency to make judgements based on how easily examples come to mind, relevant here because we cannot remember most of our dream experiences; Sunstein, 2006). To correct for the first two, it will help to imagine a world in which everyone already has very pleasant dreams every night and ask what costs we would incur to prevent an airborne chemical being released, which would bring our dream frequency and pleasantness down to our (real-world) current levels, where 12.7% of dreams are nightmares on average. We will not be able to counteract the availability heuristic here; the best readers can do is to try and immediately remember this paper the next time they have woken up from either a nightmare or a particularly pleasant dream. Though $n = 1$, I can confirm that extensively reviewing the scientific and philosophical literature on dreaming over many months to write a paper on dreams also dramatically increases dream recall and the salience of how unpleasant nightmares can be. Replying with objections to my argument may provide an opportunity to attempt replication.

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5. *Alternatives and opportunity costs*

While the previous section considered the main factors relevant for assessing how much potential utility could be created, a more accurate characterisation of the benefits provided by interventions into our dreams needs to incorporate some additional factors. The first concerns existing benefits that our current dream patterns provide, which may reduce the net benefit any new intervention provides. For example, some researchers have hypothesised that nightmares may assist in processing unpleasant experiences or make us more emotionally capable of dealing with stresses (Hartmann, 1998; Revonsuo, 2000). If they are correct, then interventions that reduce nightmares would need to take into account these benefits when calculating total net benefit.

While sleep and dreaming have been shown to directly produce many health benefits (Deliens *et al.*, 2014), evidence that nightmares or bad dreams specifically have any benefit for individuals is very speculative at best (Nielsen and Levin, 2007). It is notable that people who have more frequent nightmares are more at risk of developing post-traumatic stress disorder (PTSD) after trauma, not less (Mellman *et al.*, 1995). People who have more frequent nightmares, and who ought to be receiving more of whatever possible benefit there is, don't seem to do better on any measures (whether that be emotional stability or ability to recover from stress); if anything, it's the opposite. Similarly, people who receive interventions specifically aimed at reducing the frequency of their nightmares go on to have better waking health (Morgenthaler *et al.*, 2018). In any case, I am happy to say that my argument that we have considerable reason to improve our dreams is conditional on there being no large unexpected all-things-considered costs.

The second factor we need to consider is opportunity costs. Any time, effort or resources spent on improving our dreams are not spent on cost-effective interventions aimed at saving lives. This is particularly the case for things like funding for research to discover new interventions. Given the option of putting our efforts into, for example, malaria prevention, is it really worth being concerned with improving our dreams?

As noted earlier, I am not assuming that we have a duty to maximise utility in this paper. But even for theorists who do endorse this requirement, it is still very useful to have a sense of how various options compare to one another or what options maximise utility within a certain domain. Like most decisions that people make, interventions that increase the quality of our dreams are unlikely to maximise utility. However, people often still want to choose the higher utility-producing option *within* various sets of options they are considering. For example, while people may not change their career upon learning which careers produce the most utility, they may accept

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some personal costs to work for a company that produces more utility than average in their field.

My argument is relevant for theorists, researchers and other people in this manner. Some kinds of utility-producing actions or interventions are of more interest to individuals and organisations than others. And, for whatever reason, some have a higher likelihood of being implemented. Interventions that improve our dreams may not face some of the psychological barriers that come with other utility-enhancing interventions. Improving our dreams doesn't inherently require significant, for example, delayed gratification (e.g., saving for retirement), or resisting temptation (e.g., maintaining one's promise to not drink), or engaging in activities that are unpleasant (e.g., strenuous exercise). Additionally, the novel and amusing nature of dreams may mean people are more likely to engage in these utility-improving interventions than others. For most individuals, it is unlikely that the time they spend improving their dreams would have otherwise in fact been spent, for example, saving lives. And as we shall see, most current interventions typically require few resources; the primary hurdles seem to simply be know-how and a will to implement them.

It is also worth noting that, compared to other interventions that aim to produce pleasant experiences, there may be a somewhat higher return on investment for interventions aimed at improving dreams. The opportunity cost for most positive experiences not only consists in the resources spent accruing the resources necessary to bring about those experiences (e.g., working to earn money to buy tickets to Disneyland), it also includes the time spent having that experience too (e.g., actually visiting Disneyland). But since most people are unable to avoid sleeping for ~8 h/day, the time we spend dreaming is not able to be spent on alternatives, so the only opportunity costs we can be concerned with are those we incur while awake.[11]

One final point worth noting is that the utility lost or created by interventions that change our dreams is ignored in many other contexts where assessing overall utility matters, and so having an understanding of the ways our sleeping selves can impact utility is crucial for improving accuracy in these contexts too. For example, nightmares and unpleasant dreams are more common in people with conditions causing waking emotional distress, such as PTSD and anxiety (Levin and Nielsen, 2009).[12] Any action that increases the prevalence of such conditions, or exacerbates the degree to which these conditions cause their sufferers negative experiences, will

[11]This might make some people more likely to try improving their dreams, compared to finding some new experience that would produce a similar expected utility: 'Since I'm already going to have dreams anyway, might as well make them good ones'.

