



Becoming Animals: Neurobiology of Shamanic Shapeshifting

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ABSTRACT

Since prehistory, shapeshifting has been a feature of several shamanic societies. Shapeshifting refers to a physical transformation of a shaman into an animal; and second, a shaman or other person behaving like a specific animal. This phenomenon has informed several mythological traditions. Prehistoric and extant shapeshifting provides a platform for understanding transformative elements of shamanism and how it is constituted. During shapeshifting the shaman's body mediates between the visible and invisible worlds, his/her psyche negotiates between psychic realms. Shapeshifting in its pictorial and performative genre is a kind of atavistic retrieval, deriving from ancient levels of the unconscious. As a type of altered state of consciousness, shapeshifting synchronises regions of the frontal cortex with the limbic system. Moreover, the performative elements of shapeshifting integrate a cascade of neurobehavioural processes for modulating a specific mood via spontaneous actions. This analysis will provide an overview of shapeshifting of its historical and cultural manifestations, and how it is constituted in various shamanic traditions. In the last section I will discuss neurobiological antecedents of shapeshifting.

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Introduction

Widespread belief in shapeshifting is probably a remnant of a time when ancestral humans had co-evolved with the non-human world. Ancestral humans were highly observant of the behaviours of many animals which was essential for survival during the Paleolithic period (2.6 Ma-12 ka). Early shamans carefully scrutinised the non-human world in great detail, which formed the basis of their shamanic complex. Shamans would have observed how certain animals underwent corporeal changes such as snakes shedding their skin or insect metamorphosis. This kind of corporeal transformation may have been considered as a magical conversion akin to rebirth. Being acutely aware of their mortality, ancestral humans may have found in metamorphosis a way of imagining life post mortem. Shamanic imitation of metamorphosis further provided insight into the nature

of non-humans. In extant shamanic cultures shamans behave in animal ways in order to embody their ways of thinking and behaviours. This often employs one or more techniques for attaining altered states of consciousness (ASC).

This analysis will provide an overview of shapeshifting of its historical and cultural manifestations, and how it is constituted in various shamanic traditions. In the last section I will discuss neurobiological antecedents of shapeshifting.

Ancestral Beginnings of Shapeshifting

A fascinating element in many shamanic traditions shamanism involves a belief and practice of shapeshifting, which for this analysis refers to an imaginary transformation of a shaman into an animal; and second, a shaman behaving like a specific animal. Belief in shapeshifting may have originated in

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the Paleolithic period in various parts of the world. Prehistoric paintings in Altamira (Spain), Lascaux (France), and the Americas depict theriomorphic figures. Noteworthy prehistoric therionthropes are “Lion Man of Hohlenstein” and “the Sorcerer”. (Andre, 1992; Lewis-Williams, 1981; Power, 2004). The latter is a cave painting depicting a standing humanoid figure, (circa 13,000 BP) with rounded eyes, antlers, human like feet and tail. The sorcerer is approximately 0.75 metres in length and is elevated four metres above the cave floor. According to Ryan (1999) the paintings human like features mediates between conscious and unconscious levels, the latter originating from our non-human origins. The masterful depiction of animals and therianthropes in prehistoric cave art sometimes incorporated three dimensions which probably evoked emotions of mystery and awe (*mysterium et tremendum*) (Saniotis and Henneberg, 2011b). Moreover, each painted figure can be understood as embodying a *nu-minosum* - the essence of the form depicted (Ryan, 1999).

The Lion Man of Hohlenstein is the oldest known theriomorphic statue in existence and dates from circa 30,000 BP. Meticulously carved from mammoth ivory, the figure depicts a human figure with a lion’s head or a mask, possibly worn by shaman.

Therianthropes in Various Civilisations

The therianthropic legacy of ancestral humans continued into the Neolithic period where elements of prehistoric shamanism played an important part of the religious complex of nascent agrarian societies. With the rise of civilisations approximately six thousand years ago various therianthropic motifs were included in religious myths and practice. Many of these beings were integrated in complex cosmologies. For instance, the god Vishnu, Hindu god of universal order was believed to have had ten incarnations (*dasavatara*). Some of these were in therianthropic forms such as Matsya (fishman), Kurma (tortiseman), Varaha (boarman), and Narasimha (lionman). Each of the divine incarnation functioned as a saviour in overcoming the forces of evil and re-establishing universal order. On this theme, the biologist J.B.S. Haldane drew a linear correlation between the *dasavatara* and different evolutionary periods; Matsya was associated with the advent of the first vertebrates (i.e. fish), Kumara with the arrival of amphibians, Varaha and Narasimha with the advent of mammals, and the historical Buddha representing *H. sapiens*.

