

Shamanism as Neurotheology and Evolutionary Psychology

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Universals of shamanism reflect innate brain processes and representational systems and fundamental aspects of consciousness. Shamanic universals involve psychophysiological dynamics of altered states of consciousness (ASCs) and visionary experiences, metaphoric representations produced through integration of innate representational modules, and rituals that produce psychophysiological healing responses. ASCs reflect natural brain processes involving systemic integrative conditions. Universal shamanic representations (e.g., animism, animal allies, and soul flight) use cross-modal integration of specialized innate modules and reflect fundamental aspects of the psychodynamics of self. These prelinguistic emotional, social, and mental processes use presentational symbolism that reflects fundamental structures of consciousness. Therapeutic aspects of shamanism involve the psychophysiological effects of ASCs, ritual and community evocation of neurotransmitter responses, and the functions of spirit concepts in representing and manipulating individual and group psychodynamics. The shamanic paradigm's psychobiological foundations explain the origins and cross-cultural distribution of shamanism, its modern manifestations, and the continued applicability of shamanic practices.

Shamanism, humanities' most ancient spiritual, religious, and healing practice, has achieved a dramatic modern resurgence. The cross-cultural distribution and current adoption of shamanism by professionals poses a dilemma for perspectives that consider religious behavior to be ephemeral. The cross-cultural manifestations of shamanism and its contemporary appeal are rooted in psychobiological structures and basic functions of the brain, mind, and consciousness. This article reviews data on the universals of shamanism and their neurological bases. Integration of cross-cultural and neurological perspectives reveals the psychobiological basis of shamanic universals such as altered states of consciousness (ASCs), soul journeys, animal allies and guardian spirits, death and rebirth experiences, and healing practices.

Shamanism plays a central role in elucidating neurotheology because shamanism constitutes humanities' first theological and spiritual system. Cross-cultural manifestations of similar shamanic ideology and practice reflect neurophenomenological and neurognostic structures, forms of experience and

knowing based in innate biological and symbolic capacities (Laughlin, McManus, & d'Aquili, 1992). Psychobiological perspectives are a necessary interpretive framework for understanding the universals of shamanism and reveal the foundations of humanities' original neurotheology. The cross-cultural manifestations of shamanic experiences and practices (Winkelman, 1992) illustrate that shamanic psychodynamics are a basic aspect of human experience and an evolved psychology. These universals provide the basis for constructing a natural theological paradigm based in fundamental structures and operations of the brain. These neurognostic structures have implications for elucidation of basic aspects of neurotheology, theories of consciousness, and healing mechanisms.

The psychobiological basis of shamanism provided it with functional roles in survival and cultural evolution (Winkelman, 2002), producing an evolved psychology that still has implications for contemporary healing (see, e.g., Harner & Harner, in press; Ingerman, 1991; Winkelman, 2001). A primary focus of shamanic healing practices is on ASCs. Shamanic ASCs involve an adaptive integrative mode of consciousness, resulting from slow-wave synchronization across brain systems and enhanced operation of socioemotional and self-functions of the paleomammalian brain (Winkelman, 2000). ASCs elicit structures and functions of the paleomammalian brain and operations of consciousness involving self, attachment, emotions, and integrative brain functioning. These ASCs have adaptive potentials in healing and cognition, producing spiritual and religious experiences that promote integrative psychodynamics and elicit natural healing processes. Shamanic ASCs enhance integration of information by eliciting cognitive capacities based in presentational symbolism, metaphor, analogy, and mimesis, and representing preconscious and prelinguistic structures of the brain. Shamanistic ritual involves physically and culturally mediated activities that elicit opioid release and enhance serotonergic function. Shamanistic healing uses activity and symbols to alter physiological, psychological, and emotional responses. Contemporary spontaneous religious experiences, illness characterized as "spiritual emergencies," and modern addictions have shamanic roots and illustrate the continued relevance of the shamanic paradigm.

SHAMANISM IN CROSS-CULTURAL PERSPECTIVE

The nature of shamanism has been confusing because of a range of meanings and denotations associated with the concept of the shaman. These stem from shamanism's origin outside of Western cultures and its similarity to worldwide practices involving the use of ASCs (Winkelman, 1990, 1992). The exact nature of shamanism has been in dispute, but the idea that shamanism is cross-cultural or universal was widely accepted before systematic empirical research established the commonalities. Central contentions regarding the nature and univer-

salinity of shamanism are resolved by cross-cultural studies of magico-religious healers (Winkelman, 1992, 2000) that show shamanism is a central feature of hunter-gatherer societies and originated early in human prehistory (Winkelman, 2002).

