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Sleep, Dreaming, and the Imagination: Psychosocial Adaptations to an Ever-Changing World

ROGER IVAR LOHMANN
SHAYNE A. P. DAHL

Combining psychological and anthropological work indicates that sleep, dreaming, and the imagination are involved in regulating mood and updating individual and collective knowledge. Psychologists often implicitly assume that all dreamers share their naturalistic model of dreaming while ethnographers often emphasize the spiritual explanations of dreaming inherent in the worldviews of their hosts. Applying cognitive and evolutionary theories of religion to the ethnography of dreaming and the imagination suggests that these capacities have adaptive value for learning, emotional adjustment, and the flow, revivification, and recalibration of knowledge traditions. A general anthropological approach to sleep, dreaming, and the imagination can surmount oversights that result from disciplinary and subfield foci and emphases.

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INTRODUCTION

Recent books on dreaming and its relation to waking consciousness suggest an adaptive role for sleep, dreaming, and the imagination in mood regulation, balancing tradition-enactment with cosmology reformulation in the face of change, and creative engagement with inner and outer worlds. Psychological work on sleep mentation typically presents a naturalistic and secular understanding of dreaming that reflects scientific knowledge of the evolutionary biology of sleep, without taking into account scientific knowledge of how dreamers’ own cultural dream theories influence the biological cause and effect of their dream life. In contrast, much ethnographic work on dreaming and the imagination stresses the social and religious significance of such experiences, but is insufficiently comparative and lacks biological sophistication and a diachronic perspective. Bringing multiple sources of theory, methods, and data together under the guise of general anthropology, we show that cognitive and evolutionary theories of religion may be applied to the ethnography of sleep, dreaming, and the imagination; revealing the adaptive functions of these capacities not only in personal learning and psychosocial adjustment, but also in facilitating the flow, revivification, and recalibration of culture, within and across generations. The appearance of more and more scholarship on dreaming in multiple disciplines, much of it in isolation, provides an opportunity for anthropology to advance dream studies by integrating them with work inclusive of the four subfields of anthropology, fulfilling in the holistic promise of general anthropology.

To show how psychological and ethnographic dream research can be enriched by inclusion and contextualization within general anthropology, we review one psychological book and three ethnographies. Individually, these works are valuable contributions to their respective fields, but together they hint at new ways in which the psychology of sleep and the anthropology of dreaming can synthesize their insights and achieve new theories of the evolutionary origins and functions of sleep and dreaming in the hominin line, cross-culturally and within cultures. We have the opportunity to trace how humans adapt through dreaming, fantasy, and the projection of imaginary objects and subjects onto environments in perception.

The four books that are our starting point for this discussion are psychologist Rosalind Cartwright’s (2010) *The Twenty-Four Hour Mind: The Role of Dreaming in Our Emotional Lives*, and three ethnographies by sociocultural anthropologists: Andrew Lattas’s (2010) *Dreams, Madness, and Fairy Tales in*

THE TWENTY-FOUR HOUR MIND: THE ROLE OF DREAMING IN OUR EMOTIONAL LIVES

Six decades of sleep research has led Cartwright (2010) to formulate a theory about the nature and function of sleep and dreaming that is worthy of praise and consideration within psychology, anthropology, and other disciplines concerned with the brain. Cartwright strives to convince her readers that the sleeping mind is just as much an organic information processor as the waking mind. There is no “off” switch, she argues; the mind is a 24-hour workshop. Her thesis is that sleep and dreams have two integrative functions: to internalize and organize new information through emotionally associative learning, and to regulate moods.

She argues that non-rapid eye movement (NREM) sleep, which includes sleep stages one through four and mediates little dream activity, and rapid eye movement (REM) sleep, which is associated more with dreaming, are the means by which the brain-mind synthesizes newly acquired information with existing psycho-neurological structures correlated with past memories. This process is a form of emotional-associative learning or information processing whereby “affective” daily experiences, those that evoke aberrant emotional responses that are “yet inassimilable to socio-linguistic fixing” (Dave 2012:10), become associated with memories of past experiences that evoked similar affective reactions (see also Massumi 2002). REM dreams are imagistic experiences of newly acquired information linking to old schemas—the mental associations that we attribute to phenomena through experience. Schemas can be understood as the cognitive foundation for language and other knowledge through which we associate meanings with words and new experiences with prior knowledge. Updating schemas through affective, emotionally associative information processing that takes place in NREM and REM sleep enables humans to problem-solve, consolidate memory, and adapt more effectively to their ecological and social environment.

Since one’s self-concept, like all knowledge, is a network of schemas, it is also made adaptable through sleep experience. Experiences that evoke negative affect, for instance, often occur when one’s schemas are not adequately prepared to respond to unexpected and unfavorable experiences. Humor and excitement may result from unexpected but positive and favorable schema shocking. NREM and REM sleep stages are therapeutic insofar as they work to normalize the phenomenal content of negative experiences.
by integrating them into existing schematic networks. NREM and REM sleep thereby dilute the impact of the negative experience, which relieves stress, regulates mood, and adjusts one’s self-concept to the ever-changing environment.

To show how dreams regulate mood, Cartwright (2010:50–72) collected dream narratives from American divorcees who experienced depression during and months after their divorces. She demonstrated that the dreams of those who eventually recovered reflected the theme of progressive resilience from the trauma of divorce. Over time, the presence and role of former spouses in their dreams—known to Cartwright by proxy, in collected dream narratives—became less and less focal and emotionally fraught. The role of the former spouse in dreams, argues Cartwright, is reflective of their recovery from depression and reinvigorated willingness to move on.

NREM mentation is almost never recalled by research subjects so it has been difficult for psychologists to theorize about the function of NREM sleep; however, NREM parasomnias such as sleepwalking, sleep eating, night terrors, and sleep sex, have given thinkers like Cartwright enough data to postulate a theory. She argues (2010:157–178) that the unconscious behaviors of NREM parasomniacs, aside from enacting instinctual drives, can be interpreted as the mind’s attempt to fortify its self-concept. To support this suggestion, Cartwright (2010:73–96) draws on case studies in which highly stressed and sleep-deprived individuals got out of bed shortly after falling asleep and performed a task while sleepwalking that they left incomplete before falling asleep. By completing the task, argues Cartwright, sleepwalkers are unconsciously striving to mend their self-concept, which has been damaged by stress. In a rare instance of sleep murder that she describes in detail, a male sleepwalker rose from bed to perform a task. When his wife interrupted him and encouraged him to return to bed, the sleepwalker killed her, completed the task, and went back to bed only to be awakened by the police. Cartwright, who was involved in the case as expert witness, judged the man to have indeed been asleep during the incident and to have miscomprehended his wife’s interruption as a threat to his fulfilling his duty to family, which was strained in his waking consciousness because of stresses in his work life. Despite her testimony, the man was convicted of murder.