[12]As an example of why this is relevant to many more people than one might assume, Blackmore *et al.* (2020) estimate that 30% of refugees have PTSD.

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have lower utility than we currently realise. Conversely, any action that improves the dream experiences of such people will have more utility than we currently realise.

In short, education, raising awareness of interventions that improve dream experiences and funding research to discover more interventions are all likely to significantly increase utility even if they do not produce as much utility as is theoretically possible. This paper is presented as an attempt to identify some previously unnoticed 'low-hanging fruit', somewhat like the 'nudging' interventions that have been promoted over the past few decades (Thaler and Sunstein, 2008). Given the lack of awareness of this topic, trying to improve our dreams is something that could deliver a sizeable return on investment, at least relative to many other interventions people currently find worthwhile.

6. *What interventions are possible?*

My argument thus far has established that we have considerable reason to find, promote and implement interventions that improve our dream experiences. However, it will be helpful to provide an overview of what interventions are already available and could be promoted right now, as well as some indication of whether we should expect future research to have any success.

Most research to date on improving dream experiences has focused on people whose frequent nightmares are having a noticeably negative effect on their quality of life, such as people with PTSD or nightmare disorder, but it is encouraging. Although we should be careful about moving from clinical populations to non-clinical populations when assessing interventions,[13] several treatments for nightmare disorder don't seem to rely on factors particular only to those with a diagnosed disorder (though there may be differences in degree of efficacy given the former have more room for improvement). For example, existing effective treatments include desensitisation, image rehearsal therapy, lucid dreaming training (discussed further below),[14] fostering positive self-ascriptions and interventions that aim to provide increased feelings of mastery, for example, a conviction that one can control their nightmares (see Gieselmann *et al.*, 2019, for a review). Cognitive behavioural therapy is also effective and has been used to assist in treating a large range of syndromes for a wide variety of people precisely because it works through cognitive mechanisms present in everyone

[13]Worth noting is that many people who we would assume are non-clinical meet the criteria for diagnosis but are simply unaware that recurrent nightmares can be considered a disorder or that they are treatable.

[14]Lucid dreaming training has been found to decrease the frequency and severity of nightmares, but (somewhat confusingly) some studies find that this effect occurs regardless of whether subjects report having experienced any lucid dreaming.

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(Sheldon, 2011). Multiple forms of therapy have also been shown to be very effective and to maintain efficacy years after intervention ceases (Morgenthaler *et al.*, 2018).

Additionally, several drugs have been shown to affect our dreams, though most have some minor side effects. In general, it seems that cholinergic and dopaminergic drugs accentuate dream vividness and lucid dreaming, antidepressants decrease dream recall frequency, β-blockers induce nightmares and α-blockers alleviate post-traumatic nightmares. I do not have the space to conduct a full examination of each drug (see Siclari *et al.*, 2020, for a review), their effect sizes or possible side effects, but this evidence base demonstrates that improving the quality of our dreams with drugs is not only possible but achievable. Though research into new pharmaceuticals can be expensive, once discovered, they typically become very cheap to manufacture. Further research, which finds new drugs that improve our dreams even further or which improves the efficacy of drugs we already have, is not merely a pipe dream one hopes for from the philosophical armchair.

One well-known intervention with only minimal costs, and which has been studied extensively on non-clinical populations, is that of lucid dream training. Lucid dreaming occurs when someone is aware that they are dreaming. Once people gain this awareness, they are often able to exert some control over the events in the dream and thereby make the overall tone of the dream much more positive. Though most people do not lucid dream regularly, it can be learnt with practice.

Studies that aim to induce lucid dreaming have considerable heterogeneity in methods of induction, methods of confirming lucidity, population samples, study duration and individual susceptibility, which in turn results in a considerable heterogeneity of results (Stumbrys and Erlacher, 2014).[15] This makes it difficult to make precise claims about the general efficacy of lucid dreaming interventions. However, what matters for us is that this body of research confirms inducing lucidity is possible, it can be trained and there is nothing to suggest that future research won't be even more successful as we weed out ineffective strategies and understand the mechanisms by which lucidity is produced. As an indication of what can be achieved with relatively little resources, and how current research is progressing, Carr *et al.* (2020) managed to induce lucid dreaming in 50% of experimental subjects by playing a tone to them while asleep, after having them earlier attend a single

[15]Methods for inducing lucidity include the following: reality checking, where one practices asking themselves 'am I dreaming right now?' while awake, which develops into a habit that then prompts one to notice they are dreaming; mnemonic induction, which involves rehearsing before one falls asleep that they will remember they are dreaming; generating an intention to have lucid dreams immediately prior to sleep and imagining one is in said dream; setting alarms with the intention of going back to sleep after being woken up; and external stimulation with cues prompting one to notice they are dreaming (Stumbrys *et al.*, 2012).