The empirical characteristics of shamans revealed by Winkelman's cross-cultural study (see Winkelman & White, 1987, for data and method) confirms many central characteristics of shamanism (e.g., Harner's [1990] "core shamanism"). Statistical assessment of shared characteristics of healing practitioners found around the world provides empirical demonstration of the cross-cultural characteristics of shamans. Despite different cultural backgrounds, the healers of hunter-gatherer societies (shamans) have substantial characteristics in common and differ significantly from other types of magico-religious practitioners (e.g., those labeled healers, mediums, priests, and sorcerers/witches [Winkelman 1990, 1992]).

Cross-cultural research shows shamans are found among hunter-gatherers and slightly more complex societies with limited agriculture or pastoral subsistence patterns. These societies lack political hierarchies and have leadership limited to the local community, where the shaman is the charismatic leader with informal political power, reflecting the dynamics of a band-level organization. The shaman is highly esteemed, initiating the most important collective religious activities, providing leadership, organization of communal hunts, and decisions regarding group movement. Shamans normally engage in activities on behalf of the local community, most frequently healing, divination, and assistance in hunting. Shamans are also believed capable of malevolent magical acts, attacking others with spirits, sorcery, and stealing their soul.

CLASSIC ASPECTS OF SHAMANISM: ECSTASY, SPIRIT WORLD, AND COMMUNITY

The significance of shamanism for the study of religion was established through the cross-cultural synthesis provided by Eliade (1951/1964) in *Shamanism Archaic Techniques of Ecstasy*. Eliade characterized the core of shamanism as involving (a) "techniques of ecstasy" (altered states of consciousness) and (b) interaction with the spirit world (c) on behalf of the community. Other universals ascribed to shamans include being found in hunting and gathering societies, selection for the position through an illness or calling of the spirits, a vision quest, a death or rebirth experience, the capacity to fly, the ability to transform oneself into an animal, the use of spirits as assistants, and the potential to be a sorcerer with negative powers. Central to shamanic ecstasy is the soul journey or flight, where the shaman's soul or spirit departs the body and travels to other places. Soul journey was also used for contacting spiritual forces, determining distant conditions or the fate of separated family members, finding lost objects,

and escorting souls to the land of the dead. Shaman's ASCs were also manifested in the vision quest or transformation into animals.

ASC activities were the basis for shamans' training and professional services. Shamans were typically selected through the outcomes of deliberately sought ASC experiences (e.g., vision quests), involuntary visions, illness, or other signs of selection by the spirits. The deliberate vision quests involved inducing ASCs through a great variety of procedures, including chanting and singing; periods of extensive exercise through dancing, drumming, and dramatic enactments; prolonged fasting, water deprivation and the use of emetics; exposure to temperature extremes (e.g., a sweat lodge or staying in cold streams); the use of psychoactive plant medicines, particularly hallucinogens; various austerities, including cutting the body; and periods of prolonged social isolation and sensory deprivation (Winkelman, 1992). The shamans' characteristic ASC was soul flight, involving the practitioner's soul, spirit, or animal familiar entering into a nonordinary reality to interact with spirits.

A universal feature of the shamans' initiatory periods involved an experience interpreted as a death and rebirth, often involving as dismemberment, and followed by reconstruction of the initiate's body, accompanied by introduction of spirit powers. Shamans' interactions with spirits were fundamental to their powers. Spirit entities affected all aspects of human life and nature, embodying the essence of natural forces, humans and other animals, as well as illness and healing processes. Shamans' relationships with animal spirit helpers were central to the development of identity and professional competence, providing powers to carry out a variety of activities.

Shamanic ritual was the most important group event, structuring relationships of the individual to the collectivity and the cosmos. Shamanic ritual was the context for expression of the basic cosmological, spiritual, religious, and healing activities of hunter-gatherer societies. In a nighttime ceremony attended by all of the local group, the shaman enacted struggles within the spirit world, summoning spirit allies while excitedly beating drums, singing, chanting, and dancing. The shaman collapsed exhausted and through a visionary soul flight entered into the spirit world to obtain the spirits' cooperation. The shaman controlled the spirits, through which many tasks were accomplished: healing, dream interpretation, divination, clairvoyance (clear seeing), handling fire, communication with spirits of the dead, recovery of lost souls, mediation between spirits and people, protection against spirits and sorcerers, and finding animals. Concerns with health typically considered people to have lost their souls or to be plagued by witches, ghosts, spirits, or the malevolent action of other shamans. The shaman's entry into the spirit world typically involved dramatic struggles to recover the patient's soul. Soul loss could be due to neglect, fright, or its theft by other shamans or spirits. Shamanic practices evoked powerful emotions and healing through psycho- and sociotherapeutic functions and physical treatments (e.g., massage, cleansings, and plant medicines).

