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PERSPECTIVE

Dreamless: the silent epidemic of REM sleep loss

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We are at least as dream deprived as we are sleep deprived. Many of the health concerns attributed to sleep loss result from a silent epidemic of REM sleep deprivation. REM/dream loss is an unrecognized public health hazard that silently wreaks havoc with our lives, contributing to illness, depression, and an erosion of consciousness. This paper compiles data about the causes and extent of REM/dream loss associated with commonly used medications, endemic substance use disorders, rampant sleep disorders, and behavioral and lifestyle factors. It examines the consequences of REM/dream loss and concludes with recommendations for restoring healthy REM/dreaming.

Keywords: dreaming; REM sleep; REM/dream loss; sleep deprivation

Lose your dreams and you will lose your mind.
—The Rolling Stones

Introduction

Awareness about epidemic levels of sleep deprivation has expanded significantly over the past three decades. As a result, we have witnessed substantial increases in the numbers of sleep specialists, clinics, research projects, and even sleep aids. All of this has been accompanied by an explosion of media attention focused on understanding and managing sleep loss.

The reciprocal-interaction model of non-REM and REM sleep suggests that these two core components of sleep are structurally linked through ultradian rhythms. Poor sleep, then, is inextricably linked to poor dreaming. We have, however, failed to acknowledge the fact that much, if not most, sleep deprivation involves significant degrees of REM/dream loss. As a result, we remain in denial about the toll REM/dream loss takes on our health and well-being.

Scientific concern about a possible link between REM/dream deprivation and health first surfaced in the 1960s when researchers found that subjects selectively deprived of REM/dreaming experienced weight gain, concentration difficulties, irritability, anxiety, tension, delusions, and hallucinations. Despite this finding, specific interest in the health consequences of dream loss faded with the discovery that dreaming also occurred in non-rapid eye movement sleep. REM/dreaming was subsequently subsumed under the general rubric of sleep, further diminishing our sensitivity to it.

As independent constructs, approaches to REM sleep and dreaming have become segregated into distinct body–mind camps. Sleep medicine studies REM sleep as an objective neurological process, while traditional schools of psychology examine dreaming as a subjective personal experience. Sleep medicine reduces dreaming to an epiphenomenon of REM sleep, denying the personal meaning and value of dreams, while psychological approaches to dreaming largely ignore the science of REM sleep.

Tension between these polarized materialistic and idealistic perspectives is reflected in our collective disjointed attitude toward REM/dreaming. Today, too many of us view dreams the way we do stars—they emerge nightly and seem magnificent, but are far too distant to be of any relevance to our real lives.

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The silent epidemic of REM sleep loss

In reality, REM/dreaming does play a crucial role in our lives by mediating our neurological health as well as our psychological and spiritual well-being. More recently, growing concern about the consequences of sleep loss has encouraged initial investigations into REM sleep loss. Emerging evidence suggests that REM/dreaming affects immune function, memory consolidation, mood regulation, as well as transpersonal, religious, or spiritual experiences.

Although there has been no systematic scientific or meaningful public interest in investigating, let alone addressing it, this paper examines REM/dream loss by extrapolating data from (1) REM sleep suppression resulting from substance and medication use, (2) prevalence research on primary sleep disorders that interfere with REM sleep, and (3) the negative impact of specific behavioral and lifestyle factors on REM/dreaming. It discusses medical, psychological, and spiritual consequences of REM/dream loss and closes with recommendations for restoring healthy REM/dreaming.

The causes of REM/dream loss

REM/dream loss is caused by a range of factors that compromise the quality and/or the extent of REM/dreaming. These include (1) substances, especially alcohol and cannabis; (2) REM-sleep suppressive prescriptions and over-the-counter (OTC) medications; (3) major sleep disorders, including insufficient sleep syndrome; (4) lifestyle factors that interfere with REM/dreaming; and (5) indirectly, a dismissive attitude about the value and meaning of dreams.

Substances

Alcohol and cannabis have been used in sacred rituals since time immemorial to delve more deeply into or expand consciousness. In modern times, however, it appears their primary use is to escape stress by contracting consciousness. Although alcohol and cannabis are commonly used by millions to facilitate sleep, both can negatively impact REM/dreaming.

