

CHAPTER 9

THE ORIGINS OF DREAMING

*Kelly Bulkeley*

The search for origins is one of the great themes of myth and legend. Every religion and cultural tradition has its story about how humans, the world, the heavens, and life itself began. These are more than just stories. What we believe happened at the beginning, *in illo tempore*, matters right now, in the present. To take the most contentious example in the contemporary United States, the different views of human origins proposed by the Bible and evolutionary science have led people to adopt highly divergent approaches to the politics of sexuality, marriage, and reproduction. Likewise, religious traditions and scientific researchers hold quite different views of the origins of dreaming, which naturally color their approaches to the nature, function(s), and meaning of dreams. If you believe dreams originate in the disembodied wandering of one's spirit or soul, your general attitude toward dreaming will likely differ from someone who believes that dreams originate in the random firing of neurons in the brain during sleep. Stories of origins *matter*.

The opposition between religious and scientific views of the origin of dreaming may seem absolute, with no possibility of reconciliation or meaningful integration. What common ground can be found between the mystic's revelatory vision of the night and the sleep laboratory subject's brief, disjointed post-awakening report? What do neurons have to do with God?

In this chapter I argue that the religion-science opposition on dreams may be bridged by connecting important but unappreciated facts from each realm. A strong case can be made that dreaming is a primal, *originating* source of both religious experience and brain-mind growth. In ways that are inextricably religious *and* neuropsychological, human dreaming has the effect of

provoking greater consciousness of self, others, world, and cosmos. My aim is to develop that case by integrating key findings from contemporary brain-mind science with current work in religious studies. Looking first at brain-mind science, I review the last century of research on the phenomenology of highly memorable dreams (what Carl Jung [1974] called "big dreams") and establish some basic facts about prototypical human dream experience. Then I turn to religious studies and look at the special role of dreaming in people's experiences of religious, spiritual, and existential origins, with an eye to the recurrence of those same oneirological patterns identified by contemporary science. This dual focus, on highly memorable dreams and on stories of religious origins, reveals the ways in which a strong, autonomous, creative, and iconoclastic force is at work in human dreaming. It is not necessarily a confession of religious faith, nor should it be regarded as an exhaustive scientific explanation. It is rather a reasonable conclusion that comes from considering, critically and creatively, the latest evidence from several branches of scholarship.

#### CURRENT SCIENTIFIC EVIDENCE ON HIGHLY MEMORABLE TYPES OF DREAMS

For the past one hundred years, the main goal of Western scientific dream research has been to explain the form and content of dreams in terms of sleep physiology. Sigmund Freud developed the psychoanalytic model by which dreams were explained as "guardians of sleep" whose manifest content (i.e., the dream as remembered) is actually a deceptive mask enabling the secret, hallucinatory fulfillment of repressed instinctual desires (Freud, 1965). Beginning in the 1950s, Freud's model was displaced by the discovery of rapid eye movement (REM) sleep and its connection to dreaming (Aserinsky & Kleitman, 1953, 1955). Researchers found that human sleep (and indeed all mammalian sleep) is structured by automatic cycles of greater and lesser brain activation (for summaries, see Cartwright & Lamberg, 1992; Dement, 1972; Shafton, 1995). This led to numerous investigations to identify correlations between the physiology of REM sleep and the psychological elements of dreams. Initial efforts focused on eye movements (Roffwarg, Dement, Muzio, & Fisher, 1962), penile erections (Fisher, 1966), and various kinds of pre-sleep stimuli (Witkin & Lewis, 1967). Disappointingly, the results of later studies did not fulfill the initial expectations. The movements of the eyes during REM sleep do not directly match or track what people are seeing in their dreams (Aserinsky, Lynch, Mack, Tzankoff, & Hurn, 1985; Jacobs, Feldman, & Bender, 1970, 1972; Moskowitz & Berger, 1969). Penile erections (and clitoral swelling) are automatic physiological accompaniments of sleep and do not always correspond to dreams of sexual imagery or arousal (Hirsch, Karacan, & Williams, 1972). No particular pre-sleep stimulus, whether a memory task, a physical

activity, or watching a movie, has been shown to have a simple, direct impact on what people dream the subsequent night. More fundamentally, subsequent research demonstrated that dreams are not exclusively the province of REM sleep but are also reported with some frequency from NREM sleep (Foulkes, 1962; Kahan, 2000). The more closely researchers looked at actual dreams, the more they realized that REM physiology does not account for their basic features.

If nothing else, these findings indicate that pursuing a simplistic REM-dreaming isomorphism is a dead end for future scientific dream research. REM sleep may be a kind of triggering mechanism for most dreams, but the process of dreaming itself emerges from a complex, widely distributed system of brain-mind activities that are functionally independent of REM physiology. More evidence on this subject is presented later in the chapter, but for now the point is that the origins of dreaming are very clearly *not* in REM sleep. As sleep and dream researcher James Pagel notes, "Dreaming and REM sleep are complex states for which the Dreaming = REMS model has become excessively simple and limited" (Pagel, 2000, p. 988). A new scientific story of origins is needed, one that better accounts for current knowledge about the actual patterns of dreaming form and content.

Such a story will need to include an understanding of sleep physiology across REM and NREM stages. Indeed, there is no reason to believe that the artificial categories of REM and NREM are eternally valid, and we may hope that future researchers will find a better way to account for the complex, multidimensional sleep cycles of humans and other creatures. In the meantime, our stories of the origins of dreaming must include recognition of the strong and steady (if not absolute) relationship between the neurophysiology of REM sleep and the frequency and intensity of dreaming, while also acknowledging that genuine dreaming occurs outside of REM sleep. Our understanding of dreaming will always depend on our understanding of sleep in general, and future dream research will be most prosperous if it grounds itself in a more sophisticated foundation of knowledge about what's happening in the approximately one-third of our lives we pass in slumber.

With this preliminary background in sleep physiology, the next step is to look more closely at the form and content of dreaming. I focus not on dreams in general, but on those relatively rare types of dreams that make a strong and lasting impact on the dreamer's waking consciousness. If there is any function or value to dreaming, it is most likely to appear in those dreams that are remembered with greatest intensity, by the widest variety of people, from many different historical eras. The frequency of such dreams is increasingly well documented, and the Western psychological tradition has developed several important insights regarding their prototypical features. Drawing these insights together will provide a new basis for correlating dream psychology

and sleep physiology, and this in turn will enable us to reassess the relationship between scientific and religious stories of the origins of dreaming.