THE BIOLOGICAL BASES OF SHAMANIC UNIVERSALS: NEUROLOGICAL PRINCIPLES OF SHAMANISM

The cross-cultural distribution of the shaman with similar characteristics, activities, and beliefs has a psychobiological base and reflects a neurological structuring of consciousness (Winkelman, 2000). Shamanism found in hunter-gatherer societies around the world reflects ecological and social adaptations to human psychobiology. The neurological foundations of shamanism are represented in the principal characteristics of shamanism emphasized by Eliade—ecstasy, spirits, and community—as well as other universal characteristics of shamanism (e.g., soul journey, the use of music and dance, animal allies, and death and rebirth experiences).

SHAMANISTIC HEALERS

The use of ASCs in community rituals for accessing the spirit world has a universal distribution in the activities of many types of magico-religious healers (Winkelman, 1990, 1992). These other healers, along with shamans, are referred to as *shamanistic healers* in recognition of their common bases in ASCs. Shamanistic healers also share other characteristics: illnesses interpreted as being caused by spirits, who are used in therapeutic processes; symbolic ritual manipulations for healing; and the causation of illness attributed to the ritual actions of other humans (Winkelman, 1992). These other types of shamanistic healers generally do not have other characteristics of shamans (e.g., soul flight or journey, an ability to transform into an animal, control of animal spirits, the death and rebirth experience, or hunting assistance). Shamanistic healers reflect a universal institutionalization of mechanisms for altering consciousness and healing through integrative brain functioning. Shamanistic concepts of ASCs, spirit world, and community processes are psychobiologically based human universals. They use the integrative effects of ASC induction procedures, metaphoric thought processes, and community ritual.

Principal psychobiological foundations of shamanistic healing involve the structures, functions, and effects of ecstasy, or ASCs. ASCs reflect fundamental principles of the human nervous system, involving natural reactions that induce the relaxation response and brain synchronization, as well as visionary experiences that reflect a presentational symbolic capacity (Hunt, 1995). ASCs involve high-voltage, slow-frequency brain wave activity originating in the limbic system–brain stem connections that drive synchronizing patterns into the frontal cortex (Mandell, 1980; cf. Winkelman, 1992, 1996, 1997). This integrates activities of different levels of the brain with coherent brain wave impulses from lower brain structures through the frontal cortex producing a synthesis of behavior, emotion, and thought.

The spirit world fundamental to shamanism involves productions of innate processing modules. Human cognitive evolution involved acquisition of a

modular brain structure (Mithen, 1996), specific structures or functional systems for addressing particular tasks essential to the hunter-gatherer lifestyle. These modular systems manage language, music, mimesis (imitation), animal species classification, self, inference of other's mental states (mind reading), and tool use (see Fodor, 1983; Gardener, 1983). Basic aspects of shamanism involve the use of these innate representational modules for understanding self, social others, and their mental capacities (Winkelman, 2000, 2002). This is manifested in shamanic universals of animism, animal spirits, guardian spirits, and soul flight, involving the use of innate modules to understanding nature, self, and others, and in the formation of personal and social identities.

Community ritual represents the importance of the roles of symbolic processes and social others in synchronizing human psychobiological functions. Community rituals elicit functions of the paleomammalian brain structures to produce emotional bonding; to evoke socioemotional and psychodynamic processes; to strengthen personal and social identity; and to elicit the body's serotonergic, opioid, and immunological systems.

ALTERED STATES OF CONSCIOUSNESS

A central feature of shamanism is the "ecstasy" or ASCs involved in shamans' selection, training, and professional practice. Diverse procedures for inducing ASCs share physiological commonalities (Mandell, 1980; Winkelman, 1992, 1996, 1997, 2000). This normal brain response is reflected in synchronized brain wave patterns in the theta (3-6 cycles per second [cps]) and slow alpha (6-8 cps) range produced by activation of the limbic brain's serotonergic circuits to the lower brain. This results in synchronous brain wave discharges across the neuraxis (the nerve bundles linking the hierarchical strata of the brain). These slow wave discharges produce strongly coherent brain wave patterns that synchronize the frontal areas of the brain, integrating nonverbal information into the frontal cortex and producing insight. ASCs heal by producing psychological integration, eliciting opioid and serotonergic functioning, providing access to repressed emotional dynamics, and promoting social bonding. ASCs elicit an "integrative" mode of consciousness through synchronization across functional levels of the brain (Mandell, 1980; Winkelman, 2000).