The myth that alcohol can support sleep is difficult to dispel, largely because there is some truth to it. As a central nervous system depressant, alcohol can reduce sleep onset latency, that is, it can help people fall asleep faster. But, as it is metabolized, alcohol triggers a compensatory adrenergic surge that significantly disrupts REM/dreaming.4

Although estimates vary depending on methodology, alcohol consumption is unquestionably a major public health concern. Approximately 30% of Americans consume one glass of wine with dinner nightly, while 20% consume about two glasses. The top 10% of American drinkers, about 25 million adults, consume more than ten drinks per day—the equivalent of 18 bottles of wine or three 24-can cases of beer weekly.5

The U.S. Department of Agriculture Dietary Guidelines define moderate alcohol consumption as up to one drink per day for women, who generally metabolize alcohol less efficiently, and up to two drinks per day for men.6 These recommendations, however, do not account for factors that modulate alcohol’s impact on sleep and REM/dreaming. Alcohol consumed earlier in the evening and with food, for example, is less likely to influence REM/dreaming, while even a single drink taken as a nightcap might negatively affect REM/dreaming.

Cannabis, which is a complex substance with a wide range of effects that depend on the strain, has been used for centuries as a psychoactive and medicinal botanical. Anecdotal data suggest cannabis is becoming popular as a sleep aid. Early research found that cannabis temporarily increased deep sleep, suppressed REM sleep, and resulted in a REM rebound upon discontinuation.7 More recent studies confirm that cannabis can reduce sleep onset latency and that it suppresses REM sleep, resulting in a REM rebound upon discontinuation.8 Heavy cannabis users were found to have generally disturbed sleep as well as a reduced REM latency indicative of prior REM suppression.9

Estimates of the extent of cannabis use in the United States vary widely, depending on methodology, but there is consensus that use has been increasing as a result of decriminalization and medicalization. Cannabis use among American adults increased from 10.4% to 13.3% between 2002 and 2014,10 possibly due to perceptions of reduced risk. Another recent survey found nearly 35 million adults were “regular users,” at least once or twice monthly.11 The National Survey on Drug Use and Health reported that 5.7 million people aged 12 or older used marijuana on a daily or almost daily basis.12 Many other commonly used licit and illicit substances, such as nicotine and cocaine, also interfere with normal REM/dreaming.
Medications

The physiological regulation of sleep and REM/dreaming is complex. It involves multiple neural networks, neurotransmitters, and biological rhythms that are vulnerable to disruption at numerous points. Many commonly used medications are known to potentially disrupt REM/dreaming. This discussion is meant to provide a brief introduction rather than a comprehensive review of this topic.

Ironically, many sedative-hypnotics or so-called sleeping pills produce an artificial and less restorative kind of sleep. Prescription as well as OTC varieties typically increase light sleep at the expense of deep sleep. They also alter sleep architecture and disrupt REM sleep. There is no consensus as to whether the use of very popular “Z-drugs” (zolpidem, zopiclone, and zolpidem) interfere with REM sleep. This may be due to differences in dose, condition, and length of treatment. Anecdotal reports of sleep disruption and earlier research suggest zopiclone suppresses REM sleep.

Benzodiazepines (BDZ) are sedating anxiolytics that are also used to treat muscle tension and insomnia. Because BDZ can feel miraculously effective when first used, they are among the most commonly prescribed drugs in the world. These drugs increase light sleep at the expense of deep sleep, and they significantly suppress REM/dreaming.

Anticholinergic drugs are a significant factor in epidemic REM/dream loss because they suppress the activity of acetylcholine, the primary neurotransmitter mediating REM/dreaming. These medications are widely used to treat gastrointestinal, genitourinary, and respiratory disorders, as well as allergies, insomnia, and bradycardia. The likelihood of using anticholinergic drugs increases with age as does the anticholinergic burden—a measure of the serious cumulative side effects associated with increased use. These side effects include memory loss, confusion, coordination problems, increased heart rate and temperature, and a generalized drying effect that causes bladder and bowel retention as well as a dry mouth, eyes, nose, and throat. REM/dreaming, which is a kind of fluid consciousness, is significantly suppressed, and metaphorically dried out by anticholinergic drugs. Despite a growing concern about the anticholinergic burden, it is remarkable that REM/dream suppression is never listed as a common side effect of anticholinergic use.