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session in which they were asked to think about their own self-awareness while hearing that same tone.[16,17]

7. *Objections*

Some readers may still feel that they do not have as much reason to improve their dreams as I am making out. Allow me to consider some possible justifications for this lack of concern and show that they are either unconvincing or can be accommodated by refining what this argument entails in practice.

One plausible objection is that the value of our dream experiences should be discounted because they are, to put it simply, less of a phenomenal experience.[18] Although dreams can sometimes be as enjoyable an experience as some episodes of our waking life, many are better described as occurring 'in-between' consciousness or having much less 'content'. The difference between 'having an experience' and 'not having an experience' is a continuum, with a variety of states in-between that can be difficult to articulate and categorise.[19] Windt *et al.* (2016) argue that there may even be sleep experiences that lack imagistic or propositional contents altogether.[20]

The most intuitive way to accommodate this fact is to simply discount the value of dream experiences in our calculations to the degree that they are less of a phenomenal experience. The closer a dream is to being a phenomenal experience, of which our ordinary waking experience of consciousness is a paradigmatic example, the more that experience should be weighted at the normal value. The closer it is to our 'experience' of being unconsciousness, having limited awareness and more fragmented qualia, the more we should discount it.[21] Though this may mean that dream interventions provide less

[16]This method thus combined a few previously studied interventions. Lucidity can be verified by having subjects engage in particular eye movements while dreaming, rather than simply relying on self-report.

[17]Another suggestive study comes from Voss and Hobson (2014) who found that they could significantly increase the rate of lucid dreaming had by inexperienced lucid dreamers (who were not directed to try and achieve lucidity) with electrical stimulation. Stimulation intensity was understandably lower than participants could detect, to avoid waking them up.

[18]There are debates about how to understand and investigate 'minimal phenomenal selfhood' (see, e.g., Metzinger, 2013).

[19]Also see Windt *et al.* (2016) for a careful examination of how to conceptually categorise various sleep-related states and phenomena (e.g., whether 'dreams' that incorporate external stimuli, such as one's alarm clock ringing, and are thus now exogenously modulated experience, should count as dreams).

[20]I've already mentioned that we can increase utility by increasing our time spent dreaming (so long as these dreams are a net positive), but a reviewer points out that it would also be worth considering the value and feasibility of improving these non-dream sleep experiences.

[21]One should not underestimate how similar to waking experiences dreams can be. While there are important differences (e.g., dreams might lack detail or focus, and touch sensations are rare;

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utility than they would if all dream experiences were comparable to waking experiences, this does not affect the overall structure of my argument or conclusion.[22]

Some readers might take the fact that we collectively aren't trying to improve our dreams much to show that I have still overestimated the value of improving our dreams. The observation that we don't spend much time improving our soon-to-be forgotten dreams could be evidence that we don't think they have much value, which, in turn, is plausibly explained by the fact that they don't have much value. When asked earlier what costs we should be willing to incur to improve our nightmares, some readers may have felt willing to spend only very little if it was truly guaranteed they would forget said nightmares. Schwitzgebel (2019, 2021), for example, takes my argument to simply be added reason to reject hedonism.[23] Sticking with our starting premise, some readers might justify their lack of concern by arguing that the fact that we forget so many of our dreams is reason to significantly discount the value of our dream experiences relative to our waking experiences. Alternatively, readers might weaken the scope of my argument by pointing out that if people don't have desires to avoid dreams they'll forget, then on a desire-fulfilment account of well-being, dreams won't have much value.[24] It is not implausible that forgotten events should be discounted; they plausibly have less impact on later events than remembered events. Reflecting on memories can itself be a source of (dis)utility, say by producing positive feelings of nostalgia (or negative feelings of regret), but forgotten memories cannot have such impacts.[25] And Kahneman *et al.* (1993) famously found that subjects judged a painful medical procedure to be less painful when it went for longer by having an extra – but less painful – interval added and reported preferring this longer option when given the choice.

Windt, 2015), a number of measures indicate that they are more like our waking perception than they are our experience of imagining things. For example, humans generally have an inability to make their eyes display smooth movements if they are not actually tracking something; they instead display saccadic movements, and this remains the case even when imagining tracking something with their eyes closed. But people having dreams in which they follow a moving target (e.g., by moving their dreamt hand across their field of view) exhibit smooth tracking (LaBerge *et al.*, 2018). A reviewer suggests that those who question whether we really feel emotions or have beliefs and desires during our dreams (e.g., Sosa, 2007; Walton, 1978) could have a basis for discounting.