Music, Dance, and the Mimetic Controller. Music is an innate capacity (see Wallin, Merker, & Brown, 2000) that is used to induce ASCs, as are rhythmic activities such as drumming and dancing. Music, chanting, singing, and dancing have their origins in modules that provide mimesis rhythm, affective semantics, and melody (Donald, 1991; Merker, 2000; Molino, 2000). This capacity for music and dance coevolved to enhance social bonding through communication of internal states. Music induces the theta and alpha brain wave patterns characteristic of ASCs and promotes group cohesion, by enhancing synchrony, coordination, and cooperation among group members. Music enhances mutual

cognitive and emotional expression through mimesis, the unique human ability to entrain the body to external rhythms, including imitation and dancing. Shamanic practices of drumming, dancing, and ritual imitation are based in operations of innate modules.

Visionary Experience. Shamanic ASCs involve intense visual experiences that reflect an innate representational system referred to as “presentational symbolism,” the same representational system reflected in dreams (Hunt, 1995). Shamanic visionary experiences are a natural brain phenomenon resulting from release of the normal habitual suppression of the visual cortex. These representations use the symbolic self-referential capacity in the imagetic-intuitive mode. Visions use the same brain substrates that process perceptual information, providing an integration of psychophysiological information with emotional levels, linking somatic and cognitive experience. These images are a preverbal symbol system that coordinate muscles to achieve goals and provide a basis for diagnosis, planning, and cognitive synthesis.

SHAMANISM AND ANALOGICAL THOUGHT

Fundamental features of shamanism—animism, totemism, and animal spirits—are produced through integration of innate processing modules for natural history intelligence, self-conceptualization, and mental attributions regarding “others.” These reflect preverbal behavioral, visual, and emotional mentation processes of lower brain structures.

Animism. Animism involves use of innate representation modules for understanding self and social others, attributing human mental and social capabilities to animals, nature, and the unknown (Guthrie, 1993). This use of the self as a model of the unknown other is a universal and natural epistemology, a manifestation of symbolic capabilities for modeling humans’ relationship to the environment. Spirit concepts reflect a social intelligence, the ability to infer the mental states of others through an intuitive psychology. This “theory of mind” involves attribution of mental states to others through the organism’s use of their own mental states to model others’ mind and behaviors.

Animal Allies. Animal allies, guardian spirits, and totemism involve a reciprocal process to animism, representing humans through the use of the natural history module. This module provides specialized capacities for organizing knowledge about animals and species, exemplified in the cultural universal of natural taxonomic classification schemata. This capacity provides a universal analogical system for creation and extension of meaning. Totemism and animal allies involve use of the natural history intelligence in formation of personal and social identities. Animal models provide natural symbol systems for differentiation of self and social groups and have psychosocial functions in empowering

people. Shamanic representations involve “sacred others,” the intersection of the spiritual and social worlds in cultural processes that play a role in the production of the symbolic self. Spirit beliefs represent aspects of the self and exemplify social norms and psychosocial relations, structuring individual psychodynamics and social behavior. Spirit beliefs provide protection from stress and anxiety through management of emotions and attachments. Spirits provide variable command-control agents for mediating conflict between the different instinctive agents and aspects of self. This facilitates the operation of the social organism with respect to a hierarchy of goals and the use of problem-solving modules for nonroutine tasks.