Cartwright’s theory of sleep and dreams as information processing via schema updating, self-concept adjustment, and affective healing through mood regulation is logical and well supported by evidence. Her scope, however, is limited to only one society, and does not take cultural context into account which, to be frank, is a typical shortcoming of most psychological studies. Cross-culturally, past and present, people have often regarded dreaming as useful to adjustment to new challenges, but the processes and techniques vary depending on the cultural theory of dreaming that guides dreamers’ thinking. This variation has been widely explored in anthropology. For example, Anthony Wallace (1956:270) compared societies undergoing...
acculturation and found that in periods of stress when old ways of living have lost their satisfaction, dreams taken to be supernatural revelations present prophets with new models for social, as well as individual transformation and revitalization. Dream images take on the power to inspire personal or social action and reform only in cultures where people have learned to take dreams seriously as presenting factual information from a transcendent source, in one of several possible ways (Lohmann 2010a). For example, Michele Stephen’s (1995) rich ethnography of the connection among dreaming, magic, and the self among the Mekeo of Papua New Guinea shows how cultural belief systems direct and interpret biological propensities of autonomic dream imagery to the service of adaptation and social adjustment in radically variable ways, including love magic and sorcery-enforced social order. These are somewhat different means of assisting emotional adaptation than Cartwright has in mind, but are complementary to her model.

To claim universality, Cartwright’s theory should be formulated with cognizance of how cultural contingency influences dreaming and its uses, and should be backed up with evidence from multiple cultural contexts. Anthropologists, for instance, have observed the role of dreaming in their own personal enculturation into the cultures they research as well as the role of dreaming in the adoption of foreign cultural imports (Lohmann 2000; Tedlock 2007; Tuzin 1989). These accounts support her model insofar as they document that by updating schemas, dreams can adjust one’s self-concept by providing experiences linking older components of schemas (which are, after all, culture) with new ones through recognizing their common affective tenors and resonances (regarding self image in particular, see Hollan 2003). Whether these be changes within one’s culture or movement of the individual from one cultural context to another, dreaming has been documented to improve and update one’s adaptation to present ecological and cultural conditions.

Recognition of the role of dreaming in personal adaptation to challenges is not new in psychology either. For example, Jung (1960[1945]) classically explored the adaptive role of dreaming in coming to accept and incorporate disparate aspects of oneself into one’s overall self-image, and Barrett (2001) has done significant work on the problem-solving functions of dreaming. In noting functional characteristics of dreaming and the imagination, one must also acknowledge dysfunctional and harmful products of these creative capacities, as the case of sleep killing considered by Cartwright illustrates.

As part of a growing tradition of neurocognitive research on dreaming, which is in effect the biological anthropology of dreaming (for a review, see Gottesmann 2007), Cartwright’s book is a welcome contribution for its quality and scope of research, informed and practicable theoretical frameworks, engaging readability, and its unwavering consideration of facts relevant to
her thesis. She has made an indisputable argument that even when sleeping, the mind is actively working, just as the other organs are, to promote nightly adaptation to inevitable fluctuations in the environment and social networks. Sleeping minds productively incorporate newer with older knowledge, organized around a self-model. The implications of Cartwright’s theory for the anthropology of sleep and dreaming are formidable. Anthropologists can now argue with her support that schemas, which constitute ontology and motivate practice, are responsive to material and social environmental conditions not only in waking life, but also while sleeping. Realizing that sleep is a psycho-neurological process that humans naturally undergo in order to cope with trauma and stress, solve eminent problems, and develop skills, all of which assist in adapting to dynamic socio-material environments, anthropologists should be encouraged to study dreams and dreaming from a holistic, general anthropological perspective, particularly in societies encountering social and material strife or change.

DREAMS, MADNESS, AND FAIRY TALES IN NEW BRITAIN

Drawing upon longitudinal ethnographic fieldwork among the bush Kaliai in New Britain, Papua New Guinea, Lattas (2010) has observed that waking visions, dreams, expressions of madness, and fairy tale narratives have appropriated and helped people engage with, critique, and adapt to aspects of capitalist “modernity” locally associated with white racial characteristics. With a wealth of striking examples, Lattas shows how the imagination has served as a discursive platform from which the bush Kaliai, are able to negotiate with and empower themselves in response to the sociocultural influences of “Whiteskins.”

The despotic character of Western colonialism and the complexity of the technologies its representatives have introduced led the bush Kaliai to believe that Whiteskins are malicious and endowed with a supernatural potency that is indistinguishable from sorcery. To combat and yet imbibe modernity’s supernatural potency, the bush Kaliai appropriate icons of modernity. For instance, some have used mobile phones in order to contact the dead and “hidden whites” supposedly living in the underworld (2010:124–135) while others have directed flashlight beams at unsuspecting individuals in an attempt to imprison their souls in batteries (2010:33). Shamans have been reported to embark on international airline flights in dreams to rendezvous with whites and supernatural beings in other countries, which the bush Kaliai understand to be supernatural worlds (2010:39, 57–69).

Lattas concludes that creating newly imagined worlds that include modernity gives cultural groups in New Britain a reflective distance from the influence and ever-encroaching presence of modernity. This reflective distance or alterity is embodied in the imagination and expressed through
the tacit discourse of dream experiences and narratives, madness, and fairy tales, in which individuals can reject, accept, and appropriate forms of modernity in ways that are both congruent with and transformative of their traditional epistemology, allowing people to adapt to change. Underlying these newly imagined worlds, argues Lattas (2010:291), are visions of utopia and dystopia in the form of “images of captivity and escape, concealment and disclosure, dirt and cleanliness, black and white, humans and monsters” that reflect hopes and mitigate their fears about modernity.

This book is a welcome addition to the anthropology of dreaming and the imagination for a number of reasons. Perhaps the most impressive aspect of this study is Lattas’s depth and breadth of knowledge about the imagined worlds of the bush Kaliai. The sheer quantity of data and the quality and richness of their description, discussion, and analysis deserve high praise. Lengthy quotes are translated from the English-based Melanesian creole Tok Pisin in a way that retains the allusive flavor of the language. While Melanesianists will find themselves transported to New Britain in their own imaginations, un-translated Tok Pisin idioms in phrases like, “It is the dirt belonging to me that will work everything with the ground,” in which “dirt belonging to me” means “the dirt on my skin” and “work everything with the ground” means “participates with the rest of the earth in causing things to happen,” will at times baffle other readers (2010:xxxvii). Lattas demonstrates quite explicitly how human beings adapt to ever-changing circumstances through the various modes of the imagination.