[22]Opponents favouring this amendment may need to temper their discounting. Bramble (2013) has argued not only that there can be pleasures we are unaware of, but that some pleasures and displeasures *depend* on being unaware of them to some degree. Some experiences are pleasant because we have lost ourselves in them (e.g., flow and meditation), and he suggests (personal correspondence) that the *haziness* of dreams can be a distinct type of pleasure.

[23]He warrants credit for anticipating the main argument of this paper and some of my replies below to worries. Thanks to a reviewer for alerting me to these sources.

[24]Thanks to a reviewer for these objections.

[25]Though others report different intuitions, Dennett (1978) also notes that giving a paralysing chemical to surgery patients that wiped their memory, but did nothing to reduce their pain, 'would not be an acceptable substitute for general anesthesia, even if it was cheaper and safer' (p. 433). See also Carbonell (2012).

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While there are some interesting circumstances in which we prefer to experience more pain that we will forget over less pain we will remember, it is worth noting that we typically do not think that memory erasure significantly reduces the strength of our reasons in many other contexts where felt experience matters. For example, torture (assumed to be bad largely because of what it feels like) would remain very immoral even if we could administer a drug that fully wiped our victim's memory of the experience and even if we agree that it would be worse to not give them this drug than to give it to them.

Another undesirable consequence of taking memory to significantly affect the moral value of experiences is this would entail that wrongs that are routine are typically less wrong than those that are rare, given our propensity to forget routine events compared to novel ones. For example, consider frequently assaulting someone at various points over a long period of time, such that they could not reliably distinguish between each assaulting event in their memory (holding fixed the effects of these experiences on subsequent events). We would have to say that any assault event that was forgotten entirely in fact wasn't all that bad, and significantly less worse than one of the earlier assaults that are remembered, even if each experience of the assault while they were happening was qualitatively identical.

Finally, it is also worth noting that we already forget most experiences that we have but typically don't take this to significantly affect the utility of said experiences. For example, most people cannot remember the overwhelming majority of their childhoods. We can't remember what we did each day, what jokes made us laugh, what delicious meals we ate or what fun we had with our friends. Despite this, utilitarians are not inclined to say that most of the nice things we do for children that cause them to experience happiness or improve their welfare don't matter, or matter significantly less than we assume, simply because that child will one day forget it.

I believe such considerations give us considerable reason to reject any intuition that experiences we won't remember provide only weak moral reasons for us. We should instead question whether our lack of concern with our sleeping experiences is an accurate indication of how much reason we have to be concerned. We already know that this is a domain in which our memories – and thus our ability to represent what those experiences are like – are extremely unreliable. And that most people are very surprised to learn how much they dream also partially explains why this issue does not receive more attention: most people are clearly not very informed. It is also plausible that various other factors are affecting our intuitions, like the fact that things in our waking lives are much more salient to us when we are awake, our decisions while awake are of greater consequence for ourselves and others, and we're very used to the fact that we dream so it seems relatively normal and unremarkable. I take this to show that we should at least be suspicious of our any willingness to discount the value of experiences we will forget. Even

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if some people take themselves to not have much desire to avoid dreams that they are guaranteed to forget, they very plausibly also take themselves to have desires to avoid negative experiences, and such desires are not being fulfilled at the time they experience unpleasant nightmares.

A third objection concerns the fact that our dream experiences are not real. Many of us think that experiences that have veridicality are more valuable than those that lack it; we would prefer a good experience with people who are actually our friends rather than a great experience in the Matrix with mere simulations of friends, for instance. But we need to be careful here. It is worth flagging that one cannot endorse this point too strongly without rejecting hedonism altogether; Nozick (1974) famously argued the fact most of us would not be willing to spend our lives in an Experience Machine giving us as many pleasant experiences as possible shows we do not accept hedonism about well-being.[26]

Even if one restricts their objection to the claim that non-veridical experiences should simply be discounted relative to veridical ones, for this objection to have any bite, one needs to show that they should be discounted to quite a significant degree. After all, much of my earlier argument identifying factors that give us reason to improve our dreams remains intact: we spend a significant portion of our lives having these experiences, there are likely to be few opportunity costs and many barriers to implementation are not present, and such interventions could potentially be scaled to a very large number of humans. And since I've already conceded that, even in the best case scenario, dream improvement interventions are unlikely to produce more utility than, say, malaria prevention, this objection is only going to have an impact on how much dream-improving interventions matter all-things-considered relative to other utility-enhancing interventions that we were considering.

It should be noted that this argument seems to have more relevance when assessing the benefits that come with improving our positive dreams than the benefits that come with reducing our unpleasant nightmares. Feldman (2004), a defender of (attitudinal) hedonism, argues for truth-adjusted hedonism, where the value of an attitudinal pleasurable is discounted if the pleasure is taken in a false object. However, he identifies a potential asymmetry in our thinking about the value of veridical attitudes: It is much less clear whether the (dis)value of pains should also be discounted if their object is false. For example, if someone experiences pain in the thought that there are orphans suffering in Somalia, is she made better or worse off by that thought being false?