## Freud

The modern psychological study of dreams began with Sigmund Freud and the publication in 1899 (postdated to 1900) of his monumental *The Interpretation of Dreams* (Freud, 1965). Freud's psychoanalytic theory was created in large part through a probing investigation of his own dreams in the years following the death of his father. The central claim of his theory is that *dreams are the disguised fulfillment of repressed wishes*. To maintain healthy functioning of the mind, dreams serve as a kind of pressure valve, releasing pent-up instinctual energies in a safe and harmless fashion. The instinctual wishes that emerge in dreams are primarily egotistical and antisocial in nature, harkening back to infantile pleasure-seeking. Freud says an agency within the mind called "the dream-work" employs symbolic imagery and metaphorical language to fulfill the instinctual wishes without arousing moral anxiety, thereby allowing the individual's sleep to continue undisturbed.

The psychoanalytic theory of dreams has attracted tremendous controversy over the past 100 years, and fortunately for our purposes we do not need to worry about the ongoing battles between Freud's friends and foes. Taken as a comprehensive explanation of all features of all dreams, Freud's wish-fulfillment theory is certainly wrong. However, taken as an insight into vital (but not all-encompassing) features of human dream experience, Freud's theory is certainly right: dreams frequently express instinctual wishes of an egotistical (especially sexual) nature, they do so by using a culturally saturated language of symbol and metaphor, and they contribute to the healthy functioning of mind and body. Freud had very little to say about highly memorable dreams per se. Indeed, he believed dreams were meant to be forgotten, the better to hide their disturbing instinctual core, and so he was not inclined to pay much attention to those rare dreams that for some reason or other can't be forgotten. But these three points—the role of instinctual desires, the language of symbol and metaphor, and the positive psychological function—are directly relevant to our contemporary understanding of prototypical human dreaming.

## Jung

Carl Jung dates his fascination with dreaming to the earliest remembered dream from his childhood, in which he descends to an underground throne room and confronts a massive phallus on a throne (Jung, 1965, pp. 11–13). Jung was one of Freud's earliest and most enthusiastic followers, but after the angry break-up of their relationship Jung withdrew into professional and personal isolation, surrendering to an upsurge of fantasy material from

his unconscious. Building on these numinous, life-altering experiences, Jung developed a theoretical synthesis of clinical psychiatry and comparative mythology that explained dreams as natural (i.e., undisguised) expressions of the psyche whose function, even in the case of intensely frightening nightmares, is to promote the ultimate goal of individuation (Jung, 1965, 1968, 1980). Dreaming, Jung says, has the beneficial functions of compensating for the imbalances of the conscious mind and anticipating future challenges and developments in life. The classic themes, motifs, and symbols of world mythology provide the inherited mental language for oneirological expression. For Jung, dreaming is not simply a matter of animal instinct but also of spiritual enlightenment. This is especially true with what he calls "big dreams," intensely vivid and memorable dreams that "are often remembered for a lifetime, and not infrequently prove to be the richest jewel in the treasure-house of psychic experience" (Jung, 1974, p. 36).

As with Freudian psychoanalysis, Jung's theory is questionable if taken in absolute terms. Whether we accept the entirety of his psychological system, several of his key points remain legitimate and important: the "naturalness" of remembered dreaming, the potential psychological value of nightmares, the symbolic interplay between dreaming and mythology, and, most crucially for our purposes, the recognition of various types of extraordinary "big dreams." Jung realized, in a way Freud never did, that certain dreams are different from other dreams, with recurrent images, themes, and feelings that deserve careful investigation in their own right (maybe in Freud's comments on Descartes's dreams as "dreams from above"). Jung's case studies may be open to debate as sources of evidence, but his key insight into the significance of highly memorable dreams has been strongly supported by subsequent research.

## Content Analysis

The quantitative dream research of Calvin Hall, Robert Van de Castle, and G. William Domhoff was originally developed to measure dream content in such a way that the claims of Freudian, Jungian, and other dream theories could be empirically tested (Domhoff, 1996, 2003; Hall, 1966, 1984; Hall & Van de Castle, 1966; Van de Castle, 1994). Using a content analysis method by which dreams are scored according to several discrete categories (e.g., characters, social interactions, misfortunes and good fortunes, emotions, settings, descriptive modifiers), these researchers identified a central feature of dream experience, which Domhoff (2003) calls "the continuity principle" (p. 26). On average, humans tend to dream about the same people, places, and activities that are most prominent in their waking lives. How we feel, think, and behave in our dreams is by and large continuous with our waking personalities. The findings of content analysis may not seem relevant to the study of highly

memorable dreams, especially when we note that the dream reports used by these researchers are either from most recent dream surveys, brief dream journals, or sleep laboratory awakenings—all of which are likely to under-represent the occurrence of relatively rare types of intensified, highly memorably dreaming. But this is precisely the value of the Hall, Van de Castle, and Domhoff findings: they provide background information on “ordinary” dreaming that enables us to see more clearly what makes “extraordinary” dreams so distinctive. Understanding the continuities between dreaming and waking gives a better insight into the *discontinuities* that emerge in dreaming—for example, the fantastic metamorphoses of time, space, character, and consciousness that are especially prominent in highly memorable dreams.

### Hunt

Harry Hunt's *The Multiplicity of Dreams* (Hunt, 1989) makes the case for a more sophisticated qualitative study of the recurrent patterns of highly memorable dreams. He says,

dream psychology, in its haste for its own Darwin, has bypassed the necessary foundations of a Linnaeus. The various available systems of quantitative content analysis are complex and reliable, and they correlate to a degree with cognitive, physiological, and personality variables, but they are still reminiscent of attempting to classify the natural order of species by first, ever so precisely, measuring length of limb, size of tooth, body weight, and so on—disregarding whether the animal is a reptile, fish, bird, or mammal. (p. 97)

For Hunt, the essential starting point for dream psychology is the development of a full, detailed phenomenology of dreaming in all its varied manifestations, from the ordinary to the extraordinary. Once we have such a phenomenology, then we can determine which theoretical perspectives are most helpful in understanding the data. Hunt's creative synthesis of cognitive psychology with anthropological and historical information allows him to offer a portrait of “a natural order of dream forms” (p. 90), with each type of dream involving a distinctively patterned interaction of visual-spatial and conceptual-verbal processes. The main ones he describes are *personal-mnemonic* dreams, regarding common matters in the dreamer's waking life; *medical somatic dreams*, relating to physiological processes in the dreamer's body; *prophetic dreams*, presenting omens or images of the future; and *archetypal-spiritual dreams*, with vivid, subjectively powerful encounters with numinous forces, often also including extremely strong physical or “titanic” sensations. Hunt's analysis of these types of dreams elaborates on Jung's initial distinction between “big” and “little” dreams, providing a more detailed account of the complex psychological processes at work in their generation.

