There are certain likenesses between the accounts of shamanic ecstasies and certain epic themes in oral literature (see Eliade, 1964, pp. 213ff., 311ff., 368ff.). The shaman's adventures in the otherworld, the ordeals that he undergoes in his ecstatic descents below and ascents to the sky, suggest the adventures of the figures in popular tales and the heroes of epic literature. Probably a large number of epic subjects or motifs, as well as many characters, images, and clichés of epic literature, are, finally, of ecstatic origin, in the sense that they were borrowed from the narratives of shamans describing their journeys and adventures in the superhuman worlds.

It is likewise probable that the preecstatic euphoria constituted one of the universal sources of lyric poetry. In preparing his trance, the shaman drums, summons his spirit helpers, speaks a secret language or the "animal language," imitating the cries of beasts and especially the songs of birds. He ends by attaining a "second state" that provides the impetus for linguistic creation and the rhythms of lyric poetry.

Something must also be said concerning the dramatic structure of the shamanic séance. The sometimes highly elaborate staging of this session obviously exercises a beneficial influence on the patient. In addition, every genuinely shamanic séance ends as a spectacle unequaled in the world of daily experience. The fire tricks, the "miracles" of the ropetrick or mango-trick type, the exhibition of magical feats, reveal another world—the fabulous world of the gods and magicians, the world in which everything seems possible, where the dead return to life and the living die only to live again, where one can disappear and reappear instantaneously, where the laws of nature are abolished and a certain superhuman freedom from such structures is exemplified and made dazzlingly present.

It is difficult for us to imagine the repercussions of such a spectacle in a "primitive" community. The shamanic "miracles" not only confirm and reinforce the patterns of the traditional religion, they also stimulate and feed the imagination, demolish the barriers between dream and present reality, and open windows upon worlds inhabited by the gods, the dead, and the spirits.

SEE ALSO Ascension; Buriat Religion; Descent into the Underworld; Dismemberment; Ecstasy; Flight; Spirit Possession.

BIBLIOGRAPHY

A general presentation of the shamanistic initiations, mythologies, and practices in Siberia and Inner Asia, North and South America, Southeast Asia, Oceania, and the Far East is found in my book *Shamanism: Archaic Techniques of Ecstasy*, rev. & enl. ed. (New York, 1964). To the bibliography found there, I need add only a few important general works and a number of contributions to the study of shamanism in Southeast Asia, Oceania, and the Far East. The bibliographies related to Inner Asia or South and North America appear in the other articles on shamanism that follow.

Matthias Hermann's Schamanen, Pseudoschamanen, Erlöser und Heilbringer, 3 vols. (Wiesbaden, 1970), is useful for its docu-

mentation, especially with regard to Indo-Tibetan areas. For a clear presentation, see John A. Grim's *The Shaman: Patterns of Siberian and Ojibway Healing* (Norman, Okla., 1983). Michael J. Harner's *The Way of the Shaman* (New York, 1980), which includes a valuable bibliography, and the volume *Hallucinogens and Shamanism*, which Harner edited (Oxford, 1973), are stimulating and original, as is *Studies in Shamanism*, edited by Carl-Martin Edsman (Stockholm, 1967). Among comparative studies, see Alois Closs's "Interdisziplinäre Schamanismusforschung an der indogermanischen Völkergruppe," *Anthropos* 63/64 (1968–1969): 967–973, and his "Die Ekstase des Shamanen," *Ethnos* (1969): 70–89.

On shamanism in Southeast Asia and Oceania, see my Shamanism, pages 337–374. In addition to my bibliography, the reader should consult Rex L. Jones's "Shamanism in South Asia: A Preliminary Survey," History of Religions 7 (May 1968): 330–347; Joachim Sterly's "Heilige Männer" und Medizinmänner in Melanesien (Cologne, 1965), especially pages 437–553 and the bibliography; Guy Moréchand's "Le chamanisme des Hmong," Bulletin de l'École Francaise d'Extrême-Orient (Paris) 54 (1968): 53–294; and Andreas Lommel's Shamanism: The Beginnings of Art (New York, 1966) with its rich bibliography. On the shamanistic structure of the Australian medicine man, see my Australian Religions: An Introduction (Ithaca, N. Y., 1973), pp. 131–160.