The ancient Greeks had a rich shamanic tradition which included shamanic type rituals and therianthropic creatures. During the Brauronia festival (held every four years), there was a ritual known as the *arkteia* which involved young Athenian girls behaving like bears (Neilson, 2009). The *arkteia* was based on a myth in which a bear that was beloved to the goddess Artemis was slain. In order to atone for this wrongdoing, Artemis demanded that young girls to periodically be in service to her (Neilson, 2009).

Werewolf superstitions were depicted in Mesopotamian, Greek, Indian, and Roman folklore. The Greek historian Herodotus notes that the ancient Neurians could transform themselves as wolves (Lidman, 2004). The Greeks called this creature a lycanthropos (Gk: λυκάνθρωπος). Among the Romans the lycanthropos was called *versipellus* (‘skin-changer’) (Lidman, 2004).

During the middle ages werewolf beliefs abounded, and were probably informed by the berserkers – frenzied Norse warriors who wore wolf pelts. For the common person, a berserker would have embodied raw animalism and hellish fury (Stewart, 1909; Lidman, 2004). It has been suggested that the berserkers’ feverish combat displays exemplifies a subconscious retrieval of former animals (Lidman, 2004; Henneberg and Saniotis, 2016). Interest in the lycanthropic trope has persisted until the current period. Extant humans can now access many kinds of “werewolf” genre portrayed in the cult “Underworld trilogy” or other cinematic movies which is beyond the scope of this analysis. An interesting twist to the lycanthropic theme is in the 1994 movie “Wolf” in which the protagonist Jack Nicholson, after having been bitten by a wolf undergoes a slow transformation, beginning with extraordinary olfaction and hearing, and then superhuman strength.

Human perennial interest in lycanthropy probably stems from longstanding human/wolf evolution which led to dog domestication. Arguably, wolves were the first animals to be domesticated during hominin prehistory. Based on DNA samples taken from 1500 dogs, a study identified that extant canines originated from a group of several hundred wolves in southern China approximately 10-15,000 BP (Weiss, 2010). Ancestral wolves are thought to have initially been attracted to human sites in order to access food scraps, and eventually remained (Weiss, 2010). Thus, these wolf predecessors of canines played an active part in their domestication (Henneberg and Saniotis, 2016).



Shamanic Shapeshifters

Generally speaking a shaman's identification with animal powers is recognised by their putative ability to turn into an animal. Numerous stories highlight this fascinating aspect of a shaman's complex. Shapeshifting stories from Siberia during the Soviet era provide a unique anthropological window into this phenomenon.

The following story relates to a shaman called Parilop of the Srednaia Kolyma region of Russia. Parilop was credited with possessing healing and precognitive abilities. He was known to have predicted a fire to an electric power station one week before the event had occurred. Parilop had a woodgrouse as his spirit helper.

One day the shaman decided to visit a friend Karkha from the village Khatingnaakh. Karkhi had noticed a bird flying towards him and tried to shoot it with his gun. The bird escaped. A few days later Parilop approached Karkhi saying: "You nearly shot me the other day before yesterday. Why did you try to do this?" (Balzer, 1996).

Vasily A. Kudrin, a former member of the Communist League recounted a story of a Kolyma shaman called Gul'aev who had died in 1965. Gul'aev had wanted to train Kudrin in his shamanic tradition, however, Gul'aev was turned down. Kudrin narrates:

Suddenly I saw a raven swoop down and scare the horses. I calmed them down and went on. The next day, Gul'aev found me in the street and said ..."I've been looking for you and finally found you". I was petrified. He had seen me react with the horses when he was in the form of a raven and wanted me to then become his apprentice The next day, Gul'aev found me in the street and said ..."I've been looking for you and finally found you". . He had seen me react with the horses when he was in the form of a raven and wanted me to then become his apprentice (Balzer, 1996).

In the Sakha tradition, powerful shamans are purported to have bear or eagle spirit helpers, while weaker shamans have wolf or dog spirit helpers. Some spirit helpers can come in the form of ravens or other bird types. These beings act in mediating a shaman's powers. During séances Sakha shamans engage with avian spirit helpers who assist the shaman accessing cosmic realms where he/she can find sickness spirits or retrieve lost souls.