### Lucid Dreaming

One type of unusual dream experience that has received considerable research attention is lucid dreaming—that is, becoming aware within the dream state that you are dreaming (although, strangely, neither Freud nor Jung paid much attention to lucid dreaming). There is much to be said about these dreams, but for our purposes the findings of three researchers are especially significant. First, Jayne Gackenbach's research on relations between lucid awareness in dreaming and alterations of consciousness in transcendental meditation shows how sustained attention practices (whether in a religious context or not) can produce striking physiological and psychological changes of a positive nature (Gackenbach, 1991; Gackenbach & LaBerge, 1988). It appears that what makes lucid dreams so memorable is the momentary realization of a kind of conscious state that various disciplines of meditation and prayer actively seek to achieve. Second, Tracy Kahan's work on dreams that involve various degrees of intentional volition and metacognition (thinking about thinking) indicates that dreaming is not mentally “deficient,” but rather uses the same cognitive abilities we use in our waking lives (Kahan, 2001; Kahan & LaBerge, 1994; Kahan, LaBerge, Levitan, & Zimbardo, 1997). In lucid dreams, what we consider the “highest” forms of cognition (self-awareness, selective attention, short-term memory) are fully operational, and this raises interesting questions about the cross-state flexibility of the human psyche. And third, Fariba Bogzaran's efforts to integrate research on lucidity, consciousness, and artistic creativity highlight the recurrent patterns of entoptic phenomena that spontaneously emerge in many lucid dreams (Bogzaran & Deslauriers, 2004; Krippner, Bogzaran, & de Carvalho, 2002). One way to follow her insights will be comparing visual patterns in lucid dreams with the ancient cave paintings found in several regions around the world, where similar entoptic images are portrayed and where dream incubation rituals likely took place (Lewis-Williams, 2002).

### Kuiken

Don Kuiken's work with Sikora (Kuiken & Sikora, 1993) and Busink (Busink & Kuiken, 1995) on highly impactful dreams is directly relevant to our concerns. His motivating interest was to push beyond the idea that dreaming has a single, universal function:

Perhaps dreaming *is* a sufficiently uniform phenomenon to consistently serve some function or integrated set of functions. On the other hand, perhaps dreaming is only *apparently* uniform because differences among kinds of dreaming—and among the functions of different kinds of dreaming—have not received sufficient research attention. (Kuiken & Sikora, 1993, p. 424)

Kuiken's research initially identified four types of dreaming with distinct clusters of content: *existential dreams* (distressing, concerned with separation and personal integrity); *anxiety dreams* (frightening, concerned with threats to physical well-being); *transcendent dreams* (ecstatic, concerned with magical accomplishments); and *mundane dreams* (little emotion, unimpactful). His later study added a fifth class of moderately impactful dreams, *alienation dreams*, which express emotional agitation and concerns about interpersonal efficacy. Kuiken's findings raise further questions about the best ways to conceptualize the most prominent and recurrent patterns in these dreams. He points out that anxiety and existential dreams both have negative emotions but are very different in form and content, which means that the simple term "nightmare" is too general to use for both types. He further cautions against conflating transcendent and archetypal dreams ("the term 'archetypal' suggests questionable aspects of Jungian theory rather than reflecting these dreams' phenomenology" (Kuiken & Sikora, 1993, p. 116), and against using the presence of specific religious characters or images as a defining typological feature:

For instance, the presence of a spiritual figure in an existential dream and the presence of a spiritual figure in a transcendent dream would force these dreams into the same category even though they differ dramatically in almost all other respects. (Kuiken & Sikora, 1993, p. 116)

### Solms

Mark Solms has done pioneering work in the neuroanatomy of dreaming (Solms, 1997, 2000), which he has used as a foundation for a reconstructed psychoanalytic theory of the mind (Kaplan-Solms & Solms, 2000). Whatever the merits of his effort to revive Freud, Solms's work bears on our subject in at least three ways. First, he has provided additional evidence that REM neurophysiology is a mostly sufficient but not necessary trigger for the psychological experience of dreaming. His findings support a distributed, nonmodular view of brain-mind functioning:

[C]omplex mental faculties such as reading and writing (and, we might add, dreaming) are not localized within circumscribed cortical centers. . . . [They] are subserved by complex functional systems or networks, which consist of constellations of cortical and subcortical structures working together in a concerted fashion. (Solms, 1997, pp. 47–48)

Second, he has identified a double dissociation between primary visual system and dreaming. The patients in his study with visual problems had normal dreaming, and the patients with nonvisual dreaming had normal visual abilities. Specifically, he found that brain areas V1 and V2, which are crucial for

the processing of external visual signals, are not necessary for the generation and maintenance of normal dream imagery. Dreaming thus expresses an autonomous capacity for visionary experience that is independent of ordinary eyesight. Third, Solms has developed a clinical definition of "excessive dreaming" (anoneirognosis), a syndrome by which people experience intensely emotional and hyperrealistic dreams, often with unusual characters and other content features. Although Solms takes no interest in dream content, his clinical descriptions of the 10 patients who had this syndrome include reports of meeting deceased loved ones (pp. 185–186), visiting the "pearly gates" (p. 178), visiting a very beautiful place (p. 183), and having a black snake crawl into the dreamer's vagina (p. 192). Both in form and content, these anoneirognostic dreams are quite similar to historical and cross-cultural reports of big dreams. If Solms is right that frontal limbic lesions are the cause of this syndrome, this may be a key region of the brain to study in connection with the religiously oriented experience of big dreams.

### Nielsen

From his earliest writings, Tore Nielsen (1991) has been investigating highly impactful dreams, and in his recent neuroscientific work on the relationship between REM and NREM he coined the term "apex dreaming," which he describes as follows:

The term "apex" dreaming is adopted to refer to a subcategory of dreaming that is distinguished by exceptional vividness, intensity, or complexity. . . . Apex dreaming [is] the most vivid, intense, and complex forms of dreaming: e.g., nightmare, sexual, archetypal, transcendental, titanic, existential, lucid. (Nielsen, 2000, p. 853)

Nielsen calls for recognition of the potential of the dreaming process to achieve a special degree of intensity, cohesiveness, and impact. Related to that, he has studied cross-cultural frequencies of typical dreams (Nielsen et al., 2003) and found, for example, that 81 percent of 1,181 participants reported a chasing dream, 76.5 percent a dream of sexual experience, 48.3 percent a dream of flying, 48.3 percent a dream of vividly sensing a presence in the room, 38.4 percent a dream of someone dead becoming alive, 24.4 percent a dream of having superior knowledge or mental ability, 23.8 percent a dream of seeing oneself as dead, 12.3 percent a dream of traveling to another planet or universe, and 11.2 percent a dream of encountering God in some form. These findings add substance to Hunt's notion of the multiplicity of dreams, filling out our knowledge of recurrent patterns of dream content across differences of age, gender, and cultural background. What begins to take shape in Nielsen's research are the recurrent, pan-human patterns that naturally emerge in apex dreaming.