To varying degrees, most antidepressant medications significantly suppress REM/dreaming. Psychopharmacological models that view dysregulated REM sleep as a cause of depression believe REM suppression is critical to the action of these drugs. While selective serotonin reuptake inhibitors and their sister drugs suppress about one-third of REM/dreams, tricyclic antidepressants cut dreaming in half, and older monoamine oxidase inhibitors eliminate nearly all REM/dreaming. Despite contradictory evidence, modern psychiatry generally clings to the notion that depression is linked to excessive and displaced dreaming. Excessive and displaced dreaming, however, may well be part of an endogenous healing process to restore previously suppressed REM/dreams.

Numerous other medications can directly or indirectly interfere with REM/dreaming. Examples include cardiovascular drugs, anti-Parkinsonian medications, histamine antagonists, analgesics, corticosteroids, stimulants, mood stabilizers, and opioids. As more new drugs are developed and medication use as well as polypharmacy continue to rise at alarming rates, we can expect that REM/dreaming loss will increase as well.

Widespread use of REM/dream suppressant medications is unquestionably one of the major causes of REM/dream loss. From 2006 to 2012, sleeping pill prescriptions in the United States jumped from 47 to 60 million. Women, the elderly, and highly educated individuals appear to use more sleep aids. Despite serious side effects and significant risk of dependence, more than 5% of U.S. adults, primarily women and older adults, still use BDZ. Likewise, despite their questionable benefit and serious risks, the prevalence of anticholinergic drug use ranges from 8% to 37% in older adults. From 1998 to 2008, antidepressant use in the United States rose by nearly 400%. Eleven percent of Americans aged 12 or older use these medications, making them the third most popular class of prescription drugs. Adults over 40 and women are significantly more likely to use antidepressants. In fact, nearly one out of four women aged 40–59 use antidepressants.

Sleep disorders

Although rarely acknowledged, the most prevalent sleep disorders—insomnia, insufficient sleep syndrome (ISS), and sleep apnea—are typically associated with disordered REM/dreaming. Because most
REM/dreaming occurs in the latter third of night, sleep maintenance insomnia and early morning awakening, which are the most common forms of insomnia, likely result in significant REM/dream loss. And because REM/dreaming is characterized by heightened physiological arousal, the risk of awakening during REM/dreaming is increased. Much of what sleep medicine refers to as WASO, wake after sleep onset, might more accurately be called WADO, wake after dream onset.

Insufficient sleep syndrome (ISS) refers to a voluntary chronic pattern of shortened sleep to accommodate personal lifestyle, social, or vocational expectations or demands. Although it is said to be “voluntary,” many people who cut their sleep short feel compelled to do so by circumstances. Because the brain prioritizes non-REM sleep over REM sleep, shrinking the window of total sleep time will inevitably result in a greater reduction of REM/dreaming.

Obstructive sleep apnea (OSA) is also associated with a sharp reduction in REM/dreaming. The REM atonia, or natural loss of muscle tone that accompanies REM/dreaming, increases the probability of upper airway obstructions, which in turn short-circuits REM/dreaming. Since the severity of OSA is strongly correlated with the degree of REM/dream loss, it is not unusual to find a total absence of REM sleep in patients with severe OSA. Treating OSA can result in an intense rebound of previously suppressed REM/dreaming.

Sleep disorders are among the most prevalent health concerns in the United States. About 30% of adults report “some insomnia problems over the past year” while 10% report chronic insomnia. A 2002 National Sleep Foundation “Sleep in America” poll found that sleep maintenance insomnia and early morning awakening were more than twice as common as sleep onset insomnia. Furthermore, epidemiological data suggest that the prevalence of insomnia is continuing to rise. Independently of insomnia, estimates of the prevalence of ISS range from about 11 to 20%. ISS is so pervasive that it has become a new norm. Finally, estimates of the prevalence of OSA is approximately 3–7% for adult men and 2–5% for adult women in the general population. Even though there may be some overlap between insomnia and OSA, prevalence data for sleep disorders that can negatively influence REM/dreaming is sobering.

**Behavioral and lifestyle factors**

Behavioral and lifestyle factors that artificially redefine the boundaries of night and day—namely, our use of excessive artificial light at night (LAN) and routine alarm clock awakenings—are critical factors that disrupt REM/dreaming. LAN allows us to delay bed times, while alarm clocks assist us in advancing rising times. Together, they shrink the temporal arena of sleep and, especially due to its lower priority, REM/dreaming.