The correspondence between Sakha shamans and birds is further evident in the belief that the progeny of the sky gods Ary Darkhan may transform as ravens or eagles, or act as mentors to human souls (Popov, 1947). Attaining the service of a spirit helper such as an eagle is especially foreboding as indicated in the following:

He (the eagle) stood, and bowing to all people present said, "Hello! Why have you called me here? Why have you bothered me? With what will you reward me? My sharp fast eyes are piercing...my eagle talons capture and pin you, I will squeeze anyone who clutches my tail! Why have you asked me here? (Popov, 1947).

It is alleged that Sakha shamans possess a mother soul which can travel to the spirit world where it is transformed into a ii᠑-kyyl (mother beast) (Balzar, 1996). The bond between a ii᠑-kyyl and shaman is irrevocable. The death of either one results in the other dying. A shaman's ii᠑-kyyl can engage in magical ordeal with other shamans for supremacy. In one alleged shamanic battle, the aforementioned Parilop became a wolf and killed the reindeer of an Evenk shaman in retaliation to the latter's offence (Balzar, 1996).

An important element arising from these shamanic narratives relates to a shaman's ability to reorientate their psyche to the patterns of the supernatural world. Shapeshifting involves an extraordinary perception in which a shaman's psyche merges with the sacred other to create a unity of consciousness. Additionally, shapeshifting exemplifies the impressive mimic making proclivities of humans. Shapeshifting commences in early life with children enacting the behaviours of various animals. This process of mimicking the non-human other is manifested in feral children whose behaviours and senses become 'animalised'. Even after having returned to human society such children may have difficulty in mastering human language. It is as if the 'innate animalness' of our bodies supersedes our cultural bodies (Henneberg and Saniotis, 2016).

Human penchant for mimicry of the non-human world would have contributed to the advent of totemic societies in many regions of the world. Shamanic societies are deeply aware of the patterns of nature. The shaman's body mediates between the visible and invisible worlds, his/her psyche negotiates between psychic realms. A shaman's kinetic invocations of the animal other infuses his



corporeality with the carnal intelligence of the creature (Abram, 2010).

David Abram's informative book *Becoming Human* (2010), is relevant to this analysis since it explains his personal journey in becoming the 'animal other'. Taught by his shaman friend Sonam, Abram learns the shamanic ways of mimicking certain animals. Abram marvels at Sonam's ability to imitate the croaks and gutturals of ravens with such realism so that these avians would approach him (Abram, 2010). Also, the shaman adroitly mimics the raven's peculiar walking style. Abram points out that this kind of sensuous mimicry of the animal other is the most visceral way of feeling one's corporeality with the latter, necessitating a rearrangement of a shaman's sensorium. After weeks of recalibrating his senses to becoming aware of the ravens around him, Abram notices one day a raven pecking meat from a carcass. Immediately, he felt sensations on his neck and chest as though the raven was tearing at his own body. In this vignette, Abram experiences a kind of *communitas* between himself and the raven, constituting in a transformation of his psyche beyond his corporeal self.

Shapeshifting, Embodiment, and Nature

This notion of the cyclicity of existence is kernel to shamanic cultures. Life is predicated on indeterminate patterns which engage the human consciousness at various levels. In shamanic cultures the topography of the human body is correlated with the features of the landscape which provides a schematic of human experience. As Saniotis (2014) claims, "Nature's patterns are interwoven in the body's animal design, which is foremost a carnal entity".

Thus, in Dogon culture the house is conceptualised as a person lying down engaged in procreation. Similarly, the Dogon village is viewed as a human body orientated towards a north-south direction (Griaule, 1954:95-98). Here, we have an example of how metaphorical correspondences between the body and the environment shape human experience. The body is not static but rather a receptive plenum incumbent to nature's ebbs and flows.

In the Dreaming of the Warlpiri culture, a person's shadow is cognate with the tree shade, which had been created by the ancestor Yunkuyirranu. The tree shade contains the "vital essence" of Yunkuyirranu. In this way, to stand under a tree is to become imbued by Yunkuyirranu's influence, and is

analogous to a "coming into being" (*palka-jarrimi*), a rebirth (Jackson, 1995). For in the Warlpiri worldview the human body and body of the land are forever entwined, always in constant movement between the two bodies. The Dreaming epitomises the dynamics of shapeshifting.