## Knudson

Roger Knudson's work has focused on the dynamics of beauty, aesthetics, and narrative integrity in what he calls "highly significant dreams" (Knudson, 2001; Knudson & Minier, 1999). He has explored, using elegantly detailed case studies, the specific ways in which extraordinary dreams have shaped individuals' subsequent lives. Inspired in large part by James Hillman's focus on imagery and imagination in dreams, Knudson's case studies show that the *aesthetic power* of particularly vivid dream images often enables such long-lasting effects on waking consciousness: the "image, its life never pinned down, never literalized into a fixed concept or 'meaning,' remains an animating, enlivening presence in the psychic life of the dreamer" (Knudson & Minier, 1999, p. 244). Contrary to the common presumption that dreaming is inherently bizarre, disordered, and meaningless, Knudson illuminates the extraordinary aesthetic qualities of rare but impactful types of dreams. This reminds us that, among its many other capacities, the dreaming psyche has the ability to generate images of astonishing beauty, complexity, and creativity, and this has to be acknowledged in any study of highly memorable dreams.

## Revonsuo

Antti Revonsuo's threat simulation theory (Revonsuo, 2000) takes its point of departure from the "story of origins" of the human mind proposed by contemporary evolutionary psychology. The basic mental abilities humans have today originally evolved approximately 200,000 years ago on the African savannah. To understand dreams, Revonsuo says, it is necessary to ask what adaptive function they might have served in the early ancestral environment of the human species. How did dreaming contribute to the survival of our ancestors? Revonsuo argues that dreams, particularly nightmarish chasing dreams, improved the ability of early humans to escape their predators. By simulating what it would feel like to be attacked, the dreams gave the individual an opportunity to envision, prepare, and rehearse an effective response should a similar attack occur in waking life. The early humans who experienced such dreams had a better chance of survival than those who didn't, and thus the threat-simulating propensity of dreaming was incorporated by natural selection into the innate mental machinery of our species.

Given the high incidence of intensely frightening chasing dreams documented by the research of Nielsen, Domhoff, Kuiken, and others, Revonsuo is right to focus special attention on this dream type. He is also right to seek an understanding of highly memorable dreams in relation to evolution and biology, and future research will hopefully look beyond threat-simulating dreams to other types of dreams simulating other evolutionarily significant dimensions of human experience. Revonsuo has plenty of critics (Pace-Schott,

Solms, Blagrove, & Harnad, 2003), but the basic phenomenon he describes is a central fact of human dream experience: we are, as a species, predisposed (particularly in childhood) to have recurrent, frighteningly realistic dreams of being attacked, most often by animals and male strangers. The tangible impact of dreaming on a person's waking consciousness is nowhere clearer than with this type of dream.

## Summary

So what can we say, based on the best available psychological evidence, about the nature of dreams? At least this much: Dreams are highly variable in form and content, perhaps infinitely so, ranging from chaotically disordered and nonsensical to elegantly structured and meaning-rich (the chaotic dimensions of dreaming have been explored by Kahn & Hobson, 1993, and Kahn, Krippner, & Combs, 2000). For the most part, dreams are continuous with waking-life emotional concerns—we dream about the major worries, hopes, and desires of everyday life. The full range of emotions is experienced in dreams, though not every dream involves emotion, and most dreams include strong visual sensations. Some dreams generate sensations so intense and vivid that they feel indistinguishable from waking reality. Occasionally there are dramatic carry-over effects in body and emotion—people may wake up gasping, crying, laughing, or sexually climaxing. Some dreams involve "higher" mental functions such as metacognition, and some dreams include dramatic alterations of self-awareness, memory, and volition.

Several mappings of dream phenomenology have been offered, not all of them compatible with one another. In other writings I have discussed several elements that should be included in any such mapping: an appreciation for the metaphorical expressiveness of dreaming (Bulkeley, 1994, 1999); the earliest remembered dreams of childhood (Bulkeley, Broughton, Sanchez, & Stiller, 2005; Siegel & Bulkeley, 1998); the frequency of good fortunes in the content analysis of dreams (Bulkeley, in press); and the themes of reassurance, sexuality, evil, death, and "titanic" experience (Bulkeley, 2000). It is still too early to settle on one particular mapping of dream phenomenology, especially given the wealth of new information coming from both scientific psychology and religious studies. For now, the most we can say with confidence is that Jung's basic typological distinction between "little" and "big" dreams is valid (even if we prefer to use different terms, like "personal" and "intensified" or "mundane" and "impactful"). Most dreams portray ordinary daily concerns and activities, make little impact on waking consciousness, and are usually forgotten immediately. A minority of dreams involves a combination of vivid imagery, intense sensations, metacognition, and/or extraordinary occurrences; these dreams make a big impact on waking consciousness and are usually remembered for a long time afterward.

At this point we turn to religious studies research on dreams, with a special focus on the various roles dreams play in religious *origins*. The primary goal is to show that contemporary psychological research on “big” dreams is confirming what most religious and spiritual traditions through history have taught regarding the powerful potentials of dreaming. Although Western scientific psychology and the world’s religious traditions use very different concepts and methods of investigation, their discoveries are converging on a vital truth about human nature.

## RELIGIOUS STUDIES EVIDENCE ON DREAMING OF ORIGINS

A great deal of research has been done in recent years on the dream beliefs, practices, and experiences of various people around the world and in different periods of history (Covitz, 1990; Ewing, 1989; Gregor, 1981; Hermansen, 2001; Irwin, 1994, 2001; Jedrej & Shaw, 1992; Kelsey, 1991; Lama, 1997; Lamoreaux, 2002; Lohmann, 2003; Mageo, 2003; Miller, 1994; O’Flaherty, 1984; Ong, 1985; Patton, 2004; Shulman & Stroumsa, 1999; Stephen, 1979; Szpakowska, 2003; Tedlock, 1987; Young, 1999). This body of research is a crucial testing ground for psychological theories about the origins of dreaming. If the claims of contemporary researchers are accurate representations of universal human mental functioning, then evidence for their claims should be clearly evident in different historical eras and cultural contexts. Because religion is the primary language in which human communities have discussed their dreams, dream scientists have no choice but to engage in a serious, sustained dialogue with the history of religions.

This chapter can only offer a foretaste of that historical exploration. What follows are brief descriptions of a few major themes that are especially significant for future conversations between scientific and religious approaches to dreaming.