For sources on the shamanic symbolism and techniques in Tibet, China, and the Far East, see, in addition to my Shamanism, Helmut Hoffmann's Symbolik der tibetischen Religionen und des Schamanismus (Stuttgart, 1967), especially the bibliography; P. Jos Thiel's "Schamanismus im Alten China," Sinologica 10 (1968): 149–204; Ichirō Hori's "Penetration of Shamanic Elements into the History of Japanese Folk Religion," in Festschrift für Adolf E. Jensen, edited by Eike Haberland et al. (Munich, 1964), vol. 1, pp. 245–265; Carmen Blacker's The Catalpa Bow: A Study of Shamanistic Practices in Japan (London, 1975); H. Byron Earhart's critical review "The Bridge to the Other World", in Monumenta Nipponica, 31 (1976): 179–187; and Jung Young Lee's "Concerning the Origin and Formation of Korean Shamanism," Numen 20 (1973): 135–160.

On shamanism among the Turks and the Mongols, see the original and learned synthesis of Jean-Paul Roux's *La religion des Turcs et des Mongols* (Paris, 1984), pp. 59ff.

MIRCEA ELIADE (1987)

SHAMANISM: AN OVERVIEW [FURTHER CONSIDERATIONS]

The cross-cultural concept of shamanism promoted by Mircea Eliade (1907–1986) has stood the test of time and has been extended and refined. Eliade's conceptualization of shamanism has promoted the cross-cultural and interdisciplinary application of the term *shaman*. Systematic cross-cultural research has validated a universal (etic) concept of the shaman, illustrating the substantial similarities among spiritual healing practices found in hunter-gatherer societies worldwide. Archaeological research has established a deep prehis-

torical depth for shamanism, illustrating its central role in the emergence of modern human culture. Perspectives from evolutionary psychology have helped explain the emergence and cross-cultural distribution of shamanism in terms of adaptive psychological, social, and cognitive effects that contributed to human evolution. The worldwide distribution of shamanism reflects its basis in innate brain processes and modules and in biologically based cognitive and representational systems. Modern perspectives reject the earlier pathological characterizations of shamanism, instead recognizing it as a primordial spiritual healing practice that managed psychosocial processes and fundamental aspects of brain function. The role of the hunter-gatherer shamans, with their biological basis in altered states of consciousness, was transformed by sociocultural evolution, producing a universal manifestation of "shamanistic healers" who entered ecstatic states in order to interact with spirits on behalf of the community and clients.

CROSS-CULTURAL CHARACTERISTICS OF SHAMANS. Eliade emphasized shamanism as "preeminently" of Siberia, but he recognized similar practices around the world. Dissension concerning whether shamanism was strictly limited to Siberia or was found worldwide has been resolved through cross-cultural research by Michael Winkelman (1986, 1990, 1992) that illustrates empirically the existence of similar magico-religious practitioners in many hunter-gatherer and simple agricultural and pastoral societies. Michael Harner refers to this worldwide phenomenon as "core shamanism." Shamans were charismatic social leaders who engaged in healing and divination for the local community. In addition to *ecstasy*, or an altered state of consciousness (ASC), spirit world interaction, and community relations, other beliefs and practices associated with shamans include:

- an ASC experience known as soul journey or magical flight;
- the use of chanting, drumming, and dancing;
- training through deliberately induced ASC, producing visionary experiences;
- an initiatory crises involving a death-and-rebirth experience:
- abilities of divination, diagnosis, and prophecy;
- therapeutic processes focused on soul loss and recovery;
- disease caused by spirits, sorcerers, and the intrusion of objects or entities;
- interaction with animals, including control of animal spirits and transformation into animals;
- · malevolent acts, or sorcery; and
- hunting magic.

CROSS-CULTURAL DIFFERENCES IN SHAMANISTIC PRAC- TICES. One characterization of shamanism offered by Eliade was the practice of entering ASC (Eliade used the term *ecsta-sy*) to interact with spirits on behalf of the community. This

characterization led to the extension of the concept of shaman to include many different practices, including those that do not exhibit the other characteristics of the shaman emphasized by Eliade, such as soul flight, animal allies, death-and-rebirth experiences, hunting magic, and the capacity for sorcery. Other practitioners that engage in ASC to interact with spirits on behalf of their communities have some different characteristics that differ from those of the core shamans. Winkelman has suggested the term *shamanistic healers* for this universal manifestation of the shamanic potential involving ASC, community ritual, and spirit interaction.