Neurobiological Antecedents of Shapeshifting

The human brain is "neurognostically structured to experience in multiple phases" such as shapeshifting, trance states, dreams and meditational states (Laughlin, 1996; Saniotis and Henneberg, 2011a). Several authors have pointed out that altered states of consciousness (ASC) are intrinsic to neurognosis – an innate model of the brain/mind (Laughlin, McManus and d'Aquili 1990).

Studies have shown that ASC may synchronise regions of the frontal cortex with the limbic system. Evolutionary changes re-organised our neurohormonal systems, enabling for greater attention span and more vivid imagination (Henneberg and Saniotis, 2009). These elements would have had high adaptive value as they are central to creating technology and creating complex societies (Saniotis and Henneberg, 2011a). Improvements in imagination and memory retention in ancestral hominins also enabled them to imagine entities in various ways, thereby, creating new kinds of fictive bonds with animals. Those hominins who had greater imaginative faculties could manipulate various emotional states and connect them to certain environments, or what Winkelman (2002b) calls 'technologies of the mind'. Actions informed by affective states related to "imaginary extrasomatic space" (Previc, 2006), which may have had positive fitness value.

Saniotis and Henneberg (2011a) argue that ASC and religious experiences probably originated in the early Paleolithic period. Furthermore, the roots of shamanism may have arisen from this period since *H. erectus* would have possessed reflexive consciousness, as evinced by the highly aesthetic Acheulian axes produced during the Paleolithic period (Saniotis and Henneberg, 2011). According to Winkelman (2002a), shamanism is the original mystical complex which predicates human psychodynamics. Ancestral shamans in hunter/gatherer societies may have been the first to manipulate the geography of the psyche in order enter into ASC. Shamans used a repertoire of symbolic based practices which were invested with emotional significance. Shamanic symbolic



complex was deployed to induce healing and relieve psycho-physical trauma (Krippner, 2000). Krippner (2000), asserts that ASC evoke slow wave emissions originating in the limbic system where they coordinate with the frontal cortex. Moreover, these limbic slow wave emissions synthesise cognito-affective-behavioural elements (Winkelman 2002a).

MacClenon (1997) speculates that the ability for humans to enter into ASC is an evolutionary genetic legacy. Hypnotic states were advantageous for triggering analgesics and lowering stress induced glucocorticoids. Here, MacClenon suggests that Paleolithic shamanic practices may have informed the “frequency of hypnotisability genotypes” (MacClenon, 1997). MacClenon notes this human predilection towards ASC influenced pan-religious based practices. For example, individual and collective devotional practices found in extant religions may evoke a trance like state within in the theta waves (4-7 Hz) range of consciousness - the range of deep relaxation, healing and creativity.

Let us now return to Abram’s shamanic training. Sonam stresses to Abram on the need to alter his perception of the raven so as to integrate his psyche with the avian. Consequently, Abram learns psycho-physiological techniques in order to achieve a psychological *communitas* with the raven. Similarly, I would argue that shapeshifting incorporates mimetic creativity. Mimesis is a corporeal technique, a la Mauss (1960), in which an actor imaginatively fuses their psyche with the psyche of the other. Furthermore, shapeshifting’s penchant on spontaneous movements, gestures and sounds (as characterised by Sonam’s precise mimicry of the raven) elicits an intense psychological state. This is akin to Csordas’s notion of ritual performance as instilling an attitude for directed spontaneity and regulated creativity in imaginative praxis (Csordas, 1997:190). The question remains, if religious collective rituals strengthen “psychobiological synchronization” (Winkelman, 2002a:1881), then by this logic shapeshifting may result in a similar kind of imaginary harmonisation between human and non-human actors. Both forms of *communitas* integrate a cascade of neurobehavioural processes for modulating a specific mood via spontaneous actions (Singer, 1972; Csordas, 1997).

Characteristics of prehistoric and extant forms of shapeshifting denote arcane principles of the brain/mind, especially in relation to cognitive

organisation. Both the human/animal fusion of “the sorcerer” of Les Trois Frères, and the transformations of the apparent Sakha shamans, epitomise the boundary between unconscious and conscious modes of awareness (Ryan, 1999:54). Shapeshifting in its pictorial and performative genre is a kind of atavistic retrieval, deriving from ancient levels of the unconscious - that aspect of “the human animal that can directly experience nature” (Progroff, 1987).

Contribution

The author engendered the paper’s topic, and contributed solely in researching and writing of the paper.

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