### Shamanic Initiation and Vision Questing

Researchers working in widely varied contexts have found a close connection between dream experience and the visionary practices of shamans (ritual and healing specialists of hunter-gatherer communities) (Benedict, 1922; Eliade, 1964; Irwin, 1994; Lewis-Williams, 2002; Radin, 1936; Tedlock, 2005; Toffelmeir & Luomala, 1936; Wallace, 1958). Shamanic initiations are often prompted by unusual dream experiences, and the initiation process usually involves nightmarish torments that “kill” the old self and give birth to the new shamanic identity. David Lewis-Williams (2002) argues in *The Mind in the Cave* that shamanic dreaming and vision questing is a key to understanding the origins of the cultural and religious imagination of homo

sapiens in the Upper Paleolithic period, as illustrated by the remarkable cave paintings of modern-day France and Spain. The shaman’s abilities to interact with supernatural powers, journey to otherworldly realms, heal illness, and prophesize the future are all rooted in experiences of intensified dreaming. If it is fair to regard shamanism as one of the earliest religious practices of known human history, then dreaming has been intertwined with religion from the very beginning.

### Dreaming the Origins of the World

Some traditions have creation myths in which the world was created in and through a process of dreaming. The best-known of these traditions is the “Dreamtime” of the Aboriginal Australians. They believe their ancestors dreamed the land into being. “Dreaming” in this context is equivalent to “creating,” meaning a power to generate life, reality, and truth. Later generations of Australian Aborigines have believed they could reconnect with those spiritually powerful creative ancestors by means of their own dream experiences (not *all* dreams are believed to have spiritual significance, just a relatively rare few of them; Lohmann, 2003; Stephen, 1979; Tonkinson, 1970; Trompf, 1990). Another myth of dreaming and cosmogenesis comes from the Hindu tradition. A popular myth from the *Matsya Purana* features a sage who briefly realizes the world is actually a dream of a sleeping god:

After Visnu had burnt the universe to ashes at doomsday and then flooded it with water, he slept in the midst of the cosmic ocean. The sage Markandeya had been swallowed by the god, and he roamed inside his belly for many thousands of years, visiting the sacred places on earth. One day he slipped out of the god’s mouth and saw the world and the ocean shrouded in darkness. He did not recognize himself there, because of God’s illusion, and he became terrified. Then he saw the sleeping god, and he was amazed, wondering, “Am I crazy, or dreaming? I must be imagining that the world has disappeared, for such a calamity could never really happen.” Then he was swallowed again, and, as soon as he was back in the belly of the god, he thought his vision had been a dream. (O’Flaherty, 1984, p. 111)

The idea that the world is born of divine illusion is too frightening and bizarre for the sage to accept, and he reasonably concludes that he merely imagined the whole thing. This myth reflects a cultural familiarity with upsetting, disturbing, nightmarish types of dreaming, and it highlights the way such dreams can force waking consciousness to face tough questions and unsettling truths. (It also shows how waking consciousness has a tendency to *resist* those questions and truths.)

## Dreaming of Divine Births

Many other traditions tell stories of divine births heralded by dreams. In the Book of Matthew in the Christian New Testament, it is revealed to Joseph in a dream that his soon-to-be wife Mary will give birth to God's own child:

An angel of the Lord appeared to him in a dream, saying, "Joseph, son of David, do not fear to take Mary your wife, for that which is conceived in her is of the Holy Spirit; she will bear a son, and you shall call his name Jesus, for he will save his people from their sins." (Matt. 2: 20–21)

After the baby's birth, Joseph has several additional dreams in which God guides his family away from the dangerous King Herod and ultimately to the safety of the town of Nazareth. These passages in the Book of Matthew presuppose a cultural familiarity with the ideas that (1) dreaming is a legitimate source of divine revelation, particularly in regard to births and origins, and (2) dreaming can be a source of warning and guidance in times of danger. Whether Joseph actually had these dreams, the Gospel story reflects a widely shared understanding of these potentials of dreaming. Likewise, Buddhist traditions have long taught that the Buddha was conceived in a dream experienced by his mother, Queen Maya, in which she is touched on her stomach by the trunk of a white elephant (Young, 1999). A fascination with dreams and birth is also evident in Korean culture, where *tae mong* dreams are avidly sought and interpreted for indications of the future character, personality, and fortunes of an unborn child (Kang, 2003). All of this indicates that the widespread connection between birth and dreaming reflects, in a more personal and human sphere, the same insight that is expressed in the cosmogonic myths: a creative power is at work in dreaming that fundamentally animates our existence.

## New Religious Movements

According to anthropologists and ethnographers, remarkable dream experiences have been at the center of various new religions and revitalization movements over the past few centuries. During this time, many indigenous populations have been rapidly conquered and colonized by Western powers, provoking severe crises for these people's religious and cultural traditions. In this context of conflict and disruption, certain people experience powerful dreams that become the emotional and imagistic touchstones for a new spiritual response to the present crisis. This basic process is evident among the "cargo cults" of Melanesia (Burrige, 1960; Lohmann, 2003), the spread of African Independent Churches through Africa (Charsley, 1973, 1987; Jedrej & Shaw, 1992), the dreamer religions of Native American groups

(Irwin, 1994; Trafzer & Beach, 1985; Wallace, 1969), the charismatic voodoo-Christian cults of the Caribbean (Bourguignon, 1954; Lanternari, 1975), and perhaps even the Taliban movement of contemporary Afghanistan (Edgar, 2004). In each case, a painful clash with the forces of modernization (i.e., capitalism, Christianity, Euro-American military dominance) becomes the occasion for an eruption of visionary power in dreams. How that visionary power is *used*, whether for peaceful or violent ends, is another matter (and one deserving more analysis than is possible here). For our limited purposes, the main point is that, again, dreaming is found at the origins—when old cultural traditions crumble in the face of severe external threats and dangers, new religious inspiration regularly strikes people in the form of highly memorable dreams.