Differences in shamanic practices were explored by Anna Siikala, who proposed that the breakdown of the clan structure along with stratification of the community led to different types of shamanism, particularly professional shamans. She distinguished between the following:

- 1. small-group shamans, characteristic of the nomadic northern ethnic groups of Siberia;
- 2. independent professional shamans, prevalent among paleo-Asian groups, such as the Chukchee;
- 3. clan shamans, found in Altaic groups; and
- 4. territorial professional shamans, found in Central Asia and southern Siberia.

Winkelman's cross-cultural research, however, indicates that different types of shamanistic healers developed in different places as a consequence of the effects of sedentary residence and agricultural and political integration. These effects are illustrated in the following characterizations of the distinctive aspects of core shamans, shaman/healers, healers, and mediums.

Core shamanism. Shamans are found worldwide in nomadic or seminomadic hunter-gather, horticultural, and pastoral societies. Shamans were predominantly male, but most societies also had female shamans. In the past, shamans tended to come from shaman families, but anyone could become a shaman if selected by the spirits. Early in life, shamans undertook deliberate activities to enter ASC, undertaking a "vision quest" in which they developed personal relationships with spirits who provided direct training. The developmental experiences of shamans included death-and-rebirth experiences involving dismemberment and reconstruction by the spirits. This provided shamans with powers, especially animal allies that could provide assistance in healing, divination, hunting, and the ability to use sorcery to harm others. A shaman's all-night ceremony involved the entire local community in dancing, drumming, and chanting. A central aspect involved the shaman recounting ASC experiences called soul journey or magical flight, in which an aspect of the shaman departs the body and travels to other places. Shamans were not normally possessed by spirits; rather they controlled spirits and were believed to be able to fly and transform into animals. Therapeutic processes involved removal of objects or removal of spirits sent by other shamans through sorcery, as well as soul journeys to recover lost souls and engage in relationships with "power animals" (aspects of the shaman's personal essence and powers).

Shaman/healers. Shaman/healers are found in agricultural or pastoral societies at all levels of social complexity. They share characteristics with other types of shamans, but they differ from shamans in important ways. The shaman's direct tutelage by spirits and affirmation by the community is replaced in shaman/healers with instruction by elder practitioners, as well as public ceremonial recognition of the successful initiate, marking their entrance into the profession. In addition, shaman/healers are subordinated to religious practitioners called priests. Shaman/healers also engage in agricultural rituals and often use instruments, such as Tarot cards, with established interpretative systems for divination.

Shaman/healers are generally characterized by extensive role specialization, and the practitioner engages in a limited subset of professional activities associated with the position. For instance, a shaman/healer may perform divination but not healing or agricultural rites. Their ASC experiences are similar to those characteristic of meditators and mystics, although the shamanistic healer's ASC may involve soul journey.

Mediums. Mediums are often referred to as "shamans" (Lewis, 1988), but they were in most respects distinct from core shamans. Historically, Most mediums have been female, and their call to the profession has generally been a possession episode in early adulthood. Possession is interpreted as a "take over" of the person's personality by a spirit. The possession ASC generally involves tremors, convulsions, seizures, and amnesia (these characteristics are often interpreted as evidence of the spirits' control of the medium). Mediums do not usually engage in malevolent acts but instead are called upon to act against sorcerers, witches, and other evil entities. Mediums may worship their possessing spirits, and they often maintain relationships with superior deities to whom they make sacrifices.

Mediums may be more powerful than ordinary women, but, in contrast to the social leadership role of shamans, they tend to appear in complex societies with political hierarchies and religious practitioners, such as priests and healers, who are more powerful than the medium.

Healers. Healers are not usually referred to as shamans. They are almost exclusively male and generally have high economic status and political power. Healers' professional organizations provide training, which is generally expensive, but the profession is remunerative, enabling healers to be full-time specialists. Most healers do not engage in the ASC practices characteristic of shamans, but healers sometimes use rituals and incantations to induce ASC in clients. A principal healing activity is exorcism. Healers also perform lifecycle activities, such as naming ceremonies, marriage rituals, and funerals. Healers often identify sorcerers or witches, and take action against them.

PSYCHOBIOLOGICAL FEATURES OF SHAMANISM. The shamanistic practices found in hunter-gatherer societies around

the world, and the universal distribution of shamanistic healers, reflect ecological and social adaptations to human biological potentials. The psychobiological bases of shamanism include basic brain processes, operations of innate representational modules, and neurological structuring of fundamental structures of consciousness (Winkelman, 2000, 2002a, 2002b). Neurological foundations underlie the principal characteristics of shamanism that Eliade emphasized—ecstasy, spirits, and community—as well as other universal characteristics of shamanism (e.g., the visionary journey, the use of music and dance, and animal allies).