Because of its significant disruption of melatonin rhythms, artificial LAN may be the most ubiquitous environmental cause of REM/dream suppression. Over the past half century, LAN has extended the average length of our days by about four hours. Even relatively dim light can cause the pineal gland to delay the production and release of melatonin, which regulates circadian rhythms and supports sleep and REM/dreaming.

A 2001 National Sleep Foundation poll concluded that more than half of American adults believed they “needed” an alarm clock to wake up in the morning. Nearly 70% of young adults aged 18–29 felt this way. Routinely waking up with an alarm clock repeatedly shears off the endings of our most protracted REM/dream periods. Imagine being abruptly ushered out of a movie theater whenever a film was nearing its conclusion.

Nearly everyone experiences significant overexposure to LAN. By 2001, 62% of the world’s population and 99% of U.S. and European populations were living under sky brightness that exceeded baseline levels. Beyond its association with sleep and REM/dream difficulties, exposure to LAN has been linked to increased risk for depression, obesity, and cancer. The International Dark Sky Association (darksky.org) has compiled extensive information and data related to prevalence and general health and environmental impact of nighttime light pollution as well as recommendations for managing it. Disentrainment from night’s natural darkness allows us to routinely delay our bedtimes and fosters our dependence on morning alarm clocks. Three-fourths of American adults rely on morning alarm clocks, while 80% of high school students do so on school nights.

Despite the glaring prevalence of REM/dream loss, epidemiological research focused specifically on quantifying REM/dream loss is nonexistent. However, given population estimates of substance
and medication use, prevalence data for sleep disorders, and the ubiquity of lifestyle factors impinging on sleep and REM/dreams, it is probable that tens of millions of people experience degrees of clinically significant REM/dream loss on a nightly basis.

The devaluation of REM/dreaming

Our devaluation of REM/dreaming underpins our denial of its loss. As late as 2001, a century after the publication of Freud’s seminal The Interpretation of Dreams, which championed the psychological value of dreaming, a summary of neuroscientific findings about the functions of REM sleep boldly dismissed its importance. The authors stated, “deprivation of REM sleep in humans for as much as two weeks has little or no obvious effect on behavior.” They concluded, “...we can get along without REM sleep...”

Despite its ubiquitous emotional impact, the experience of dreaming has also been devalued. As suggested earlier, scientific models of REM sleep dismiss the dream as a nonsensical epiphrenomenon of nightly neurophysiology. Even though we cannot prove a negative, such myopic and overly medicalized views have permeated our culture. It is especially telling that one of the most common uses of the word dream today, as in the American dream, refers to real estate.

Diminished interest in dream interpretation on the part of psychotherapists over recent years is also symptomatic of the devaluation of REM/dreaming. At the same time, popular approaches to dream interpretation have devolved into frivolous puzzle games that rely on dream dictionaries to reduce dream images to their presumed waking world origins. On the basis of the unexamined tenet, as it is below, so is it above, such approaches thoroughly strip dreams of their transpersonal qualities.

Great philosophers have warned that we routinely mistake the limits of our personal perception for the limits of the universe. Nowhere is this rudimentary error more evident than in our posture toward REM/dreaming. We typically approach and investigate the dream from a biased, wake centric perspective. Much like the ethnocentrism of early anthropologists, we presume that waking consciousness is the norm and view dreaming as a secondary, subservient state of consciousness. Wake centrism casts our dream experiences as weird and meaningless and discourages us from getting near, let alone going through, the looking glass.

Ultimately, the inherently challenging nature of dreams themselves is a major factor in our dismissive posture. “What dreaming does,” said Carlos Castaneda, “is give us the fluidity to enter into other worlds by destroying our sense of knowing this world.”\cite{48} REM/dreaming is a deconstructive force that challenges our consensual view of reality. Not surprisingly, most of the emotional content of our REM/dreams is negative if not nightmarish.\cite{49}

The consequences of REM/dream loss

As suggested earlier, REM/dreaming mediates immune function, memory consolidation, and mood regulation as well as transpersonal, religious, or spiritual experiences. Recent animal\cite{50} as well as human studies\cite{51,52} found increased inflammatory responses associated with REM/dream deprivation. Other research revealed links between REM/dreaming deprivation and increased sensitivity to pain\cite{53} as well as increased risk for child and adolescent obesity.\cite{54} Disturbances in REM/dreaming have been linked to memory difficulties\cite{55} as well as dementia and Alzheimer’s disease.\cite{56} Disrupted REM/dreaming is the hallmark of REM sleep behavior disorder, which is associated with significantly increased risk for Parkinson’s disease and dementia.\cite{57} Patients with untreated OSA are at increased risk for cardiovascular disease, diabetes, obesity, and depression.\cite{58} Although these health risks are typically attributed to sleep loss, they are also likely linked to dream loss.