We don't have to come to a definite answer here on whether to discount or not discount the value of experiences that are non-veridical. This is because

[26]Though see De Brigard (2010) for worries this may just be an effect of status quo bias; most people would prefer to stay in the machine if they discovered that what they thought was real right now was in fact the machine's doing.

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even if we think we should discount *somewhat*, it certainly seems that many of the unpleasant experiences in nightmares are not *significantly* less bad simply in virtue of their content being false. Again, we need to be careful; actually being chased by a bear is far worse than merely believing you are being chased by a bear, but the former includes additional sources of disutility, for example, once safe, the knowledge that your experience was real may lead you to ruminate upon it more than if you were to find out it was an illusion, it is intuitively worse to have one's life actually be at risk of ending, and one will feel more anxiety in the future when they encounter environments similar to one in which they nearly died. But once we just focus on the badness of each experience, independent of these other factors, it seems that the badness should not be significantly discounted such that this undermines my argument. It would still be very immoral, for instance, to make someone currently (unknowingly) in an Experience Machine believe they are being chased by a bear.

Finally, we can also note that there are circumstances where our concern for what we experience is much greater than our concern for veridicality. This is shown by the fact that in some circumstances, it would be rational to get in the Experience Machine, or permissible to put someone else in, for example, if you or they were going to spend the rest of their life being tortured. And this is precisely in virtue of what being tortured and what being in the machine *feel* like.

Given these considerations (that it is still immoral to make someone have a negative non-veridical experience, and that in some cases we will happily sacrifice veridicality to ensure certain experiences), it seems implausible to me to argue that dream experiences matter so little that it is not worth undertaking interventions to improve them. Those who are reluctant to get into the Experience Machine should not take this to show that all experiences lacking veridicality therefore lack any value or even most value. Rather, they should think that veridicality matters greatly to *some* of our experiences (e.g., those involving achievements or relationships) or *in addition* to our experiences (such that one's life ought to have some minimal connection with reality) and such options I granted from the outset. One can believe that veridicality matters while still accepting my overall argument.

A final objection is that I have overstated the strength of the reasons we have to improve our dreams, because any interventions we find are going to be subject to declining marginal utility and habituation. For example, even if learning lucid dreaming provides a source of increased utility due to the novelty of the dream experiences initially, extensive additional training on how to create more detailed dreams may not significantly improve the dreams further, perhaps because after doing it for a few years, one might no longer derive much pleasure from it.

It is unclear how to assess this claim without speculating about the long-term effects of various interventions on large numbers of people. But

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it should be noted that habituation and declining marginal utility seem less likely to affect our calculations when it comes to working out the utility gained from reducing nightmares, because nightmares aren't experienced as less bad simply in virtue of our having had more nightmares previously. As mentioned earlier, we're typically not rational in our nightmares, and we can't use our memories and strategies to help make sense of what we're experiencing, which we might be able to do when awake and having unpleasant experiences.

Even if turns out that these interventions are subject to diminishing returns, it is worth noting that this is true of many interventions that improve our experiences after our basic needs have been met and arguably our experience of life itself. This seems to not be an objection to my overall argument then; rather, it is just a fact about many possible utility-enhancing interventions that we need to keep in mind when doing our calculations. Different interventions can be more or less subject to habituation and declining marginal utility.

Ultimately though, this objection can be handled by simply clarifying what actions our reasons favour. If habituation and declining marginal utility is going to limit the value that some costly interventions have for individuals, then at some point, we will instead have reason to find new interventions that have a better return, or we can put our efforts towards increasing uptake of interventions (which is not subject to declining marginal utility; your improved dream is no less valuable for the fact that many other people had improved dreams earlier). This doesn't show we don't have considerable reason to improve our dreams, only that, like much in life, in practice, there are going to be trade-offs.

8. Conclusion

We experience dreams and nightmares much more than we realise. It is easy to think that, while interesting, this is of limited moral relevance for a variety of reasons. I hope to have shown that many of these reasons either don't withstand scrutiny or are simply part of the business of working out which interventions have what costs and benefits, or apply equally well to many other utility-enhancing interventions that we find worthwhile. If one finds the central thought behind hedonistic utilitarianism appealing – that experiences matter and that we should be concerned with reducing the bad ones while promoting the good ones – then one should think that we all ought to be giving our sleeping selves much more consideration in our waking lives. There are some methods currently available to us to improve our dreams, but widespread adoption may require education or research into new interventions. Like many interventions aimed at improving utility, a number of

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challenges will be encountered when moving from theory to practice, but these are not cause to give up on the goal entirely. One can dream.[27]

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REFERENCES

Benatar, D. (2006). *Better Never to Have Been: The Harm of Coming Into Existence*. New York: Oxford University Press.