## Philosophical Wonder

The world's religious and cultural traditions have also looked to dreaming as the origin of what I call "philosophical wonder." In Plato's (1961) dialogue *Theaetetus*, the young man of that name is brought before Socrates, whose playfully skeptical questioning leads the youth to realize how little certainty he has in knowing whether he is awake or dreaming. Theaetetus says, "It is extraordinary how they [such epistemological puzzles] set me wondering whatever they can mean. Sometimes I get quite dizzy with thinking of them." Socrates replies, "This sense of wonder is the mark of a philosopher. Philosophy indeed has no other origin" (p. 860). To become a philosopher, one must *experience* the dizzying, decentering wonder that comes from contemplating the vivid alternative reality of dreaming. The classic Chinese version of this comes in Chuang Tzu's philosophical text *Ch'i-wu lun* (*Discussion on Making All Things Equal*), in which he tells of Chuang Chou's butterfly dream:

Once Chuang Chou dreamed he was a butterfly, a butterfly flitting and fluttering around, happy with himself and doing as he pleased. He didn't know he was Chuang Chou. Suddenly he woke up and there he was, solid and unmistakable Chuang Chou. But he didn't know if he was Chuang Chou who had dreamed he was a butterfly, or a butterfly dreaming he was Chuang Chou. (Ong, 1985, p. 78)

It is significant that Chuang Chou's dream self is a butterfly—a creature who flies, is beautiful, and experiences radical transformations of identity (from caterpillar through chrysalis to butterfly). These are hallmark qualities of highly significant dreams, in addition to the intense feeling of complete immersion in the dream world. And, as an example with direct consequences for modern Western civilization, this vivid sensation of the *realness* of dreaming prompted a philosophical awakening for René Descartes, who had a series of

three extraordinary dreams early in his life that he interpreted as divine revelations showing him the future path he must follow in his life. These dreams represented a kind of secret origin to his philosophy, a well-hidden shamanic inspiration for “the father of modern thought” and his rationalist vision of the world. (One of Descartes’s mottoes was, “He has lived well who has hidden well”; Rodis-Lewis, 1998, p. 216; see also Bulkeley, 2004).

## Summary

These are only brief snapshots of religious beliefs and practices related to dreams, and much more detailed information is available in the texts by area experts cited. The findings of all these researchers, taken as a whole, reveal to us the outline of several basic patterns in human dreaming that correspond almost exactly to the findings of contemporary psychological science. First and foremost, *all* humans are capable of dreaming, and people of all varieties—men and women, children and adults, rich and poor, powerful and weak—have experienced highly memorable types of dreams. Every culture makes distinctions among different types of dreams: some dreams are attributed to bodily processes; others to residual thoughts and feelings from the day; and still others to the influence of spiritual beings, powers, and realities. Two dream qualities are especially prominent—the visual and the emotional. Most cultures emphasize the sense of sight in dreams; they speak of “seeing” dreams, and they connect dreaming at night to “visions” seen during the day. The strong emotional qualities of dreaming are also widely acknowledged, particularly the way dreams bring forth vibrant passions and desires, often of a taboo nature. Many religious functions have been attributed to dreams, such as anticipating the future, warning of danger, heralding new births, mourning deaths and other losses, envisioning sexual pleasure, healing illness, giving moral guidance, and providing divine reassurance in times of distress. Most religious, mythological, and philosophical theories of dreaming revolve around the paradox that dreaming is both passive and active, something people receive and create, something coming from outside and inside at the same time, something that is both intimately personal and awesomely transcendent. And most traditions have developed ritual practices to elicit positive, power-inducing dreams, part of a general effort to cultivate the natural potentials of dreaming according to conscious intentions.

## CONCLUSION

With the findings of both scientific psychology and the history of religions, we gain a new perspective on the origins of dreaming and its significance in human life. From the former, we learn that dreaming emerges from a substrate of neural activity in the brain-mind system. From the latter, we learn that

factors of religion, philosophy, and existential self-awareness always come into play in dreaming, wherever and whenever humans have lived. Physiological forces are definitely at work in dreaming, hard-wired into us by evolution, operating independently of conscious attention or volition. And just as definitely, spontaneous psychospiritual processes emerge in dreaming that stimulate, challenge, and expand people’s self-awareness.

So what *is* the origin of dreaming? *Why do we dream?* The simple scientific answer is, we dream because we are creatures with brains that have naturally evolved to sleep on a regular, instinctively patterned basis. A more religiously inclined answer is we dream because we are spiritual beings whose imaginations allow us to roam far beyond the confines of the present world, envisioning alternative realities and future possibilities.

Science says we dream because we are human. It is our nature to dream. Religions say we are human because we dream. Dreaming is our nature.

Drawing on both of these perspectives, dreaming is best seen as *originating activity*. Dreaming is perhaps the most primordial of our creative abilities and a vital factor in both neurophysiological and spiritual development. Especially in its intensified, “apex” types of expression, dreaming has the effect of provoking greater consciousness by means of free imaginative play and heightened emotional sensitivity. The evidence from both science and religion clearly shows the long-lasting impact such dreams can have on people’s waking lives.

This chapter began with the question, “what is the origin of dreaming?” In the conclusion, the answer is reflected back: *dreaming is about origins*.

I would go so far as to say dreaming is a kind of autochthonic process that shares a family resemblance to other chaotic, self-organizing phenomena, from neurogenesis to weather patterns to star formation. The mysterious origin of the universe in the Big Bang, the mysterious origin of life on Earth, the mysterious origin of the random genetic mutations that propel evolution, the mysterious origin of consciousness in an otherwise undistinguished species of primates, the mysterious origin of dreaming in each of our minds every night—these are all kindred phenomena, all processes that spontaneously generate new clusters of emergent order.

## REFERENCES

- Aserinsky, E., & Kleitman, N. (1953). Regularly occurring periods of eye motility, and concomitant phenomena, during sleep. *Science*, *118*, 273–274.
- Aserinsky, E., & Kleitman, N. (1955). Two types of ocular motility occurring in sleep. *Journal of Applied Physiology*, *8*, 1–10.
- Aserinsky, E., Lynch, J. A., Mack, M., Tzankoff, S. P., & Hurn, E. (1985). Comparison of eye motion in wakefulness and REM sleep. *Psychophysiology*, *22*(1), 1–10.
- Benedict, R. (1922). The vision in plains culture. *American Anthropologist*, *24*(1), 1–23.