From a psychodynamic perspective, depression has long been understood as a “loss of one’s dreams.” Today, a growing body of research suggests that REM/dreaming plays a complex role in mental health and, more specifically, in the regulation of mood and emotion. Short-term disruptions of REM sleep have long been known to increase irritability, anxiety, and aggression.\cite{59} More recent studies reveal that normal REM/dreams support healthy emotional processing, while diminished REM/dreaming (both REM sleep and dream recall) is strongly linked to depression.\cite{60} Not surprisingly, the reduced REM latency pattern commonly seen in depression is strikingly similar to REM sleep rebound patterns of subjects who have had their REM sleep selectively deprived.\cite{21}
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Could it be that the psychodynamic view of depression as "a loss of one's dreams" has a literal underpinning? If REM/dream loss is, in fact, an etiological factor in depression, it is yet another reason to be cautious about the use of antidepressant medications that suppress REM sleep. Given its role in mood regulation, we should recognize REM/dreaming as a form of endogenous psychotherapy that deserves support and encouragement in the management of depression.

Most investigations of REM/dreaming focus on its impact on ordinary waking life. Transpersonal perspectives raise questions about the way REM/dream loss might erode the breadth of our consciousness, potentially dampening creativity, impairing social connection, and compromising our spirituality. Four decades of clinical dream work has taught me that REM/dreaming is essentially another way of seeing—a kind of transpersonal dream eye-sight. By providing us with a novel, wide-angled view of ourselves and the world, dream eyes restore our peripheral vision.61 And because night dreams are embedded in sleep, dream eyes afford us an opportunity to perceive through slumber-sedated lenses. Even when gazing at the nightmarish, dream eyes are less judgmental, more empathic, more open. Dream eyes also transcend waking egoic perspectives, opening us to greater social and spiritual consciousness and revealing a numinous world behind the world.

From this perspective, epidemic REM/dream loss not only hurts the individual but also can have a deleterious effect on collective consciousness and spirituality. Montague Ullman addressed this concern in his classic essay The Significance of Dreams in a Dream Deprived Society, writing, "Dreams reveal the state of connectedness of the individual to his or her past, to others, and to the supports and constraints of the social order."62 Not surprisingly, dreaming has been referred to as the language of God. In his book Big Dreams: The Science of Dreaming and the Origins of Religion, Kelly Bulkeley traces the roots of human spirituality and global sacred traditions to REM/dreaming.63

From a transpersonal perspective, then, REM/dream deprivation involves a fundamental loss of peripheral vision, context, and perspective. It reinforces wake centrism by limiting our focus, attention, and vision to the ordinary waking world of practicality, survival, and materialism.

Restoring healthy REM/dreaming

Because REM/dreaming is an innate, natural process, its restoration is largely about identifying and eliminating factors that inhibit its natural flow. Ideally, these factors should be addressed at both individual and community levels. Ten basic recommendations for restoring and promoting healthy REM/dreaming follow. Engaging in practices that enhance REM/dreaming can help effect positive changes in our experience of, and attitudes toward, REM/dreaming.

Managing substances and medications

Evaluating how specific substance and medication use patterns might be compromising REM/dreams is a critical first step. Reliance on REM/dream substances and medications should be addressed with healthcare providers. Integrative mental health approaches offer effective alternatives to conventional antidepressants64 and other REM-suppressant psychiatric medications.65

Optimizing sleep

To dream well, we must sleep well. Just as the body prioritizes fluids over food, the brain prioritizes sleep over dreams.6 Even though both are essential, obtaining a quota of healthy dreams requires that we first learn to optimize our sleep. In addition to standard sleep hygiene recommendations, it is essential that we reduce excessive exposure to LAN by dimming lights and using blue blocker technology,65 and that we establish earlier bedtimes to remedy dependence on alarm clocks.