Bentham, J. (1780). *An Introduction to the Principles of Morals and Legislation*, Volume 45. Dover Publications.

Blackmore, R., Boyle, J. A., Fazel, M., Ranasinha, S., Gray, K. M., Fitzgerald, G., Misso, M. and Gibson-Helm, M. (2020). 'The Prevalence of Mental Illness in Refugees and Asylum Seekers: A Systematic Review and Meta-analysis,' *PLoS Medicine* 17(9), e1003337. https://doi.org/10.1371/journal.pmed.1003337

Bostrom, N. and Ord, T. (2006). 'The Reversal Test: Eliminating Status Quo Bias in Applied Ethics,' *Ethics* 116(4), pp. 656–679.

Bramble, B. (2013). 'The Distinctive Feeling Theory of Pleasure,' *Philosophical Studies* 162(2), pp. 201–217.

Bramble, B. (2016). 'A New Defense of Hedonism About Well-Being,' *Ergo: An Open Access Journal of Philosophy* 3.

Brennan, J. (2011). *The Ethics of Voting*. Princeton University Press.

Bulkeley, K. (2012). 'Dream Recall and Political Ideology: Results of a Demographic Survey,' *Dreaming* 22(1), p. 1.

Carbonell, V. (2012). 'Amnesia, Anesthesia, and Warranted Fear,' *Bioethics* 28(5), pp. 245–254.

Carr, M., Konkoly, K., Mallett, R., Edwards, C., Appel, K. and Blagrove, M. (2020). 'Combining Presleep Cognitive Training and REM-Sleep Stimulation in a Laboratory Morning Nap for Lucid Dream Induction,' *Psychology of consciousness (Washington, D. C.)*. https://doi.org/10.1037/cns0000227

Crick, F. and Mitchison, G. (1983). 'The Function of Dream Sleep,' *Nature* 304(5922), pp. 111–114.

Cubbon, J. (1991). 'The Principle of QALY Maximisation as the Basis for Allocating Health Care Resources,' *Journal of Medical Ethics* 17(4), pp. 181–184.

De Brigard, F. (2010). 'If You Like It, Does It Matter If It's Real?' *Philosophical Psychology* 23 (1), pp. 43–57.

Deliens, G., Gilson, M. and Peigneux, P. (2014). 'Sleep and the Processing of Emotions,' *Experimental Brain Research* 232(5), pp. 1403–1414.

Dennett, D. C. (1978). 'Why You Can't Make a Computer That Feels Pain,' *Synthese* 38(3), pp. 415–456.

Dickert, S., Västfjäll, D., Kleber, J. and Slovic, P. (2015). 'Scope Insensitivity: The Limits of Intuitive Valuation of Human Lives in Public Policy,' *Journal of Applied Research in Memory and Cognition* 4(3), pp. 248–255.