The vagueness of the category modernity needlessly introduces a sense of diffuseness to Lattas’s otherwise precise description. By stating that contemporary bush Kaliai appropriate aspects modernity, Lattas can be misunderstood to imply that they are not modern or that they are pre-modern when, in fact, they exist in the present and are, by definition, just-as-modern as anyone living in a present time. What is being discussed here is adoption and recontextualization of originally foreign cultural information, not the contemporary time period.

Lattas tends to interpret dream narratives, accounts of madness, and themes of fairy tales as reflecting either liberating utopias of consolidation or harrowing dystopias of discordance with bush Kaliai ideas about Europeans. Lattas’s model resembles Freud’s (1990[1915]) notion of the pleasure principle—that humans are subconsciously predisposed to pursue pleasure and avoid pain—insofar as it supposes the bush Kaliai to generate narratives that reflect their desires and fears. Although desire and fear factor into many narratives weaved by the imagination, more attention to a broader spectrum of emotions and concepts through the various modes of the imagination—from perspectives such as appropriation, syncretism, enculturation, and adaptation—would be welcome. This would highlight the theoretical value of this work in a way that speaks to how humans associate new information with prior knowledge through dreams, the imagination, and tales in order to adapt to radical changes in their socio-economic environment in ways that update tradition.
Islam has rich traditions of dreaming and dream interpretation that harken back to the foundational dream (or dream-like) revelations of its founder, Muhammad (for a recent overview, see Edgar 2011). Its current manifestation in Egypt is the primary subject of this thorough ethnographic study (Mittermaier 2010). This work is a detailed and philosophically engaging account of contemporary Islamic and Sufi dream beliefs and practices in modern-day Egypt. Mittermaier focuses on ruya or dream-visions—a term meant to encapsulate both waking and dreaming experiences regarded as spiritually significant—of Sufi visionaries, known as shaykhs. She explores how Egyptians re-imagine the al-khayāl—that is, a sanctified imagination that links spiritual realities with material existence—through poetry, dream-visions, the virtual realities of cyberspace and popular television, and Freudian theory. Reminiscent of Lattas, Mittermaier argues that through such media of discourse, the al-khayāl is continually re-imagined to accommodate certain aspects of “modernity,” while rejecting others, implying an adaptive process of emotional adjustment, fulfillment, and cultural updating. Mittermaier emphasizes the struggle between competing factions, each with their own view on what imagined experiences mean and which directions they should lead Egyptian society to take (for another Islamic example, cf. Louw 2010).

A central theme of Mittermaier’s book is that dream-visions are politicized; above all, by virtue of the sanctity they are ascribed. Dream-visions are so sacred that narrating them can diminish one’s capacity to receive them in the future. As such, it was a challenge for Mittermaier to record any of the dream-visions experienced by many of her informants. The dream-vision narratives she was able to document include personal encounters with the prophet Muhammad, mother Mary, Jesus, other mythical and religious figures, and spirits of the deceased. To receive dream-visions is, for some of her informants, to receive direct communication from those figures through al-khayāl. They affect the decision-making processes and behaviors of those who receive them to such a degree that dreams can heavily influence politics. This claim is verified in other works as well. For example, Edgar (2004, 2006) has shown that some terrorist plots of Islamic extremist organizations, Al-Qaeda and the Taliban, were inspired by dreams that involved the Prophet Muhammad.

Dreams are also politicized for their increasingly ambivalent role in the throes of the cultural condition Mittermaier labels “modernity.” Despite the resounding interest that Sufis have in dreams, dreams are contested in modern Islamic society. A popular television talk show exemplified this contestation. It featured a central shaykh dream interpreter with Egyptian psychologists as guests receiving calls from viewers who shared their dreams to
receive both traditional and psychoanalytic interpretations. This program was censored and eventually discontinued by the Ministry of Religious Affairs, which deemed dream interpretation to be un-Islamic. Mittermaier sees this incident as evidence of how modernity modifies and politicizes tradition.

Mittermaier employs a postmodern approach that helps her to be sensitive to her interlocutors’ perspectives about the divinity of dream-vision experiences and their respect for it. This approach is appropriate insofar as she does not presume to know more than her informants about their religious experiences; however, it becomes problematic when she averts discussing the ethics of how human cultural, cognitive, and perceptive processes could apply to emic models of dream-visions. When a Shaykh, for instance, claims to see thousands of angels around himself and Mittermaier (2010:86–87) while fasting during Ramadan, she denounces the possibility that he could be hallucinating or that he could be lying to impress her because it would mean ascribing greater authority to her worldview than to his. Mittermaier’s work deserves praise for being consistently critical in her analysis of the politics of dreaming, the effects of “modernity” on discourses about the imagination, and the limitations of her own perspective and analysis, but she is surprisingly uncritical of her interlocutor’s claim to see angels. She writes, the easy way out of such a dilemma is to interpret all waking visions as apparitions and hallucinations, inventions, projections of wishes, or at best as optical or technologically produced illusions. Such a move means ascribing absolute authority to one’s own observing gaze and, more generally, it means assuming that the anthropologist knows more than her informants. More rewarding in my opinion is to bracket readily available explanations, recognize the historical specificity of different modes of seeing, give close ethnographic consideration to other imaginations, and examine critically our own blind spots. [Mittermaier 2010:86–87]

Mittermaier (2010:87–93) justifies this position—which amounts to a double-standard where anthropologists but not their subjects warrant the benefit of critique—by providing a summary of how the senses have been thought about in Arabic philosophy, particularly “spiritual modes of sight” whereby one’s basîra or inner vision (cultivated through devote practice) floods one’s basar or optical vision, resulting in spiritual phenomena. This section is enlightening, but leaves out anthropological insights of how cultural, cognitive, and perceptual processes generate such experiences. As Laughlin (2011a:90–93) argues, the anthropology of dreaming is held back insofar as we refuse to connect ethnographic particulars to the scientific goal of ascertaining causes. Had Mittermaier approached these questions, while retaining a constructively critical engagement with academic theories related to these matters, she would have been able to synthesize insights from the four subfields of anthropology and other disciplines to formulate a general
anthropological explanation for dreaming and waking visions that would advance our understanding of the relationship between imagination and religious ontology.

Winkelman (2010:13) has put forth a model referred to as the “integrative mode of consciousness” that may help explain what the basīra (inner vision) is and how it can penetrate the basar (optical vision). He asserts with an impressive array of evidence that human beings—shamans in the case of his argument—are capable of synchronizing certain functions of the paleo-mammalian brain, which houses the limbic or emotional system, and the neo-mammalian brain, which houses our capacity for symbolic mentation, culture, language, and abstract thought. When the paleo-mammalian brain and the neo-mammalian brain are synchronized, he argues, humans can enter various forms of trance states. One may perceive imaginary agents that are not physically present, become fully immersed in hallucinations of imagined worlds populated by imaginary agents, or perceive that an imaginary agent is taking possession of one’s body. Such trance states are induced by ritual drivers such as music, dance, drug use, inflicted pain, or fasting. Given that the shaykh who claimed to have seen the thousands of angels was fasting during Ramadan at the time, it would stand to reason that perhaps he did see what he said he saw. Mittermaier’s approach prevents her from extending her reach beyond emic theories about basīra to explore scientific theories for how such visions are made possible by the brain, which would give her case added comparative, cross-cultural value.