Using oneirogens

For people who wish to boost their awareness and recall of REM/dreaming, there are many recipes available that use botanicals and nutraceuticals to promote dreaming.66 Melatonin supplementation is also a simple and generally safe way to optimize both sleep and dreams67 if used properly. Unfortunately, there is limited expert guidance available for melatonin use. Generally speaking, 0.3–1.0 mg of a time-released formulation is best. Nootropics that support healthy levels of acetylcholine can also function as oneirogens.

Participating in REM/dream sharing

Sharing dreams with a partner, family, or friends will deepen our regard for dreaming as well as enhance intimacy. This can be done one-on-one or through
community-based groups or dream circles. Dream groups are especially useful in exploring lucid, precognitive, mutual, and other special forms of dreaming. Interpreting dreams as a part of the sharing process is optional. Interpreting the dreams of people we are close to is generally not advisable, and because common dream dictionaries downsize the dream, such books are best avoided. Talking with children about dreams will encourage them to establish a positive attitude early in life.

Engaging in shadow work
Occasional nightmares are a normal part of dreaming and can provide valuable insight into our psychological and spiritual lives. The Taskud recommends retelling a nightmare to several people to help dissipate its hold. Chronic nightmares, however, usually require professional support. Depending on a practitioner’s orientation and training, that can range from expressive psychotherapies to suppressive medications.

Experimenting with the waking dream
In contrast to lucid dreaming, which is about bringing waking awareness into the night dream, the waking dream is about bringing awareness of dreaming into the waking day. Not to be confused with the daydream, which usually has an escapist motive, the waking dream is about practicing using our dream eyes while awake. Actively engaging in the waking dream practices can benefit personal growth as well as creative and artistic endeavors.

Supporting dreamscape environmentalism
In his book The Inner Reaches of Outer Space, Joseph Campbell highlights the striking parallel between our sense of the inner (dream) world and the outer (real) world. Today, in parallel to the destruction of the planet’s natural environment, we are witnessing what appears to be a decimation of the dreamscape, the dream’s territory. Dreams are being overly medicated, lucidly manipulated, and technologically hacked in service of wake-centric purposes. Those who believe in the presence of a shared dreamscape believe this poses a danger to the quality of our dreams.

Establishing a clinical dream loss diagnosis
Establishing a new diagnostic category for REM/dream loss would help to more clearly document, further legitimize, and effectively intervene with the problem. Designating REM/Dream Deficiency Disorder (RDD) as a legitimate clinical concern that requires professional attention would also support related public health, clinical, and research initiatives. Such a diagnosis would need to account for REM sleep as well as subjective dream loss.

Funding meaningful research
Studies are needed to carefully quantify the extent of REM/dream loss in the general population as well as among specific groups, such as children, the elderly, and psychiatric patients. Additional research to determine the long-term effects of REM/dream loss would be helpful. Also, investigating the effectiveness of individual and public health interventions to promote healthy REM/dreaming is essential.

Providing public health education
Campaigns to alert the public and health professionals to the silent epidemic of REM/dream loss, its symptoms, and its treatments are essential in addressing this problem. Many existing groups could contribute meaningfully to the effort, including governmental health and mental health advocacy organizations as well as specialized advocacy groups, such as the National Sleep Foundation, the American Academy of Sleep Medicine, the Society of Behavioral Sleep Medicine, and the International Association for the Study of Dreams.

In conclusion: what dreams may (not) come
If the Rolling Stones are correct in suggesting that losing our dreams means losing our minds, we are in trouble. Dream loss is epidemic, as is depression and countless other human woes that arguably may be rooted in limited, dream-deprived perspectives.

One of the main reasons we are losing our dreams is that we do not value them sufficiently. Restoring healthy REM/dreaming, then, will require a shift in social consciousness. Scientists and clinicians, in particular, need to offer more regard for the subjectivity of the dream. Whether we believe dreams are personally meaningful or not, we must recognize they are healthful. And, we must also realize that, because we cannot prove a negative, arguing against the meaningfulness of dreams is not a scientific position; it’s a personal philosophical stance.

Nowhere is the classic body–mind problem more challenging than in the REM/dream arena. How do we integrate the physiological picture of REM sleep with the psychological experience of the dream?
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There is, in fact, growing interest in triangulating a new body–mind view of REM/dreaming. From a clinical perspective, integrative medicine has been evolving a model of patient care that successfully balances effective interventions with regard for patient experience.

Competing interests

The author declares no competing interests.

References

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