Shamanic rituals activate brain structures and processes that elicit integrative psychological and social processes and produce visual and metaphoric representations. This integration of brain functions involves physiologically based brain integration induced by ASC, as well as cognitive synthesis based in integration of specialized representational functions, producing symbolic thought in animism, animal spirits, totemism, and soul flight. The primary neurological features of shamanism are discussed below in terms of the underlying physiological bases and functional dynamics of the following:

- ASC, or operations of consciousness that produce cognitive and personal integration;
- visionary experiences, manifesting a cognitive capacity for presentational symbolism;
- fundamental structures of human consciousness reflected in spirits (animism);
- self-objectification processes reflected in soul journey and death-and-rebirth experiences;
- metaphoric representations using animal and body relations, which is manifested in animism, animal powers, and totemism;
- community bonding processes that elicit attachment dynamics and opioid mechanisms, including mimetic expression, chanting, and dance to produce social coordination; and
- physiological healing processes based in the relaxation response, anxiety management, and elicitation of opioid and serotonergic neurotransmitters.

ASC: THE INTEGRATIVE MODE OF CONSCIOUSNESS The ecstasy, or ASC, that is central to the selection, training, and professional practice of shamans typically involves singing, chanting, drumming, and dancing, followed by collapse and apparent unconsciousness but accompanied by intense visual experiences. This ASC involves a natural brain response that produces physiological, functional, and psychological integration. Arnold Mandell has argued that the physiological dynamics of ASC involve slow-wave discharges from the serotonin circuits of the limbic brain, which produces synchronized waves across the brain. Auditory driving (singing, chanting, drumming, and music) is a primary mechanism for producing ASC and brain-wave synchronization. Dancing,

fasting, and other austerities, most psychoactive drugs, and social and sensory isolation reinforce the response. Shamanic ASCs activate the autonomic nervous system to the point of exhaustion, and it collapses into a parasympathetic dominant state that evokes the relaxation response. Skilled shamans may directly enter this state of relaxation through an internal focus of attention, as in meditation. The relaxation response is one of the body's natural healing processes, with adaptive advantages in stress reduction and physiological restoration.

The shaman's ASC elicits the "integrative mode of consciousness" (Winkelman, 2000), a normal brain response to many activities (e.g., chanting, drumming, fasting, meditation) with synchronized brain-wave patterns in the theta and alpha range. These slow-wave patterns are produced by activation of serotonergic linkages between the limbic-brain system (the "emotional brain" or paleomammalian brain) and lower-brain structures. These connections produce coherent theta brain-wave discharges that synchronize the frontal areas of the brain, replacing the normal fast and desynchronized brain-wave activity of the frontal cortex. The integrative mode of consciousness integrates preverbal behavioral and emotional information into the cultural and language mediated processes of the frontal cortex.

Visionary experience as presentational symbolism.

An intense visual imagery, what Richard Noll refers to as "mental imagery cultivation," is central to the shamanic ASC experience. These experiences reflect an innate representational system referred to as "presentational symbolism" by Harry Hunt. Visionary experiences provide analysis, analogic synthesis, diagnosis, and planning. Shamanic visions are natural brain phenomena that result from release of suppression of the visual cortex; the visions involve the same brain substrates used for the processing of perceptual information.

Images are a form of psychobiological communication experienced in a preverbal symbol system. Imagery plays a fundamental role in cognition, providing a basis for metaphoric expression and the formation of relations between different levels of information processing. Mental imagery integrates unconscious psychophysiological information with emotional levels, linking somatic and cognitive experience and recruiting and coordinating muscles and organic systems.

SPIRITS AND HUMAN CONSCIOUSNESS. The fundamental features of shamanism—animism, totemism, and animal spirits—are representations of self, intrapsychic dynamics, and social groups. These representations are produced through integration of specialized innate processing modules for natural history intelligence (recognition of animal species) with modules for self-conceptualization and mental attributions regarding social "others" (mind reading). The shamanic role in managing these modules is exemplified in certain characteristics of shamans: (1) social intelligence—being group leader and mediator of intergroup relations; (2) natural history knowledge—being master of animals; and (3) self-conceptualization exemplified in identity shifts devel-

oped through animal familiars, soul flight, and death-and-rebirth experiences. These representations reflect preverbal structures of consciousness and the thought processes of lower-brain structures. These specialized forms of knowledge production are combined in metaphoric processes to produce the shamanic features of animism, totemism, and animal spirits. Anthropomorphism and interaction with the spirit world (animism) use the brain's innate representation modules for understanding the self and social others, and for attributing human mental and social characteristics to animals, nature, and the unknown. The phenomena of totemism, animal allies, and animal powers involve the natural history intelligence, employing capacities for distinguishing animal species to understand and mold personal identity and produce differentiation of self and social groups.