“Instead of reducing experiences of invisible, imaginary realms to internal psychological processes and projections,” Mittermaier (2010:238) writes, “I have argued that we should take seriously other understandings of the imagination, which might entail not only other ways of dreaming, but also other ways of being in the world and of relating to others.” Anthropologists have long recognized that emic perspectives must first be empathetically experienced and understood uncritically to make the intricacies of a culture comprehensible to outsiders and to provide data from which general explanations applicable to humankind at large can be derived. Taking seriously alternative understandings of the imagination is a first step in this process, but Mittermaier’s analysis seems incomplete, leaving the next step of evaluation, comparison, and tentative explanation undone.

As a humanistic ethnography of dreaming in contemporary Egypt, however, this work is insightful. It is well written, reflexive, and brings together the history and philosophy of dreaming and the imagination in Islam. Mittermaier is thoughtful and perceptive in her treatment of how aspects of traditional dream beliefs have been amplified in discourses through popular media and cyberspace. Furthermore, this work provides a glimpse into the contested imaginations in current Islam and how dreams affect the socio-political arena in ways that reverberate onto the world stage.
A WORLD OF RELATIONSHIPS: ITINERARIES, DREAMS, AND EVENTS IN THE AUSTRALIAN WESTERN DESERT

In this fine book, Poirier (2005) articulates the ethno-ontologies and histories surrounding the dream beliefs and practices of the Kukatja and other Aboriginal groups in Australia’s Western Desert. Poirier provides readers with philosophically stimulating discussions of the Aboriginal sense of self as a permeable node in a nexus of relationships with human, non-human, and ancestral agents by drawing upon the notion of the “dividual” (Marriott 1976:111; Strathern 1988), a perspective that defines the self not by its independence, but in terms of its interpenetrating relations with others, including non-human and ancestral agents, as well as the “sentient” land and cosmos.

The Kukatja refer to their dream self or body as *kurrunpa*, which translates as either spirit or dream body. The *kurrunpa* is associated with life-force, thought, volition, and the abdomen, regarded as the seat of emotions. The *kurrunpa* departs from the abdomen into dreams, which are thought to occur in the *Tjukurrpa*, often referred to in English as the “Dream Time.” *Tjukurrpa* is a multifarious term that simultaneously refers to ancestral law or moral code but can also be described as a supernatural reality that fuses the past, present, and future into a timeless dimension wherein the *kurrunpa* can interact with its “sociocosmic” relations and navigate culturally significant routes of the sentient land. The *kurrunpa* acquires information through dreaming via an “open” and therefore receptive abdomen. People who have an open abdomen are prone to receive knowledge about future events and, if they are able cultivate their openness, gain more volitional control over the actions of their *kurrunpa*, enabling them to diagnose illnesses, enter other people’s dreams, and take another person’s knowledge.

These abilities indicate that the groups Poirier studied have cultivated the ability to exercise volition in dreams, which strongly parallels lucid dreaming: when dreamers become aware that they are dreaming and are then able to control the actions of their dream ego (LaBerge 2007). Poirier does not acknowledge the parallels between volitional Aboriginal dreaming practices and lucid dreaming, however. Doing so would provide a number of valuable insights for the anthropological study of dreaming. While psychologists and popular Western writers (e.g. LaBerge and Rheingold 1990; Waggoner 2009) often assume that everyone uses lucid dreams for personal fantasy rather than perceptions of external reality, ethnographic data such as Poirier’s shows this view to be ethnocentric (Lohmann and Dahl, in press). Comparing Western volitional dreaming with that of Western Desert Aborigines would show how dream selves and states are constructed by cultural theories of the dream and dream self; an argument that would be of great theoretical value for the anthropology of dreaming (see Glaskin 2011:55).
Poirier’s book, like many ethnographies, focuses almost entirely on the people she studied rather than drawing connections to places and times outside of the ethnographic context of the Aboriginal Australia. By comparing her findings to other ethnographies that focus on how dreaming factors into the construction of identity, ontology, and cosmology (e.g., Gray 1997; Irwin 1994), Poirier would have been in a position to identify cross-cultural patterns of how dreaming affects the ways in which humans model reality and identity, which would highlight adaptive functions of dreaming and the imagination that draw on, but transcend particular cultures.

Despite the lack of comparative analysis, Poirier has managed to translate the Aboriginal identity constructs, ontologies, cosmologies, and models of historical continuity that are implicit in their “way of being-in-the-world” (2005:54) into a comprehensive metaphysical framework that balances academic precision with accessible readability. She clarifies that dreaming is the nucleus of the dividual self because it constantly revivifies the network of sociocosmic relations that the Kukatja have with constituents of their symbolic universe that they regard as sentient. Poirier’s explanation of such multidimensional concepts as Tjukurrpa and kurrunpa and her clear description of how Aborigines put these concepts into phenomenological practice through volitional dreaming invites readers to perceive the world through an alternative lens. She has managed to effectively communicate the intricacies and inner logic of a worldview that positions human beings in an interdependent web of relationships not only with the inhabitants of their environment and the land but also with the ancestors of the mythologized past who transmit knowledge through dreams.

By exploring the connection between dreaming and mythological dynamics, Poirier echoes Lattas’s concern with “fairy tales” that mix traditional and newly introduced elements. This is especially evident when she presents the “creative appropriation” of the the cowboy figure in local ontology, which became prominent in dreams and myths of Aborigines of the Balgo region shortly after Euro-Australian contact (2005:24). Poirier’s discussions of myth as imaginative media also have alignments with Mittermaier’s (2010:206) consideration of virtual reality technologies used to preserve, augment, and make dream-visions more widely available. Collectively, these are means of cultural updating and psychosocial adaptation to the flow of material and social realities.

Poirier (2005:242–255) concludes by applying her findings to explain why Australian governments have failed to effectively negotiate Aboriginal land claims, namely because the concept of land ownership is perhaps as hard for traditional Aboriginal Australians to understand as the notion of sentient land is for non-Aboriginal Australians. This section provides a tantalizing glimpse into the relevance of imagined worlds for applied anthropology by explaining how the discordance between non-Aboriginal and Aboriginal land claims and other socio-economic issues is rooted in deep differences in cultural paradigms.
The discord between cultures in contact is a theme in all of the books highlighted in this essay. We saw sleep psychology contesting American law in Cartwright (2010); native groups in New Britain coming to terms with European culture by asserting dominance over it in their dreams, fairy tales, and expressions of madness in Lattas (2010); politicized debate about the presence of Freudian, Sufi, and reformist Islamic dream interpretation on Egyptian television in Mittermaier (2010); and Aboriginal and European cultures in Australia discussed in Poirier’s (2005) conclusion. Conflicts between contemporary cultures are analogous to the discord between former and current cultural ideals in individuals. Sleep, dreaming, and the imagination engage and endeavor to resolve the contradictions that arise as human beings travel through time and space in our motley groups.