Soul Flight and Death and Rebirth as Self-Representations. The soul-flight and death-and-rebirth experiences characteristic of shamanism are natural symbolic systems for self-representation. The shaman’s ASC known as a “soul journey” or “soul flight” is manifested universally in other forms such as the out-of-body experience and near-death experiences. The homologies in these experiences reflect their innate basis in psychophysiological structures as forms of self-representation that are a natural response of the human nervous system. Soul flight involves a view of self from the perspective of other, a form of “taking the role of the other” in presentational symbolism (Hunt, 1995), and a natural body-based epistemology (Laughlin, 1997). These self-representations provide forms of self-awareness referenced to the body, but apart from the body, producing shamans’ altered consciousness and transcendence. These transformations of self are also illustrated in a universal feature of shamanic development, the death-and-rebirth experience. This shamanic development experience involves illness, suffering, and attacks by spirits. This leads to the experience of death and dismemberment, followed by a reconstruction of the victim’s body with the addition of spirit allies and powers. The death-and-rebirth experience reflects neurognostic processes of self-transformation, a natural response to overwhelming stress and intrapsychic conflicts (Walsh, 1990). This breakdown of ego structures is experienced in “autosymbolic images” of bodily destruction, which activate innate drives toward psychological integration (Laughlin et al., 1992). Shamanic healing restructures ego and identity, using community rituals to activate holistic imperatives to produce a new self-identity and higher levels of psychological integration.

Community Rituals

Community rituals are fundamental aspects of shamanistic healing practices, producing psychosocial influences (community cohesion, positive expectation, and social support) and psychobiological effects (attachment and opioid mechanisms). Communal rituals elicit attachment and affectional bonds and psychosociophysiological mechanisms that release endogenous opiates and produce psychobiological synchrony in the group (Frecska & Kulcsar, 1989).

Shamanic healing rituals produce a release of endogenous opiates through a variety of mechanisms (e.g., austerities, fasting, water restriction, strenuous exercise, hyperstress of emotions, etc. [Winkelman, 1997]). Rituals also enhance social attachment, with brain opioid systems providing neurochemical mediation of social bonding. Ceremonial opioid release emotionally charges cultural symbols and cross-conditions cognitive and endocrine systems, linking the psychic, mythological, and somatic spheres (Freksa & Kulcsar, 1989). Emotionally charged symbols then provide a basis for elicitation of the opioid system and ritual manipulation of physiological responses. Opioids stimulate the immune system; produce a sense of euphoria, certainty, and belongingness; and enhance coping skills, maintenance of bodily homeostasis, pain reduction, stress tolerance, environmental adaptation, and group psychobiological synchronization.

Soul Loss. Soul loss is a central shamanic illness that involves injury to the essence of one's being (Achterberg, 1985) and crucial aspects of the self (Ingeman, 1991), involving the loss of, or injury to, fundamental aspects of personal identity and the essence of self-emotions. This injury to one's essence is manifested as despair and a loss of meaning in life and feelings of belonging and connection with others. Soul loss occurs from trauma that causes an aspect of one's self to dissociate, making reintegration of these dissociated aspects of self central to healing. Soul recovery involves regaining a sense of social self alienated by trauma and feelings of social disconnectedness. Community participation is central to soul retrieval, with social support vital for the reintegration of self.

Ritual "Symbolic Penetration". Shamanic healing uses natural and cultural symbols and social processes to manipulate physiological responses through effects on perception, attention, emotion, self, identity, and innate forms of cognition. Humans' construction of the cognized environment develops through socialization processes that canalize physiological responses to symbols (Laughlin et al., 1992). These symbolic and affective associations enable symbols to evoke physiological processes. Symbols link perceptions, cognition, and affect with physiological responses, enabling "symbolic penetration," the effects of symbols on physiological processes and latent psychological structures. Shamanism developed an institution to manipulate the relationships between symbols and brain processes, healing through the use of metaphor to produce psychophysiological integration at preverbal mythic levels. Ritual processes help overcome cultural conditioning and psychosomatic dynamics. Shamanism heals through projection of advanced developmental models for transference and engaging neurocognitive structures to produce therapeutic changes (Laughlin et al., 1992). These enhanced interactions between conscious and unconscious processes establish links of preverbal mythic levels with cultural

and egoic structures, creating psychosocial and psychophysiological integration.

THE SHAMANIC PARADIGM AND THE NATURE OF CONSCIOUSNESS AND HEALING

Shamanic universals include the induction of a special mode of consciousness, reflected in coherent theta wave discharges that produce synchronization of the brain. Shamanic ritual alterations of consciousness produce physiological integration through synchronized brain wave discharge patterns coordinating the hierarchical functional levels of the brain. This induces autonomic, cognitive, personal, and social integration and provides adaptive healing mechanisms operating on social-emotional structures. These *integrative* dynamics of shamanic ASCs are reflected in other aspects of shamanism as well—metaphoric thinking, behavioral-emotional-cognitive synthesis, and psychosocial integration. The use of presentational symbolism embodied in visionary experiences exemplifies the integration of preverbal information related to self and other through visual representational systems. These self and other representations are manifested through innate representational systems manifested in metaphoric systems of thought. This allows innate brain-processing modules for knowledge about mind, social relations (self/others), and the animal world to provide psychological and social representations of animism, animal spirits, totemism, the guardian spirit complex, and soul journey.