Animism and animal allies. Animism involves the use of innate representation modules for understanding self and social others, and for attributing human mental and social capabilities to animals, nature, and the unknown. Stewart Guthrie discusses animism as a human being's use of self-characteristics as a model for the unknown; it is a natural projection of a human being's own qualities in relationship to the environment. Spirit concepts are based in social intelligence, the ability to infer the mental states of others. This intuitive psychology and "theory of mind" attributes mental states to others through the organism's use of its own mental states to model the mind and behaviors of others. This attribution underlies the spirit world.

Animal allies, guardian spirits, and totemism involve a process that is reciprocal to animism and represents humans through the use of the natural-history module's capacity for organizing knowledge about animal species. This universal analogical system for creation and extension of meaning uses natural-history intelligence to differentiate personal and social identities. Animal species provide natural symbol systems for differentiation of self and social groups and have psychosocial functions in empowering people, as illustrated in the guardian spirit quest discussed by Guy Swanson. Spirits are sacred others," the integration of the spiritual and social worlds in cultural processes, which Jacob Pandian characterizes as the production of the symbolic self. Spirit beliefs exemplify social norms and psychosocial relations, structuring individual psychodynamics and social behavior. Spirit beliefs protect 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 with respect to a hierarchy of goals and the use of problem-solving modules for nonroutine tasks.

Death and rebirth. Transformations of self are also illustrated in a universal feature of shamanic development, the death-and-rebirth experience. This involves illness, suffering, and attacks by spirits, leading to the experience of death and dismemberment, followed by a reconstruction of the body with the help of spirit allies and powers. Roger Walsh charac-

terizes the death-and-rebirth experience as a natural response to overwhelming stress and intrapsychic conflicts. This breakdown of ego structures reflects neurognostic processes of self-transformation, experienced in "autosymbolic images" of bodily destruction. Charles Laughlin, John McManus, and Eugene d'Aquili (1992) discuss these experiences as involving the activation of innate drives toward psychological integration and the restructuring of ego and identity through activation of holistic imperatives to produce a new self-identity and higher levels of psychological integration.

Soul flight as self-objectification. Soul-flight experiences involve natural symbolic systems for selfrepresentation. The shaman's soul journey is structurally similar to ASC found cross-culturally in out-of-body and near-death experiences. The homologies reflect their innate basis in psychophysiological structures as forms of selfrepresentation that are a natural response of the human nervous system. Charles Laughlin (1997) discusses the universality of a body-based metaphor that is manifested in shamanic cosmology and a natural body-based epistemology. 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). These self-representations provide forms of self-awareness referenced to the body, but, apart from the body, they produce the altered consciousness and transcendence experienced by shamans.

COMMUNITY RITUALS AND PSYCHOSOCIAL DYNAMICS. Shamanic activity is accomplished on behalf of the community and requires community participation. Soul loss, the most fundamental shamanic illness, is healed by reintegration of the patient into the community. Community rituals produce both psychosocial effects (community cohesion, positive expectation, and social support) and psychobiological effects (the elicitation of attachment and opioid mechanisms).

Opioid-mediated attachment processes. Ede Frecska and Zsuzsanna Kulcsar illustrate how communal rituals elicit attachment bonds and other psycho-socio-physiological mechanisms that release endogenous opiates and produce psychobiological synchrony in a group of people. Shamanic rituals release endogenous opiates through a variety of mechanisms, including austerities, fasting, water restriction, strenuous exercise, and emotional hyperstress (Winkelman, 1997). Shamanic rituals elicit responses from the brain's opioid systems by tapping into social attachment and conditioned cultural symbols (Frecska and Kulcsar, 1989). Emotionally charged symbols elicit the opioid system and permit ritual manipulation of physiological responses in the linking of the psychic, mythological, and somatic spheres. Opioids stimulate the immune system; produce a sense of euphoria, certainty, and belonging; and enhance coping skills, pain reduction, stress tolerance, environmental adaptation, group synchronization, and maintenance of bodily homeostasis (Valle and Prince, 1989).