SYNTHETIC DISCUSSION

As Mageo (2011) argues in her recent book on dreaming among Americans, even where dreams are regarded as a private experience—which is far from universal—dreaming provides a venue in which people review, virtually enact, query, and alter as needed their schemas of self, relationships, and identity. Such schemas are embedded in cultural ontology, which is often laden with supernaturalistic assumptions about the make-up of the world. Psychologists often overlook this fact. Seeking points of commonality among the the three ethnographic books featured in this essay, we consider sleep, dreaming, and the imagination as both prone to supernaturalistic interpretation and adaptive. While religion is not a theme of Cartwright’s psychological book, with its focus on secular contexts among Euro-Americans, it too concerns psycho-emotional adaptation through individuals’ implicit comprehension of and adjustment to ever-changing realities through the life course, which is one of the primary uses of religion. This adjustment is simultaneously individual and social, biological and cultural. Taken together, these four books point to the inescapable conclusion that such adaptive processes are deeply implicated in volitional and autonomic modes of sleep, dreaming, and the imagination. In the sections to follow, we consider how sleep, dreams, and the imagination figure into anthropological theories of religion while correlating our points to the texts on review.

Dreaming and Religious Adaptation

One could imagine that the otherworldly and often volatile worlds encountered in dreams were quite confusing for early humans. Before the advent of language, our ancestors would have lacked the ability to share memories of dream experiences in narratives, or to establish communicable categories and theories of dreaming and its relationship to waking life, which are so central to how Homo sapiens engage with dreaming cross-culturally. After the
development of language beginning approximately 150,000 years ago (Tomasello 2008:256), the long privacy of dream experiences, which until that time human ancestors shared with our fellow mammals, ended. With the light of language-borne culture thrown upon dreams for the first time, discussion and group interpretation of dreams became possible. Interpretation of and discourse about dreams led to cultural theories about what dreams are and what they mean, and would have opened up access to a powerful engine of creativity that has enriched culture’s reticulating evolution ever since.

Lacking a time machine, we cannot directly observe how early humans theorized about or acted upon their dreams beyond recognizing that they must have done so. However, it is possible to observe and formulate general typologies for current cross-cultural trends in dream theories, which are descendants or successors of the first personal theories to go public and undergo enrichment in the context of interpersonal communicative engagement through hundreds of thousands of years.

In a comparative analysis of ethnographic accounts of dreaming, Lohmann (2007:41–44) identifies six types of cultural dream theories from the ethnographic record:

1. Nonsense theory: Dreams are products of the imagination that are not inherently significant.
2. Discernment theory: Dreaming is a heightened perception of reality.
3. Message theory: Dreams are symbolically encoded communiqués.
4. Generative theory: Dreaming affects and contributes to ways in which reality unfolds.
5. Soul travel theory: Dreams are what one’s soul experiences as it wanders.
6. Visitation theory: Dreaming images are presented by another being.

Different theories may be applied to interpret different dream scenarios, and more than one theory may be applied to explain a single dream. Within cultural dream theories are subsidiary theories about who dream characters are and what the phenomenal dream ego is. Dream egos and alters may be understood in several different ways. They may be considered illusory mental constructs, as they are, for instance, described in the Brhadaranyaka Upanisad, a philosophical book of Hinduism (Roebuck 2004:106). Others consider them to be the ethereal counterpart or soul of physical bodies, as among the Dene Tha of northern Alberta (Goulet 1998:xxvii). Personal souls may be single or multiple, as Lohmann (2003b:190) documents among the Asabano of Papua New Guinea.

Tylor (1929[1913], vol. 1: 450, vol. 2: 1–17) famously argued that animism, the belief in spiritual beings, is the defining feature of religion, and that animism had is origin in the attempt to explain dream experience. According to Tylor, early humans must have reasoned that the dream ego is an alternative self; one that, although bound to the physical body upon awakening, is capable of departing the body during sleep. Tylor recognized that ways of thinking
and acting that had their origins in earlier periods of cultural evolution often continue as “survivals.” What he did not sufficiently recognize, however, is that seeing dreams as evidence for and a means of communicating with supernatural beings is recurrently a common-sense attitude in societies that he would consider civilized. Thus Bulkeley (2008) provides convincing evidence that dreams have played and continue to play an influential role in religious traditions throughout the world, regardless of the level of societal or cultural complexity. State-level societies in the contemporary world, for instance, host a range of religious beliefs about dreams. As Mittermaier (2010) has shown, many Muslim groups have continued to value the spiritual significance of dreams since the Prophet Muhammad first received divine revelation through dreaming (see Hermansen 2001). Likewise, popular New Age groups such as Eckankar (Twitchell 2010) and the Active Dreaming community led by Robert Moss (2010) believe that the dream self is one’s soul and that dream reality is or at least has the potential to be transpersonal. In Iceland, Heijnen (2005) has documented stable and widespread beliefs in ancestral visitation and revelation of hidden folk on the margins of settlements in dreams. The tie between dreaming and religion established by Tylor has been borne out in subsequent studies that find a recurrent link between the two phenomena (D’Andrade 1961; Jedrej and Shaw 1992; Lincoln 1935; Lohmann 2003a; Tedlock 1987).

More recent theories on the causes of religion have focused on evolved cognitive tendencies that can be demonstrated to recur in contemporary populations. Theorists in this field argue that certain psychological mechanisms foundational to religious thought appeared and were selected for in the genetic evolution of the human line. One of these is the agency detection device, a cognitive function that enables humans to detect agents in our environment: human or non-human, threatening or benign. Guthrie (1996:417–418) argues that since agents are more likely to be predatory threats than non-agents, mistaking a non-agent for an agent comes with little cost, but mistaking an agent for a non-agent can come with a great cost. Therefore, a tendency to anthropomorphize would have been selected for. Barrett (2004) asserts that since the agency detection device in humans is tends to produce false positives by projecting agency onto agentless environments, it is better described as the hypersensitive agency detection device. Echoing Guthrie, Barrett, and Johnson (2003:215) write that “risking false positives could have provided human ancestors with a selective advantage, detecting partially hidden, camouflaged, or disguised agents in the environment and only occasionally misidentifying wind-blown tree-branches as agents.” We can see the hypersensitive agency detection device at work every time we hear a mysterious sound or see a rustle in the grass and assume it to be agentive. Such experiences also provide the semblance of evidence for supernatural beings.