- Bogzaran, F., & Deslauriers, D. (2004). *Integral dreaming*. Paper presented at International Association for the Study of Dreams, Copenhagen, Denmark.
- Bourguignon, E. E. (1954). Dreams and dream interpretation in Haiti. *American Anthropologist*, 56(2), 262–268.
- Bulkeley, K. (1994). *The wilderness of dreams: Exploring the religious meanings of dreams in modern Western culture*. Albany: State University of New York Press.
- Bulkeley, K. (1999). *Visions of the night: Dreams, religion, and psychology*. Albany: State University of New York Press.
- Bulkeley, K. (2000). *Transforming dreams*. New York: Wiley.
- Bulkeley, K. (2004). *The wondering brain: Thinking about religion with and beyond cognitive neuroscience*. New York: Routledge.
- Bulkeley, K. (in press). Revision of the Good Fortune Scale: A new tool for the study of "big dreams." *Dreaming*.
- Bulkeley, K., Broughton, B., Sanchez, A., & Stiller, J. (2005). Earliest remembered dreams. *Dreaming*, 15(3), 205–222.
- Burridge, K. (1960). *Mambu: A Melanesian millenium*. London: Methuen.
- Busink, R., & Kuiken, D. (1995). Identifying types of impactful dreams: A replication. *Dreaming*, 6(2), 97–119.
- Cartwright, R., & Lambert, L. (1992). *Crisis dreaming*. New York: Harper Collins.
- Charsley, S. R. (1973). Dreams in an independent African church. *Africa: Journal of the International African Institute*, 43(3), 244–257.
- Charsley, S. R. (1987). Dreams and purposes: An analysis of dream narratives in an independent African church. *Africa: Journal of the International African Institute*, 57(3), 281–296.
- Covitz, J. (1990). *Visions of the night: A study of Jewish dream interpretation*. Boston: Shambhala.
- Dement, W. (1972). *Some must watch while some must sleep: Exploring the world of sleep*. New York: Norton.
- Domhoff, W. G. (1996). *Finding meaning in dreams: A quantitative approach*. New York: Plenum Press.
- Domhoff, W. G. (2003). *The scientific study of dreams: Neural networks, cognitive development, and content analysis*. Washington, DC: American Psychological Association.
- Edgar, I. R. (2004). The dream will tell: Militant Muslim dreaming in the context of traditional and contemporary Islamic dream theory and practice. *Dreaming*, 14(1), 21–29.
- Eliade, M. (1964). *Shamanism: Archaic techniques of ecstasy* (W. R. Trask, Trans.). Princeton, NJ: Princeton University Press.
- Ewing, K. (1989). The dream of spiritual initiation and the organization of self representations among Pakistani Sufis. *American Ethnologist*, 16, 56–74.
- Fisher, C. (1966). Dreaming and sexuality. In R. Loewenstein, L. Newman, M. Schur, & A. Solnit (Eds.), *Psychoanalysis: A general psychology* (pp. 537–569). New York: International Universities Press.
- Foulkes, D. (1962). Dream reports from different states of sleep. *Journal of Abnormal and Social Psychology*, 65, 14–25.
- Freud, S. (1965). *The interpretation of dreams* (J. Strachey, Trans.). New York: Avon Books.

- Gackenbach, J. (1991). Frameworks for understanding lucid dreaming: A review. *Dreaming*, 1(2), 109–128.
- Gackenbach, J., & LaBerge, S. (Eds.). (1988). *Conscious mind, sleeping brain: Perspectives on lucid dreaming*. New York: Plenum Press.
- Gregor, T. (1981). "Far, far away my shadow wandered. . .": The dream symbolism and dream theories of the Mehinaku Indians of Brazil. *American Ethnologist*, 8(4), 709–729.
- Hall, C. (1966). *The meaning of dreams*. New York: McGraw Hill.
- Hall, C. (1984). A ubiquitous sex difference in dreams, revisited. *Journal of Personality and Social Psychology*, 46, 1109–1117.
- Hall, C., & Van de Castle, R. (1966). *The content analysis of dreams*. New York: Appleton-Century-Crofts.
- Hermansen, M. (2001). Dreams and dreaming in Islam. In K. Bulkeley (Ed.), *Dreams: A reader on the religious, cultural, and psychological dimensions of dreaming* (pp. 73–92). New York: Palgrave.
- Hunt, H. (1989). *The multiplicity of dreams: Memory, imagination, and consciousness*. New Haven, CT: Yale University Press.
- Hirsch, C., Karacan, I., & Williams, R. (1972). Some characteristics of nocturnal penile tumescence in early middle-aged males. *Comprehensive Psychiatry*, 13, 539–548.
- Irwin, L. (1994). *The dream seekers: Native American visionary traditions of the Great Plains*. Norman: University of Oklahoma Press.
- Irwin, L. (2001). Sending a voice, seeking a place: Visionary traditions among native women of the Plains. In K. Bulkeley (Ed.), *Dreams: A reader on the religious, cultural, and psychological dimensions of dreaming* (pp. 93–110). New York: Palgrave.
- Jacobs, L., Feldman, M., & Bender, M. (1970). The pattern of human eye movements during sleep. *Transactions of the American Neurological Association*, 95, 114–119.
- Jacobs, J. L., Feldman, M., & Bender, M. (1972). Are the eye movements of dreaming sleep related to the visual images of dreams? *Psychophysiology*, 9, 393–401.
- Jedrej, M. C., & Shaw, R. (Eds.). (1992). *Dreaming, religion, and society in Africa*. Leiden, The Netherlands: E. J. Brill.
- Jung, C. G. (1965). *Memories, dreams, reflections* (R. Winston & C. Winston, Trans.). New York: Vintage Books.
- Jung, C. G. (1968). *Man and his symbols*. New York: Dell.
- Jung, C. G. (1974). On the nature of dreams. In *Dreams*. Princeton, NJ: Princeton University Press. (Original work published 1948)
- Jung, C. G. (1980). *The archetypes and the collective unconscious* (R. F. C. Hull, Trans.). Princeton, NJ: Princeton University Press.
- Kahan, T. L. (2000). The "problem" of dreaming in NREM sleep continues to challenge reductionist (2-Gen) models of dream generation (commentary). *Behavioral and Brain Sciences*, 23(6), 956–958.
- Kahan, T. L. (2001). Consciousness in dreaming: A metacognitive approach. In K. Bulkeley (Ed.), *Dreams: A reader on the religious, cultural, and psychological dimensions of dreaming* (pp. 333–360). New York: Palgrave.
- Kahan, T. L., & LaBerge, S. (1994). Lucid dreaming as metacognition: Implications for cognitive science. *Consciousness and Cognition*, 3, 246–264.