These cross-modal representational processes are driven by the mimetic operator and the integrative theta brain wave patterns of ASCs. They also provide representations of fundamental structures of consciousness. These aspects of shamanic consciousness reveal that basic natural structures of consciousness are concerned with human personal and social identity; relationship to the environment and animals; linkages of self and other representations; transformations of self-representations; and integration of autonomic, emotional, and self processes. These are concerned with physical, emotional, and social levels of consciousness and their integration into higher order dynamics permitting self-reflection.

SHAMANISM AS EVOLUTIONARY PSYCHOLOGY

Shamanism has reemerged in the modern societies and in association with the healing professions because it reflects basic aspects of human nature rooted in psychobiological structures of healing processes of consciousness and the brain. These psychobiological perspectives on shamanism indicate a continued relevance of the shamanic paradigm and shamanistic healing. Shamanism's healing powers derive from elicitation of the integrative effects of ASCs, from manipulation of unconscious brain structures and processes, and from the

community dynamics that provide vital human support. Shamanistic healing evokes activities of lower brain structures, enabling manifestation and integration of preconscious aspects of the self that are managed by the paleomammalian and reptilian brains. This circumvents egoic processes through the use of a presentational or visual symbolism that embodies rich personal information. Shamanic healing processes also use ritual activities that induce physiological changes to produce relaxation, psychological integration, social orientation, and enhanced operation of the body's neurotransmitter systems.

Shamanic ASCs and their slow-wave synchronization patterns activate functions of the paleomammalian brain involving self, attachments, and emotions. Shamanic cognitive capacities based in presentational symbolism, metaphor, analogy, and mimesis express the dynamics of the lower brain systems and provide a medium for ritual and symbolic manipulation of these systems. These physiological aspects of ASCs facilitate healing and psychological and physiological well-being through physiological relaxation; facilitating self-regulation of physiological processes; reducing tension, anxiety, and phobic reactions; manipulating psychosomatic effects; accessing unconscious information in visual symbolism and analogical representations; inducing interhemispheric fusion and synchronization; and facilitating cognitive-emotional integration and social bonding and affiliation (Winkelman, 2000). The neuroendocrine mechanisms of meditation indicate that stress reduction also occurs through enhancement of serotonin functioning and stimulation of theta brain wave production (Walton & Levitzky, 1994).

Shamanism has been traditionally viewed as a procedure for addressing the spirit world and spiritual illness. These spirit world concepts can be reinterpreted in a neurophenomenological framework as reflecting fundamental structures of consciousness and processes of the human brain. Shamanic soul journeys, guardian spirits, and death and rebirth have neurognostic bases and provide processes for manipulating fundamental aspects of emotion, self, and identity. Shamanistic healing rituals alter physiological, psychological, and emotional responses, using activity and symbols to produce effects in the autonomic nervous system. Shamanistic healing rituals provide physiologically and culturally mediated forms of adaptation to stress that are reinforced by procedures eliciting opioid release and enhancing serotonergic function.

CONCLUSIONS

Shamanic practices persist worldwide and have reemerged in contemporary societies because they are based in innate brain structures and reflect an evolved psychology of humans. Shamanic roots are also found in contemporary illness characterized in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* as "spiritual emergencies" (e.g., spontaneous shamanic journeys, the

death-and-rebirth experience, mystical experiences with psychotic features, and expressions of psychic abilities [Walsh, 1990]). The shamanic paradigm is a more useful framework for interpreting these experiences as natural manifestations of human consciousness and as developmental opportunities (Krippner & Welsh, 1992). The neurotheology approaches explain why these shamanic phenomena are spontaneously manifested and allow for these shamanic experiences to be used as opportunities for personal development. The shamanic paradigm provides the perspectives for engaging in the classic shamanic approach of self-empowerment to address these experiences. Shamanism strengthens individuals' ability to take an active role in their health and well-being. Shamanism enhances the use of all our brain, both the conscious and the unconscious. Shamanism provides a vital connection with community and the spiritual dimensions of human health that have been lacking in modern societies. Shamanism has applications in relatively intractable modern problems such as the treatment of addictions (Harner & Harner, in press; Winkelman, 2001) and in addressing the consequences of violence, trauma, alienation, and disconnectedness (Ingerman, 1991).

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