Another adaptive psychological mechanism to consider is theory of mind. Theory of mind enables humans to make inferences about the mental states of other agents. It allows individuals to adjust their conduct, if need be,
to accommodate the psycho-emotional states of others in their social group (Whitehouse 2007:220). Theory of mind is an essential asset to group cooperation, which is a defining feature of human behavior in our evolutionary past and present (Boyer 2000:203). Archaeological evidence for a burst of innovation in the Middle Stone Age has been interpreted as evidence for “expansion of the higher association areas of the temporal and parietal cortices underlying higher theory of mind, perspective taking, and attentional flexibility” (Henshilwood and Dubreuil 2011:361). Theory of mind is a biological propensity that can be developed in a variety of cultural directions, is a component of empathy, and a necessary condition of human sociality in general. When projected to imagined agents, theory of mind produces supernaturalism and hence religion (Lohmann 2011).

The events and characters encountered in dreams and waking visions are generated without executive control of the envisioner by what Stephen (1989) calls the autonomous imagination. For this reason, they are usually not recognizable as our own creations, leading humans to often detect in dreams as well as waking life the agency and mental states of others that do not, by any scientific measure, exist independently of our own imaginations (Lohmann 2010b:229). For this reason, dreaming presents experiential evidence for supernatural beings.

Agency detection and theory of mind are not unique to humans, and must have evolved before our current species-state. Goodall (1971:52–54) has documented chimpanzees engaging in predictable, ritualistic behavior referred to as the “rain dance” following the initial thunder claps of a thunderstorm. This behavior indicates that chimpanzees have some conceptual framework for the thunderstorm, but it remains unclear whether they regard it as some kind of agent. Gallup (1982) observed that aside from humans, chimpanzees are among the few species capable of recognizing themselves in a mirror. This indicates that chimps are capable of detecting self-agency and non-self agencies such as those within their social group. It is plausible that the “rain dance” may be a non-linguistic, shared expression of agency projection, in which chimps perceive the thunder and the rain that follows to be the volitional actions of a potent non-chimp agent. Of course, a mirror image is like images produced by the imagination in that it is a model based on, but distorting of, reality. Moreover, “recognizing oneself” in a mirror differs cross-culturally and is a problematic proxy for self- and other-awareness and agency detection (see Broesh et al. 2011).

Projecting theory of mind onto non-agentive hypersensitive agency detection stimuli classifies as supernaturalism, “a ubiquitous mental model that depicts one or more sentient, volitional agencies that are independent of a biological substrate and understood to be the ultimate cause of elements of physical reality” (Lohmann 2003c:175). Supernatural beliefs such as those that inspire people to see coincidences, serendipitous events, tragedies, disasters, etc. as purposive incidents that are planned, enacted, or influenced by volitional powers, are culturally transmitted.
In short, the hypersensitive agency detection device that gave humans a survival advantage has also shaped the way we cognize our environment. It has made us prone to project agency onto non-agentive phenomena. Theory of mind facilitates social cooperation, but it has also made us prone to attribute mind and a potential for empathetic engagement even with things that do not, by any scientific measure, have such a potential. Supernaturalism is the attribution of mind to imagined agents that have, through group consensus, become agreed-upon presences in the real world.

Cognitive theories of religion and the anthropology of dreaming are complementary in explaining how humans construct and modify models of reality and self in a fluxing world. Cognitive theories discern that humans have become prone to supernaturalism through certain adaptive mechanisms of our evolved psychology; however, such theories are incomplete without making the critical link between enculturated beliefs and their reinforcement through dream experiences. Certainly, projecting theory of mind onto aspects of the natural world and assuming natural events have volitional causes can generate cultural theories of supernatural agency without recourse to dreams, as Evans-Pritchard’s (1976) account of witchcraft and oracle beliefs among the Azande exemplifies. However, without the direct and sometimes unambiguous experience of spirits made possible by dreaming, such theories remain abstract speculations about underlying but invisible causes. Projecting theory of mind onto dream figures who act autonomously from the consciousness perspective of the dreamer, however, serves as convincing evidence for the existence of spirits. The belief that dream figures are sentient agents is, in fact, a core tenet of supernatural beliefs in societies throughout the world and human history (Bulkeley 2008).

While we are dreaming, unless a degree of lucidity through the anomalous engagement of the prefrontal cortex while in REM sleep (Laughlin 2011a:141) enables us to retain waking sensibilities, we simply accept what we are witnessing as real. While dreaming we are certain of their truth. Only upon waking can the truth of dreams come into question. As an elder at Duanmin, Papua New Guinea, told Lohmann, “I dream and see my [deceased] brothers and cousins, I walk with them and go around. While I’m dreaming, I think they are still alive, but then I wake up again. My body sleeps, yet my body goes with them. When I’m asleep it’s just like you and I are now, like they are really here. I don’t know where it goes” (Lohmann 2010a:246). This empirical characteristic of dreaming is responsible for its intimate link to supernaturalism. Human dreaming and religion cannot be fully understood in isolation from one another.

Sleep, Dreaming, and the Imagination as Adaptive Mechanisms

The ethnographic data presented by Lattas (2010), Mittermaier (2010), and Poirier (2005) are consistent with the thesis that a hypersensitive agency...
detection device causes the imagination to project agents where none have been scientifically demonstrated to exist, and that the theory of mind that people ascribe to such imagined agents are foundational cognitive systems that generate supernaturalism. The bush Kaliai and Western Desert Aborigines understand their environments to be crowded by supernatural agents while Egyptians understand supernatural agents to exist in a hierarchy with the grand causal agent or Godhead overseeing a prophet and angels, who can be seen in visions. These ethnographies also illustrate an indispensable role of dreaming in making waking visions and indeed culturally posited supernatural beings more convincing by providing personal, extended, and interactive experiences with them (Lohmann 2000).

Whether supernatural agents are imagined representations of historical figures such as the Prophet Muhammad (Mittermaier 2010:169), atemporal co-creators of the world such as the ancestors of the Australian Aboriginal Tjukurrpa (Poirier 2005:60), or residing underground such as the hidden whites of the Kaliai bush (Lattas 2010:124–135), they all appear as autonomous, sentient, and empirically real in dreams. The cultural dream theories applied to interpret dream experiences, and the theory of mind attributed to dream figures will, in every case, be partially determined by cultural modes of exegesis that have already been normalized through group consensus and personal interpretation. The appearance of supernatural agents in dreams revivifies their role in the waking imagination, which can influence religious practice and increase the frequency of supernatural agents in dreams. Supernatural agents, therefore, exist in a 24-hour feedback loop between dream experiences and the waking imagination (Lohmann 2003b). On occasion, intensified beliefs in the imaginary can actually alter sensory perception and lead to “waking dreams” (Price-Williams 1987) like the inner vision of a shaykh who saw thousands of angels surrounding himself and Mittermaier (2010:86–87) and the bush Kailai speaking on the on telephone with an imaginary agent living underground (Lattas 2010:124–135).