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Driver, J. (1992). 'The Suberogatory,' *Australasian Journal of Philosophy* 70(3), pp. 286–295.
Feldman, F. (2004). *Pleasure and the Good Life: Concerning the Nature, Varieties, and Plausibility of Hedonism*. Clarendon Press.
Gieselmann, A., Ait Aoudia, M., Carr, M., Germain, A., Gorzka, R., Holzinger, B. et al. (2019). 'Aetiology and Treatment of Nightmare Disorder: State of the Art and Future Perspectives,' *Journal of Sleep Research* 28(4), e12820. https://doi.org/10.1111/jsr.12820
Hartmann, E. (1998). *Dreams and Nightmares: The New Theory on the Origin and Meaning of Dreams*. Plenum Trade.
Hobson, J. A. (1988). *The Dreaming Brain*. Basic Books.
Hobson, J. A., Pace-Schott, E. F. and Stickgold, R. (2000). 'Dreaming and the Brain: Toward a Cognitive Neuroscience of Conscious States,' *Behavioral and Brain Sciences* 23(6), pp. 793–842.
Hutchinson, W. G., Chilton, S. M. and Davis, J. (1995). 'Measuring Non-use Value of Environmental Goods Using the Contingent Valuation Method: Problems of Information and Cognition and the Application of Cognitive Questionnaire Design Methods,' *Journal of Agricultural Economics* 46(1), pp. 97–112.
Kahneman, D., Fredrickson, B. L., Schreiber, C. A. and Redelmeier, D. A. (1993). 'When More Pain Is Preferred to Less: Adding a Better End,' *Psychological Science* 4(6), pp. 401–405.
LaBerge, S., Baird, B. and Zimbardo, P. G. (2018). 'Smooth Tracking of Visual Targets Distinguishes Lucid REM Sleep Dreaming and Waking Perception From Imagination,' *Nature Communications* 9(1), pp. 1–8.
Levin, R. and Nielsen, T. (2009). 'Nightmares, Bad Dreams, and Emotion Dysregulation: A Review and New Neurocognitive Model of Dreaming,' *Current Directions in Psychological Science* 18(2), pp. 84–88.
Mellman, T. A., David, D., Kulick-Bell, R., Hebding, J. and Nolan, B. (1995). 'Sleep Disturbance and Its Relationship to Psychiatric Morbidity After Hurricane Andrew,' *The American Journal of Psychiatry*.
Metzinger, T. K. (2013). 'Why Are Dreams Interesting for Philosophers? The Example of Minimal Phenomenal Selfhood, Plus an Agenda for Future Research[1],' *Frontiers in Psychology* 4, p. 746.
Morgenthaler, T. I., Auerbach, S., Casey, K. R., Kristo, D., Maganti, R., Ramar, K., Zak, R. and Kartje, R. (2018). 'Position Paper for the Treatment of Nightmare Disorder in Adults: An American Academy of Sleep Medicine Position Paper,' *Journal of Clinical Sleep Medicine* 14(6), pp. 1041–1055.
Nielsen, T. (2000). 'A Review of Mentation in REM and NREM Sleep:"Covert" REM Sleep as a Possible Reconciliation of Two Opposing Models,' *Behavioral and Brain Sciences* 23(6), pp. 851–866.
Nielsen, T. and Levin, R. (2007). 'Nightmares: A New Neurocognitive Model,' *Sleep Medicine Reviews* 11(4), pp. 295–310.
Novemsky, N. and Kahneman, D. (2005). 'The Boundaries of Loss Aversion,' *Journal of Marketing Research* 42(2), pp. 119–128.
Nozick, R. (1974). *Anarchy, State, and Utopia*, Volume 5038. New York: Basic Books.
Parfit, D. (1984). *Reasons and Persons*. Oxford University Press.
Paul, F., Schredl, M. and Alpers, G. W. (2015). 'Nightmares Affect the Experience of Sleep Quality but Not Sleep Architecture: An Ambulatory Polysomnographic Study,' *Borderline personality disorder and emotion dysregulation* 2(1), pp. 1–9.
Picard-Deland, C., Nielsen, T. and Carr, M. (2021). 'Dreaming of the Sleep Lab,' *PLoS ONE* 16 (10), e0257738.
Popper, K. (1945). *The Open Society and Its Enemies*. Routledge.

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Revonsuo, A. (2000). 'The Reinterpretation of Dreams: An Evolutionary Hypothesis of the Function of Dreaming,' *Behavioral and Brain Sciences* 23(6), pp. 877–901.

Robert, G. and Zadra, A. (2014). 'Thematic and Content Analysis of Idiopathic Nightmares and Bad Dreams,' *Sleep* 37(2), pp. 409–417.

Rosen, M. G. (2015). 'I'm Thinking Your Thoughts While I Sleep: Sense of Agency and Ownership Over Dream Thought,' *Psychology of Consciousness: Theory, Research and Practice* 2(3), pp. 326–339.

Rosen, M. G. (2018). 'Enactive or Inactive? Cranially Envatted Dream Experience and the Extended Conscious Mind,' *Philosophical Explorations* 21(2), pp. 295–318.

Sandman, N., Valli, K., Kronholm, E., Ollila, H. M., Revonsuo, A., Laatikainen, T. and Paunio, T. (2013). 'Nightmares: Prevalence Among the Finnish General Adult Population and War Veterans During 1972–2007,' *Sleep* 36(7), pp. 1041–1050.

Savulescu, J., ter Meulen, R. and Kahane, G. (2011). *Enhancing Human Capacities*. John Wiley & Sons.

Schredl, M. (2003). 'Continuity Between Waking and Dreaming: A Proposal for a Mathematical Model,' *Sleep and Hypnosis* 5, pp. 38–52.

Schredl, M. (2008). 'Laboratory References in Dreams: Methodological Problem and/or Evidence for the Continuity Hypothesis of Dreaming?' *International Journal of Dream Research* 1(1).

Schredl, M. (2009). 'Recall Frequency of Positive and Negative Dreams in a Representative German Sample,' *Perceptual and Motor Skills* 108(3), pp. 677–680.

Schwitzgebel, E. (2019). 'How Much Should You Care About How You Feel in Your Dreams?' in *A Theory of Jerks and Other Philosophical Misadventures*. MIT Press, p. 2019.

Schwitzgebel, E. (2021). 'The Dream Argument Against Utilitarianism and Hedonic Theories of Subjective Well-Being' *The Splintered Mind*. http://schwitzsplinters.blogspot.com/2021/12/the-dream-argument-against.html

Schwitzgebel, E., Huang, C. and Zhou, Y. (2006). 'Do We Dream in Color? Cultural Variations and Skepticism,' *Dreaming* 16(1), p. 36.