Mimetic expression and emotional vocalization. Community bonding involves chanting, music, and dance, which can elicit an ancient communicative system that Merlin Donald discusses as mimesis, an imitative communication channel that evolved to enhance social bonding and communication of internal states. Music, chanting, singing, and dancing have origins in mimetic modules that provide rhythm, affective semantics, and melody (see Wallin, Merker, and Brown, 2000). Chanting and music provide a nonlinguistic channel for communication that induces healing states by engaging theta and alpha brain-wave production and by promoting cohesion, coordination, and cooperation among the group. The shamanic practices of drumming, dancing, and ritual imitation are based in operations of this innate mimetic controller and the unique human ability to entrain the body and community to external rhythms.

SHAMANIC THERAPIES. Shamanism is the original psychosocio-physiological therapy in that it uses rituals and cultural processes to manipulate health from physical through symbolic levels. Therapeutic mechanisms of shamanism include:

- inducing relaxation and the parasympathetic dominant responses that elicit organic healing;
- reducing the physiological effects of stress and anxiety by providing meaning and assurance;
- integrating dissociated aspects of the self and the spiritual-social models into identity;
- enhancing the mammalian bonding-attachment process:
- producing individual psychosocial development and social integration;
- synchronizing and integrating the information processes of the brain's subsystems;
- activating opioid and serotonergic neurotransmitter systems; and
- producing ritual elicitation and cultural programming of neurological processes.

Hypnosis in shamanic healing. James McClenon discusses how an inheritable hypnotizability provided foundations for shamanistic healing. Hypnotic susceptibility provided mechanisms for enhancing recovery from disease, as well as innovations derived from access to the unconscious mind and its creative visions. Hypnotizability produces physiological and psychophysiological responses that facilitated shamanic healing. Hypnotic and ritual behavior among other animals provides mechanisms for adaptation to the social environment by reducing stress and promoting intragroup cohesion, which is experienced by humans as "union" or "oneness." Shamanic healing potentials exploit the cooccurrence of hypnotizability, dissociation, fantasy proneness, temporal lobe lability, and thin cognitive boundaries to enhance connections between the unconscious and conscious mind. This access provided survival advantages by facilitating the development of creative strategies, enhancing suggestibility to symbolically induced physiological changes, and inducing ASC experiences to facilitate psychosomatic healing.

Soul loss. Jeanne Achterberg and Sandra Ingerman discuss soul loss as a central shamanic illness that involves injury to the essence of one's being and damage to crucial aspects of the self, fundamental aspects of personal identity, and the essence of self-emotions. This injury to one's essence is manifested as despair, a loss of meaning in life, and a loss of one's sense of belonging and connection with others. Soul loss results 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 the sense of social self that was alienated by trauma. Community participation is central to soul retrieval because social support is vital for the reintegration of the self.

THE EVOLUTIONARY ROOTS OF SHAMANISM. Jean Clottes, David Lewis-Williams, Robert Ryan, and Michael Winkelman have reconstructed the prehistorical emergence of shamanism, which occurred more than forty thousand years ago in the earliest manifestations of modern human culture in the Middle to Upper Paleolithic transition. The similarity in shamanism around the world derives from human nature; it is an aspect of an evolved psychology. Several lines of evidence point to a biogenetic origin for shamanic ritual: (1) continuity with animal ritual and hominid group activities involving vocalizations for interpersonal communication and group coordination, as well as drumming, dancing and mimesis; (2) the direct correspondences of the central features of Paleolithic cave art to the universals of shamanism; and (3) the ability of shamanic ritual processes to provide psychological and social integration processes; that is, the group needs that characterize the changes associated with this period of transition in human history (Winkelman, 2002a).

The central role of shamanic elements in Middle to Upper Paleolithic cave art is seen in the elements and style of these artistic depictions, the nature of the representations of animals and humans, and the ritual use of natural cave features (Winkelman, 2002b; Ryan; Clottes, and Lewis-Williams, 1998; Lewis-Williams, 2002). This art is key evidence for the cultural cognitive revolution, with shamanic ritual, beliefs, practices, and cosmology characterized by cross-modal cognitive integrations that typify the emergent features of Paleolithic thought.

This role of shamanism in the Middle to Upper Paleolithic transition can be understood from psychosocial and psychobiological perspectives that illustrate how shamanic ritual practices and beliefs facilitated adaptations to the ecological and social changes of the Upper Paleolithic, and thus facilitated cognitive evolution. Shamanism produced social bonding mechanisms, self-transformation processes, and analogical thought processes that provided integrative visual and emotional syntheses. Shamanism contributed to cognitive and social evolution through production of visual symbolism and analogical thought processes, and through the ritual activities that promoted group bonding and the identity formation that was central to managing the consequences of the Middle to Upper Paleolithic transition.