Human cognition synthesizes representations of the subjectively imagined with representations of the objectively real in sensory and image perception. Cultural conditioning inserts particular habits and content into experience, which then seems to confirm cultural propositions. But why has evolution made the interface between the imaginary and the real so permeable? Winkelman (2010) argues that symbolic notions of self, other, soul, spirits, etc. correlate to neural structures and functions. Behavioral manipulations of symbols in ritual, vivid interactions with symbolic figures, and affective experiences in dreams affect neurological processes. Since the immune system is responsive to neurological processes (Lyon 1993; Wilce 2003), our psycho-emotional engagements with symbols, while awake or dreaming, affect our immune system for the better or worse.

Ritual and altered states of consciousness are, according to Winkelman, means by which humans have cultivated and continue to tacitly mediate the
placebo effect. They are adaptive mechanisms because they unite social groups and evoke self-healing processes through the manipulation of symbols. Adler (2011) has shown that nightmares and hypnopompic hallucinations occurring during sleep paralysis—when one partially awakens during REM sleep but remains paralyzed from REM-initiated atonia—have, throughout history, mediated the nocebo effect, in which believing in the harmful effects of an experience or ingested substance has a negative effect on the immune system. Psychosomatic death, informally known as voodoo death, is a terminal result of the nocebo effect (Hahn and Kleinman 1983).

Furthermore, Rappaport has argued that religion and its primary enactor, ritual, are adaptive processes. Through a process Rappaport (1999:429–430) refers to as “the cybernetics of the Holy,” rituals serve to sanctify and re-sanctify (affirm as unquestionable) agreed-upon truths that are conducive to established sociocultural notions and material circumstances. If a new sociocultural or material influence were to challenge agreed-upon truths, they will either be imperceptibly modified or de-sanctified through ritual practice. If the new influence overpowers the foundational tenets of the religion being exercised through ritual, then a paradigm shift may result, giving rise to new religious movements that may be better suited to help adherents adapt to the new conditions (e.g., see Robbins 2004).

Cartwright’s theoretical model of the 24-hour mind implicitly supports Winkelman’s and Rappaport’s theories. She has made several valuable points on the adaptive functions of emotions, sleep, and dreams. First, affective experiences evoke emotions because they breach intuitive expectations, which are, cognitively speaking, networks of schemas. Such affronts to expectations are themselves amenable to supernaturalistic interpretation. Moreover, as Boyer (1994) argues, counterintuitivity is an attribute of successful religious beliefs because it makes them striking and memorable. Second, the content of affective experiences and their representative symbols tend to resonate during NREM and REM sleep wherein the sleeping brain-mind updates established schemas by associating them with the informational content of new experiences. Dreams, Cartwright argues, are sensory-mimicking experiences of old schemas linking with new schemas—demonstrating an important role for dreaming that has been neglected in anthropological formulations of schema theory and connectionism (e.g., Strauss and Quinn 1998). Third, since self-concepts and, we would add, cultural ontologies, are networks of schemas, they may also be modified by the schema updating process occurring in NREM and REM sleep. Fourth, by updating schemas, dreaming regulates moods.

Cartwright has, however, left a boulder unturned: how do updated schema networks including self-concepts affect the waking imagination and thereby modify social behavior in particular cultural contexts? We can see how the bush Kaliai, for instance, have appropriated Western imports such as mobile phones, flashlights, and airplanes into their belief systems in ways that are congruent with their traditional supernatural beliefs. Waking
observations of airplanes and discourse with Westerners about where they fly, for instance, have penetrated the dreams of some shamans and cult leaders who have had repeated dream experiences wherein they depart Papua New Guinea on international flights, which are interpreted as ventures to spiritual worlds (Lattas 2010:58–60).

Here we can see direct evidence for Cartwright’s theory that dreams are new schemas (for example, representations of airplanes) linking with and thereby updating old schemas (cultural-specific spiritual worlds). By sharing dream narratives, dreams become subject to discourse transmitted through local forms of social media (myth in Australia, fairy tales in New Britain, or television in Egypt). Such narratives can and often do influence behavior and religious practice. Dreams that forge associations between airplanes and spiritual worlds have actually led to the formation of cargo cults among the bush Kaliai (Lattas 2010:103–106) as well as other Melanesian groups (Whitehouse 1995). Ritualizing the association between airplanes and spiritual worlds influences the manifest content of dreams, which in turn contributes in perpetuating the cult and aiding the emotional and intellectual adaptation of individuals in mutual communication to new circumstances.

By applying Cartwright’s theory to Lattas’s data, therefore, we are presented with a psychological model of how humans adapt to a radically changing environment. During sleep and in dreams, the minds of the bush Kaliai work to associate the affective symbols of colonialism and “modernity” they encounter in the day with established ontology. The synthesis of colonial images and traditional beliefs inspires the waking imagination and behavior to recalibrate their adaptation. Seen in this light, Lattas’s work points to a productive line for inquiry into how the dreams of other colonized—and colonizer—peoples reflect the radical transformations they have had to endure. Similarly the dreams of survivors of disasters reflect their struggle to adapt to mass tragedy, as Bulkeley’s (2003) study of Americans’ dreams following the 9/11 attack on New York shows.

While the bush Kaliai formulate dream-inspired, mythopoeic theories to adapt to the colonial presence, Egyptians amplify their dream narratives and interpretations through electronic media and virtual realities to such a degree that dreams have become politicized. Traditional Muslims and Sufis value dream-visions as divinely inspired revelations, while Muslim reformers have denounced, even denied, the significance of dreaming in the Islamic tradition. Here we can see that the receptivity of imported ideologies among a population can subject traditional values to public contestation. In this case, traditional dream theories and imported cultural dream theories, which are primarily informed by Freudian theory, are clashing in political discourse and through popular media.

Cartwright’s theory seems less obviously applicable to the kind of ethnography Mittermaier has constructed; however, one wonders whether the public discourse about traditional and reformist dream theories, for instance, is indirectly generating new, synthetic dream theories. Cartwright’s work
would predict this because, just like any folk model, cultural dream theories are enmeshed in schemas that when stimulated by affective experiences, including those evoked through discourse, tend to be updated and modified during sleep, which is a kind of informational download and defrag that directly corresponds with memory consolidation (Glaskin 2011).