Sheldon, B. (2011). *Cognitive-Behavioural Therapy: Research and Practice in Health and Social Care*. Routledge.

Shields, L. (2012). 'The Prospects for Sufficientarianism,' *Utilitas* 24(1), pp. 101–117.

Siclari, F., Valli, K. and Arnulf, I. (2020). 'Dreams and Nightmares in Healthy Adults and in Patients With Sleep and Neurological Disorders,' *The Lancet Neurology* 19(10), pp. 849–859.

Singer, P. (1972). 'Famine, Affluence, and Morality,' *Philosophy and Public Affairs* 1(3), pp. 229–243.

Sinnott-Armstrong, W. (2021). 'Consequentialism,' in E. N. Zalta (ed.) *The Stanford Encyclopedia of Philosophy*, Fall 2021 edn. https://plato.stanford.edu/archives/fall2021/entries/consequentialism/

Sosa, E. (2007). *A Virtue Epistemology: Apt Belief and Reflective Knowledge, Volume I*. Oxford, UK: Oxford University Press.

Steele, K. and Stefánsson, H. O. (2015). 'Decision Theory,' in *Stanford Encyclopedia of Philosophy*.

Stepansky, R., Holzinger, B., Schmeiser-Rieder, A., Saletu, B., Kunze, M. and Zeitlhofer, J. (1998). 'Austrian Dream Behavior: Results of a Representative Population Survey,' *Dreaming* 8(1), pp. 23–30.

Stumbrys, T. and Erlacher, D. (2014). 'The Science of Lucid Dream Induction,' in R. Hurd and K. Bulkeley (eds) *Lucid Dreaming: New Perspectives on Consciousness in Sleep*, Volume 1. Beaverton: Ringgold, Inc, pp. 77–102.

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Stumbrys, T., Erlacher, D., Schädlich, M. and Schredl, M. (2012). 'Induction of Lucid Dreams: A Systematic Review of Evidence,' *Consciousness and Cognition* 21(3), pp. 1456–1475. https://doi.org/10.1016/j.concog.2012.07.003

Sunstein, C. R. (2006). 'The Availability Heuristic, Intuitive Cost-Benefit Analysis, and Climate Change,' *Climatic Change* 77(1), pp. 195–210.

Tannenbaum, J. (2014). 'The Promise and Peril of the Pharmacological Enhancer Modafinil,' *Bioethics* 28(8), pp. 436–445.

Thaler, R. H. and Sunstein, C. R. (2008). *Nudge: Improving Decisions About Health, Wealth, and Happiness*. Yale University Press.

Tosi, J. and Warmke, B. (2020). *Grandstanding: The Use and Abuse of Moral Talk*. Oxford University Press.

Voss, U. and Hobson, A. (2014). *What Is the State-of-the-Art on Lucid Dreaming? – Recent Advances and Questions for Future Research*, In T. Metzinger & J. M. Windt (Eds). Open MIND. Frankfurt am Main: MIND Group. https://doi.org/10.15502/9783958570306

Walton, K. L. (1978). 'Fearing Fictions,' *Journal of Philosophy* 75(1), pp. 5–27.

Wamsley, E. J. (2013). 'Dreaming, Waking Conscious Experience, and the Resting Brain: Report of Subjective Experience as a Tool in the Cognitive Neurosciences,' *Frontiers in Psychology* 4, p. 637.

Watson, D. (2003). 'To Dream, Perchance to Remember: Individual Differences in Dream Recall,' *Personality and Individual Differences* 34(7), pp. 1271–1286.

Windt, J. M. (2013). 'Reporting Dream Experience: Why (Not) to Be Skeptical About Dream Reports,' *Frontiers in Human Neuroscience* 708.

Windt, J. M. (2015). *Dreaming: A Conceptual Framework for Philosophy of Mind and Empirical Research*. London, England: MIT Press.

Windt, J. M., Nielsen, T. and Thompson, E. (2016). 'Does Consciousness Disappear in Dreamless Sleep?' *Trends in Cognitive Sciences* 20(12), pp. 871–882.

Worthen, J. B., Eisenstein, S. A., Budwey, S. C. and Varnado-Sullivan, P. (2005). 'Tests of Structural Hypotheses in Free Recall of Bizarre and Common Dream Reports: Implications for Sleep Research,' *Imagination, Cognition and Personality* 24(4), pp. 315–330.

Zadra, A. and Domhoff, G. W. (2011). 'Dream Content: Quantitative Findings,' *Principles and practice of sleep medicine* 5, pp. 585–594.

Zadra, A. and Donderi, D. (2000). 'Nightmares and Bad Dreams: Their Prevalence and Relationship to Well-Being,' *Journal of Abnormal Psychology* 109(2), p. 273.

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