The triune brain and shamanic healing. Human evolution produced a fragmentation of consciousness in the modular structure of the brain (Mithen, 1996), the diversification of personal and social identities, and the habitualization of brain processes (Laughlin et al., 1992). Shamanistic activities use ASC, visual symbols, and group rituals to produce psychological, social, and cognitive integration, which serves to manage relationships among behavioral, emotional, and cognitive processes, and between physiological and mental levels of the organism.

One aspect of this shamanic integration involves linkages across the evolutionary strata of the brain. Paul Mac-Lean has proposed that the brain involves three anatomically distinct yet interconnected systems—the reptilian brain, the paleomammalian brain, and the neomammalian brain—that provide the basis for behavioral and emotional "subsymbolic" information. These communication systems employ a visual presentational symbolism (Hunt, 1995) that mediates interactions across levels of the brain and social, affective, and visual symbolic information. The hierarchical management of behavior, emotions, and reason is mediated both physiologically and symbolically. The relationships among innate drives, social attachment, and cultural demands create many different kinds of health problems, including chronic anxiety and fear, behavioral disorders, conflict, excessive emotionality and desire, obsessions and compulsions, dissociations, and repression. The paleomammalian brain mediates many of these processes to promote an integration of the self within the community, thus accommodating the instinctual responses of the reptilian and paleomammalian brain systems to the cultural demands mediated by the frontal brain systems.

CONCLUSIONS. Shamanism is now getting recognition as the original basis of human spiritual and religious practice, a part of human nature that played a significant role in human cognitive and cultural evolution. As a biologically based spiritual and healing system that played a significant role in human survival, social relations, and cosmology, shamanism was humanity's original neurotheology. As human societies became more complex, the original biological basis of shamanism that was manifested in hunter-gatherer societies was substantially modified, eventually emerging in the form of mediumship and possession. Ethnography and cross-cultural studies have, however, helped revive shamanism and have reintroduced it to the modern world, enabling shamanism to reemerge as a natural religious and spiritual form.

SEE ALSO Healing and Medicine, overview article.

BIBLIOGRAPHY

Achterberg, Jeanne. Imagery in Healing: Shamanism and Modern Medicine. Boston, 1985.

Clottes, Jean, and David Lewis-Williams. *The Shamans of Prehistory: Trance and Magic in the Painted Caves.* Translated by Sophie Hawkes. New York, 1998.

Donald, Merlin. Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition. Cambridge, Mass., 1991.

- Frecska, Ede, and Zsuzsanna Kulcsar. "Social Bonding in the Modulation of the Physiology of Ritual Trance." *Ethos* 17, no. 1 (1989): 70–87.
- Guthrie, Stewart. Faces in the Clouds: A New Theory of Religion. Oxford, 1993.
- Harner, Michael. *The Way of the Shaman*. San Francisco, 1980; reprint, 1990.
- Hunt, Harry T. On the Nature of Consciousness: Cognitive, Phenomenological, and Transpersonal Perspectives. New Haven, Conn., 1995.
- Ingerman, Sandra. Soul Retrieval: Mending the Fragmented Self. San Francisco, 1991.
- Laughlin, Charles. "Body, Brain, and Behavior: The Neuroanthropology of the Body Image." Anthropology of Consciousness 8, nos. 2–3 (1997): 49–68.
- Laughlin, Charles, John McManus, and Eugene d'Aquili. Brain, Symbol, and Experience: Toward a Neurophenomenology of Consciousness. New York, 1992.
- Lewis, I. M. Ecstatic Religion: An Anthropological Study of Spirit Possession and Shamanism. London, 1971; 2d ed., 1988.
- Lewis-Williams, David. The Mind in the Cave: Consciousness and the Origins of Art. London, 2002.
- Mandell, Arnold. "Toward a Psychobiology of Transcendence: God in the Brain." In *The Psychobiology of Consciousness*, edited by Julian M. Davidson and Richard J. Davidson, pp. 379–464. New York, 1980.
- McClenon, James. Wondrous Healing: Shamanism, Human Evolution, and the Origin of Religion. DeKalb, Ill., 2002.
- McLean, Paul D. The Triune Brain in Evolution: Role in Paleocerebral Functions. New York, 1990.
- Mithen, Steven J. The Prehistory of the Mind: A Search for the Origins of Art, Religion, and Science. London, 1996.
- Noll, Richard. "Mental Imagery Cultivation as a Cultural Phenomenon: The Role of Visions in Shamanism." Current Anthropology 26 (1985): 443–451.
- Pandian, J. "The Sacred Integration of the Cultural Self: An Anthropological Approach to the Study of Religion." In *The Anthropology of Religion: A Handbook*, edited by Steven Glazier, pp. 505–516, Westport, Conn., 1997.
- Prince, Raymond. "The Endorphins: A Review for Psychological Anthropologists." *Ethos* 10, no. 4 (1982): 299–302.
- Ryan, Robert. The Strong Eye of Shamanism: A Journey into the Caves of Consciousness. Rochester, Vt., 1999.
- Siikala, Anna-Leena. *The Rite Technique of the Siberian Shaman*. Helsinki, Finland, 1978.
- Spilka, Bernard, and Daniel McIntosh, eds. *The Psychology of Religion: Theoretical Approaches*. Boulder, Colo., 1997.
- Swanson, Guy. "The Search for a Guardian Spirit: The Process of Empowerment in Simpler Societies." *Ethnology* 12 (1973): 359–378.
- Valle, Jacques, and Raymond Prince. "Religious Experiences as Self-Healing Mechanisms." In Altered States of Consciousness and Mental Health: A Cross Cultural Perspective, edited by Colleen A. Ward, pp. 149–166. Newbury Park, Calif., 1989.
- Wallin, Nils, Bjorn Merker, and Steven Brown, eds. *The Origins of Music*. Cambridge, Mass., 2000.