Assuming contested dream theories do synthesize through discourse, it would be interesting to see if and how the cultural dream theory of dream-visions is changing and if an adjustment in the dream theory affects the phenomenal content of dream-visions. It appears from Mittermaier’s account that cultural dream theories shape phenomenal dream states, such that Sufis, Freudians, and Islamic reformers’ dreams reflect the expectations of the cultural dream theories that they accept. One suspects, though her informants did not share such experiences with her, that Egyptians identifying with one or another of these competing factions sometimes are ambivalent about their rejection of competing cultural dream theories, and that consciously rejected notions (say Freudian ones) may subconsciously be given credence and appear as such in certain dreams (of Sufis, for example). Dreams that depict oneself thinking and acting in ways currently rejected but formerly accepted allow denied aspects of oneself find expression without necessarily intruding on one’s surface persona (see Lohmann 2009).

Of the three ethnographies, the dreams of the Western Desert Aborigines documented by Poirier seem less invaded by colonial symbolism, though intriguing exceptions include the cowboy, who has entered their cosmologically connected mythology and dreaming. This could reflect the geographic isolation of the Western Desert region or simply the fact that the colonization of the Aboriginal imagination was not Poirier’s primary concern. Rather, the documented dream narratives in this publication are presented as representative examples of how traditional theories of self, other, nature, and the cosmos are embodied by Aboriginal dream experiences in the Tjukurrpa.

In her conclusion, Poirier (2005:248) writes, “Ultimately, Tjukurrpa represents the aesthetic [and purposeful] play of local historicity.”

If, however, according to Cartwright’s theory, dreams are visual experiences of old schemas linking with new ones, then how are we to interpret the Tjukurrpa? First, it is part of a macrocosmic cultural dream theory insofar as it is conceived as accessible through dreams explained in terms of microcosmic dream theories such as visitation theory, soul travel theory, and so on. It is mythopoeic, atemporal, and generative, meaning to say that events dreamed about in the Tjukurrpa are thought to affect events in waking reality. Second, beyond being a cosmological theory, it is a phenomenal reality that Aborigines experience directly by dreaming. Theory of mind is attributed to all dream figures encountered within this phenomenal reality, whether they are human, non-human, natural, or cosmic, such that all are experienced as sentient, individual, agents. Third, the Tjukurrpa is imagined to be accessible through ritual, with its capacity for interpersonal engagement in a common subjective reality.
Like all myth, the Tjukurrpa both points to a beginning in the past and an accessibility and relevance in the experiential present of personal dreams. This dramatizes for us the fact that like other peoples, Western Australia’s Aborigines have, through millennia of intergenerational discourse about dreams, constructed a dream state that houses and manifests intergenerational knowledge. When new, personally acquired schemas are linked during dreams with those learned through enculturation, and in that process the knowledge base is updated in emotionally acceptable ways, the network of schemas is transformed as it is regenerated. These dream experiences may become dream narratives and images that enter discourse during ritual and, if they are well received, become an additional constituent to traditional knowledge. We are directed by this insight to regard phases of sleep mentation as well as the waking imagination as vital and reinvigorating media of culture.

CONCLUSION

The anthropology of dreaming began with the work of Tylor and other 19th century thinkers by looking for pan-human patterns. From the Boasian period on, the focus shifted to documenting cultural variation and particular dream beliefs and uses. The anthropology of dreaming is now shifting toward a more holistic stance that places the culturally particular in a context of commonalities in human neurobiology and evolution, which have for the most part had their initial work carried out in other disciplines (Laughlin 2011b). The explanations and beliefs about what dreaming is and the degree to which we value and theorize about our dreams vary cross-culturally, but the fact remains that dreaming is a biological function of the human brain-mind. This calls for an engagement of ethnology with neurobiology as a form of biological anthropology that Laughlin has pioneered as well as sophisticated linguistic analyses of how the imagination and its products, such as dreams, are indicated and communicated in different languages (e.g., Kratschmer and Heijnen 2010). We also need to consider how dreaming impacts human adaptation and how this is reflected in the archaeological record (e.g., Houston and Stuart 1989; Lewis-Williams 1987). Through integrative inclusion of subdisciplinary and interdisciplinary approaches and data, general anthropology will make major leaps forward in our understanding of sleep, dreaming, and the imagination in the coming century.

By synthesizing Cartwright’s model with ethnographies provided by Lattas, Mittermaier, and Poirier, we can see an adaptive cycle emerge:

1. One encounters an affective, emotionally evocative experience, that
2. enters NREM and REM consciousness to update schemas.
3. Dreams are then narrated and integrated into discourse,
4. that can affect behavior, particularly ritual.
5. Dream-narratives and the impressions they leave on the imagination that are incorporated into ritual may then influence the manifest content of practitioner’s dreams.

This cycle is adaptive because it demonstrates how groups collectively update members’ schemas and thereby adapt to an ever-changing environment individually and as a collective. Cartwright’s model, as she presents it, is limited to how schemas are updated in the sleep and dreams of individuals. By placing her psychological work within a broader anthropological context, we have expanded her model to see how it may apply to any social group. Although limited, the adaptive cycle we have presented, stands as a supplemental theory for the adaptive functions of religion that have been proposed by Rappaport (1999) and Winkelman (2010).

Our model is distinctive in that it recognizes that without traversing the sleep portion of the daily range of consciousness, the distinctively human adaptation of enculturation, diffusion, and cultural evolution that enable humans to exploit and thrive in new conditions, would not be possible. The autonomous imagination in dreaming is a powerful component of creativity and memory (Christos 2003). We now know that sleep and dreaming are also prevailing aids to learning new skills (Strickgold 2003). In dreams and the imagination, cultural creations that are millennia old are brought back to life in novel forms so they may be re-inscribed in new minds, connecting the generations and contemporaries with one another, fostering emotional well-being, and providing material for discourse and ritual that is simultaneously traditional and fresh.

This synthetic model illustrates the explanatory power that comes from combining the psychology and the ethnography of sleep, dreaming, and the imagination. While psychological work tends to ask questions of broad relevance to humankind, its generalizations are often limited by implicit ethnocentrism. On the other hand, ethnographic work in this period of post-postmodern post-traumatic stress—that psychology avoided but that anthropology “took on the chin” (Greenfield 2000)—has tended to retreat from addressing general anthropological questions into documenting particular emic versions of reality. This collection of psychological and ethnographic work makes significant advances in anthropological knowledge, gains that can only result when we synergize our disciplinary insights to overcome our distinctive foibles. The robusticity and hybrid vigor that comes of interdisciplinary integration in answering the same questions are, of course, what four-field, general anthropology is supposed to be all about, but many of us have allowed that particular dream to die. If scholars in diverse disciplines and subfields engaged in the study of humankind have the initiative to re-encounter one another, synthesize our approaches, and train ourselves and our students as general anthropologists, there will be a burst of new creativity and discovery. It will, no doubt, also generate quite a lot of fitful
dreams as ethnographers, psychologists, archaeologists, linguists, biologists, and others absorb and integrate what they learn from one another into their schemas. We should sleep on it, at the very least.

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