- Kahan, T. L., LaBerge, S., Levitan, L., & Zimbardo, P. (1997). Similarities and differences between dreaming and waking cognition: An exploratory study. *Consciousness and Cognition*, 6, 132–147.
- Kahn, D., & Hobson, J. A. (1993). Self-organization theory and dreaming. *Dreaming*, 3(3), 151–178.
- Kahn, D., Krippner, S., & Combs, A. (2000). Dreaming and the self-organizing brain. *Journal of Consciousness Studies*, 7(7), 4–11.
- Kang, H. (2003). *Taemong: Korean birth dreams*. Master's thesis, Graduate Theological Union, Berkeley, CA.
- Kaplan-Solms, K., & Solms, M. (2000). *Clinical studies in neuro-psychoanalysis: Introduction to a depth neuropsychology*. Madison, CT: International Universities Press.
- Kelsey, M. (1991). *God, dreams, and revelation: A Christian interpretation of dreams*. Minneapolis, MN: Augsburg.
- Knudson, R. (2001). Significant dreams: Bizarre or beautiful? *Dreaming*, 11(4), 167–178.
- Knudson, R., & Minier, S. (1999). The on-going significance of significant dreams: The case of the bodiless head. *Dreaming*, 9(4), 235–246.
- Krippner, S., Bogzaran, F., & de Carvalho, A. P. (2002). *Extraordinary dreams and how to work with them*. Albany: State University of New York Press.
- Kuiken, D., & Sikora, S. (1993). The impact of dreams on waking thoughts and feelings. In A. Moffitt, M. Kramer, & R. Hoffmann (Eds.), *The functions of dreaming* (pp. 419–476). Albany: State University of New York Press.
- Lama, The Dalai. (1997). *Sleeping, dreaming, and dying*. Boston: Wisdom.
- Lamoreaux, J. C. (2002). *The early Muslim tradition of dream interpretation*. Albany: State University of New York Press.
- Lanternari, V. (1975). Dreams as charismatic significant: Their bearing on the rise of new religious movements. In T. R. Williams (Ed.), *Psychological anthropology* (pp. 221–235). Paris: Mouton.
- Lewis-Williams, D. (2002). *The mind in the cave*. London: Thames and Hudson.
- Lohmann, Roger (Ed.). (2003). *Dream travelers: Sleep experiences and culture in the South Pacific*. New York: Palgrave Macmillan.
- Mageo, J. M. (Ed.). (2003). *Dreaming and the self: New perspectives on subjectivity, identity, and emotion*. Albany: State University of New York Press.
- Miller, P. C. (1994). *Dreams in late antiquity: Studies in the imagination of a culture*. Princeton, NJ: Princeton University Press.
- Moskowitz, E., & Berger, R. J. (1969). Rapid eye movements and dream imagery: Are they related? *Nature*, 224, 613–614.
- Nielsen, T. A. (1991). Reality dreams and their effects on spiritual belief: A revision of animism theory. In J. Gackenbach & A. A. Sheikh (Eds.), *Dream images: A call to mental arms* (pp. 233–264). Amityville, NY: Baywood.
- Nielsen, T. (2000). Cognition in REM and NREM sleep: A review and possible reconciliation of two models of sleep mentation. *Behavioral and Brain Sciences*, 23(6), 851–866.
- Nielsen, T., Zadra, A., Simard, V., Saucier, S., Stenstrom, P., Smith, C., et al. (2003). The typical dreams of Canadian university students. *Dreaming*, 13(4), 211–235.

- O'Flaherty, W. D. (1984). *Dreams, illusion, and other realities*. Chicago: University of Chicago Press.
- Ong, R. K. (1985). *The interpretation of dreams in ancient China*. Bochum, Germany: Studienverlag Brockmeyer.
- Pace-Schott, E., Solms, M., Blagrove, M., & Harnad, S. (Eds.). (2003). *Sleep and dreaming: Scientific advances and reconsiderations*. Cambridge, England: Cambridge University Press.
- Pagel, J. F. (2000). Dreaming is not a non-conscious electrophysiological state. *Behavioral and Brain Sciences*, 23(6), 984–988.
- Patton, K. (2004). Dream incubation: Theology and topography. *History of Religions*, 43(3), 194–223.
- Plato. (1961). Theaetetus. In E. Hamilton & H. Cairns (Eds.), *Plato: Collected dialogues*. Princeton, NJ: Princeton University Press.
- Radin, P. (1936). Ojibwa and Ottawa puberty dreams. In R. H. Lowie (Ed.), *Essays in anthropology presented to A. L. Kroeber* (pp. 233–264). Berkeley: University of California Press.
- Revonsuo, A. (2000). The reinterpretation of dreams: An evolutionary hypothesis of the function of dreaming. *Behavioral and Brain Sciences*, 23(6), 877–901.
- Rodis-Lewis, G. (1998). *Descartes: His life and thought* (J. M. Todd, Trans.). Ithaca, NY: Cornell University Press.
- Roffwarg, H., Dement, W., Muzio, J., & Fisher, C. (1962). Dream imagery: Relationship to rapid eye movements of sleep. *Archives of General Psychiatry*, 7, 235–238.
- Shafton, A. (1995). *Dream reader*. Albany: State University of New York Press.
- Shulman, D., & Stroumsa, D. (Eds.). (1999). *Dream cultures: Explorations in the comparative history of dreaming*. New York: Oxford University Press.
- Siegel, A., & Bulkeley, K. (1998). *Dreamcatching: Every parent's guide to exploring and understanding children's dreams and nightmares*. New York: Three Rivers Press.
- Solms, M. (1997). *The neuropsychology of dreams: A clinico-anatomical study*. Mahwah, NJ: Erlbaum.
- Solms, M. (2000). Dreaming and REM sleep are controlled by different brain mechanisms. *Behavioral and Brain Sciences*, 23(6), 843–850.
- Stephen, M. (1979). Dreams of change: The innovative role of altered states of consciousness in traditional Melanesian religion. *Oceania*, 50(1), 3–22.
- Szpakowska, K. (2003). *Behind closed eyes: Dreams and nightmares in ancient Egypt*. Swansea, England: Classical Press of Wales.
- Tedlock, B. (2005). *The woman in the shaman's body: Reclaiming the feminine in religion and medicine*. New York: Bantam Books.
- Tedlock, B. (Ed.). (1987). *Dreaming: Anthropological and psychological interpretations*. New York: Cambridge University Press.
- Toffelmeir, G., & Luomala, K. (1936). Dreams and dream interpretation of the Diegueno Indians of Southern California. *Psychoanalytic Quarterly*, 5, 195–225.
- Tonkinson, R. (1970). Aboriginal dream-spirit beliefs in a contact situation: Jigalong, Western Australia. In R. M. Berndt (Ed.), *Australian Aboriginal anthropology* (pp. 277–291). Sydney: University of Western Australia Press.
- Trafzer, C. E., & Beach, M. A. (1985). Smohalla, the Washani, and religion as a factor in Northwestern Indian history. *American Indian Quarterly*, 9(3), 309–324.

- Trompf, G. W. (1990). *Melanesian religion*. Cambridge, England: Cambridge University Press.
- Van de Castle, R. (1994). *Our dreaming mind*. New York: Ballantine Books.
- Wallace, A. F. C. (1958). Dreams and wishes of the soul: A type of psychoanalytic theory among the seventeenth century Iroquois. *American Anthropologist*, 60, 234-248.
- Wallace, A. F. C. (1969). *The death and rebirth of the Seneca*. New York: Vintage Books.
- Witkin, H. A., & Lewis, H. B. (1967). Presleep experiences and dreams. In H. A. Witkin & H. B. Lewis (Eds.), *Experimental studies of dreaming* (pp. 148-201). New York: Random House.
- Young, S. (1999). *Dreaming in the lotus: Buddhist dream narrative, imagery, and practice*. Boston: Wisdom.