- Walsh, Roger. The Spirit of Shamanism. Los Angeles, 1990.
- Winkelman, Michael. "Magico-Religious Practitioner Types and Socioeconomic Conditions." *Behavior Science Research* 20, nos. 1–4 (1986): 17–46.
- Winkelman, Michael. "Shaman and Other 'Magico-religious Healers': A Cross-cultural Study of Their Origins, Nature, and Social Transformation." *Ethos* 18, no. 3 (1990): 308–352.
- Winkelman, Michael. Shamans, Priests, and Witches: A Crosscultural Study of Magico-Religious Practitioners. Tempe, Ariz., 1992.
- Winkelman, Michael. "Altered States of Consciousness and Religious Behavior." In *Anthropology of Religion: A Handbook*, edited by Stephen Glazier, pp. 393–428. Westport, Conn., 1997.
- Winkelman, Michael. Shamanism: The Neural Ecology of Consciousness and Healing. Westport, Conn., 2000.
- Winkelman, Michael. "Shamanism and Cognitive Evolution." Cambridge Archaeological Journal 12, no. 1 (2002a): 71–101.
- Winkelman, Michael. "Shamanism as Neurotheology and Evolutionary Psychology." *American Behavioral Scientist* 45, no. 12 (2002b): 1875–1887.
- Winkelman, Michael, and Douglas White. A Cross-cultural Study of Magico-Religious Practitioners and Trance States: Data Base. Human Relations Area Files Research Series in Quantitative Cross-cultural Data, vol. 3, edited by David Levinson and Roy Wagner. New Haven, Conn., 1987.

MICHAEL WINKELMAN (2005)

SHAMANISM: SIBERIAN AND INNER ASIAN SHAMANISM

Shamanism is a fundamental and striking feature of Siberian and Inner Asian cultures. The religions of these regions have therefore been described as shamanistic. Shamanism itself is not, however, a religion, but rather a complex of different rites and beliefs surrounding the activities of the shaman connected with very different religious systems. Shamanism is founded on a special technique for achieving ecstasy by means of which the shaman enters an altered state of consciousness, and on the idea that the shaman is accompanied by helping spirits who assist him in this state. While in a state of trance, the shaman is regarded as capable of direct communication with representatives of the otherworld, either by journeying to the supranormal world or by calling the spirits to the séance. He is thus able to help his fellow men in crises believed to be caused by the spirits and to act as a concrete mediator between this world and the otherworld in accompanying a soul to the otherworld, or fetching it from the domain of the spirits. The shaman acts as a healer and as a patron of hunting and fertility, but also as a diviner, the guardian of livelihoods, and so on.

THE ORIGIN OF SHAMANISM. The ecological and cultural differences among the peoples of Siberia and Inner Asia are considerable. The way of life of the Arctic sea-mammal hunt-