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Shamanic Healing Ceremonies, Hypnosis and the Survival of the Suggestibles

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Abstract

Shamanic rituals typically consist of induction, deepening, suggestion, and enactment, the same stages that characterize most forms of contemporary hypnosis. Shamans claim to obtain information in ways not typically available to their peers, such as “visions” and “journeys.” They use this information to help and to heal community members. Tribal members who did not respond to the shaman’s treatment may have lacked the ability to mobilize their self-healing processes, thus their genes would rarely be passed down to future generations. Contemporary humans are able to respond to placebos, suggestion, imagination, hypnotic induction, and other adaptive traits that had their origins in prehistoric shamanism.

Keywords: Hypnosis; Placebo; Imagination; Shamanism; Suggestion

Introduction

When Pickren WE [1] selected the “250 Milestones in the History of Psychology,” the earliest landmark was the development of shamanism. Shamans can be defined as community-sanctioned practitioners who obtain information that is not ordinarily available to their peers and use this information to help and to heal members of their community. Shamanic visions and journeys are not commonly reported by other community members; however, both yield information of value and both utilize shifts in consciousness related to hypnosis. The earliest shamanic ceremonies were very important in the lives of community members. By engaging in group dancing while drumming, rattling, and chanting, shamans often exhorted spirits to come to the aid of those in need; and to the community as a whole. The shaman sang, spoke to animals, expunged malevolent spirits, located game, healed the sick, and asked for protection against enemies. These ceremonies were usually carried out at night when internal opioids are higher than during the day [2]. The release of opioids was also facilitated by repetitive activities (such as drumming and chanting), sweating (e.g., in Native American “sweat lodges”), extreme emotion (e.g., viewing terrifying masks, self-inflicted wounding), and storytelling – especially if the story has a positive ending. These opioids reduced pain, allowing the body’s natural healing processes to operate.

Evolutionary origins of shamanic ceremonies can be seen in the behaviors of various animals besides humans. They include rodent foot drumming, ape group shouting and foot stomping, and chimpanzee calling, posturing, marching in a circle, and scaling hills, behaviors also manifested by many other primates. A male chimp might stamp his feet against the ground, throw rocks and sticks, escalate to a bipedal stature, and swing through the trees. These activities display the health, vigor, and fitness of the chimp, attracting females and scaring enemies or rivals. However, human children have a capacity for quickly copying the step-by-step behaviors that characterize complex rituals, a capacity not seen in other animals. Many of these rituals define membership in a group and engender social support, thus aiding human survival [3].

Visionary Experiences

Imitation and miming are basic to shamanism, providing enactments that serve as signal systems [4]. The human body can be entrained to certain rhythms that enhance social bonding, sharing of information, and provide a basis for metaphors (activities that have a deeper meaning) and symbols. The adaptive quality of ceremonies created a group bond, forging a common identity. These behaviors evoke a pattern of phenomenological properties that can



be referred to as an integrative mode of consciousness, producing brain wave synchronization especially in the alpha and theta ranges [5,6]. The integration connects cortical hemispheres as well as higher and lower brain centers.

Shamanic visionary experiences engage a capacity for self-representation similar to that found in dream reports. In both, a scenario is constructed that is risk-free, yet provides an examination of options for future behavior. Symbolization and metaphor-making are found in both experiences, and are used to process daytime emotional residues, often dispersed in novel settings. This symbol system engages in processing recent events and their emotional concomitants, enabling the recall of valuable information when it is needed. Dream symbols integrate body awareness into waking consciousness and create a "spirit world" filled with benevolent and malevolent agents. Spirits can arise from dreams, but also from projecting human qualities onto other forms of Nature. This process allowed the shaman's community to create meaning from what was unknown, hence coping with that which was perceived as dangerous. Meaning and intentionality were projected onto the natural world, both living and non-living.

The assumption of spirits to adapt to a social context helps in understanding the behavior of others and explaining why these fellow humans react in predictable ways. This is a "theory of mind," one that is needed to provide explanations and to make inferences. Spirits expand human abilities to construct scenarios and predict consequences. Spirits are part of this "theory of mind" providing a way to explain bizarre and puzzling behavior and events. Spirits also allow for the expression of unconscious needs and regulate functions that are beyond volitional control. Power animals serve many of the same function as spirits, providing a visible means to represent human qualities. These animal guides also allow one to identify natural agents such as game, severe weather, and medicinal plants.

Evolution of Shamanic Treatment

Shamans engaged spirits to assist in healing, creating conditions for therapeutic changes. These changes could be canalized, becoming an integral part of one's self identity. Tribal members who did not respond to the shaman's treatment may have lacked the ability to mobilize their self-healing processes, thus their genes would rarely be passed down to future generations [7,8].

The evolution of modern human immune systems can be traced back at least 16 million years, well before the split between humans and gorillas [9]. People having a capacity for suggestion and response expectancy were more likely to benefit from shamanic healing ceremonies, especially for infectious diseases such as pneumonia. Since no antibiotics were available, they needed to rely on other ways to enhance immune system functioning. Those who did not have these capacities did not benefit as much from these ceremonies and were more likely to die from infections. This reduced their chance to procreate and their presence in the human genetic pool probably grew smaller [10]. This evolutionary process

may explain why modern humans have the capacity to respond to hypnotic suggestion.

The rapid brain growth of early humans apparently occurred at the same time as the transition from a partial to a bipedal gait and a significant loss of body hair. These changes in body structure also led to changes in lifestyle as humans became hunter-gatherers rather than foragers. They systematically sought out food sources, sharing what they found. The use of imagination was not only practiced by shamans but by hunters who imagined that they were their game, and where they could be found. They also gathered data, such as broken twigs and overturned pebbles. Members of the group would share knowledge and take action. They understood their world through myth and metaphor. The difference between a superstitious belief and a scientific theory is the amount of evidence supporting it. Hence, humans have been practicing science since the dawn of the species [11]. Myth laid the groundwork for science just as magic did for technology.

Shamanic healing ceremonies integrated non-verbal information with language-mediated activities. Stress hormone levels were reduced by shifting from autonomic nervous system control to parasympathetic nervous system dominance. During these ceremonies, serotonin was activated, and dopamine levels adjusted to this activation. The resulting "relaxation responses" enhanced serotonin levels that were conducive to healing. Genetically, tribal members rarely passed their genes to future generations if they could not integrate brain activities, did not dream or fantasize, did not benefit from social support, could not engage in symbolic and metaphoric thinking, lacked the ability to attribute events to spirits and power animals, and could produce neither placebo nor relaxation responses. Placebo effects play an important role in medicine (both allopathic and alternative), psychotherapy, education, nutrition, and politics. Kirsch and Silberstein [12] have argued how data from a meta-analysis indicate that placebos work as well as medication in the treatment of depression.

It is an oversimplification to claim that placebos are "all in the mind." Placebos can evoke measurable bodily changes. Depressed patients on placebos experience increased activity in their prefrontal cortex, which reduces their symptoms. Patients with Parkinson's disease, following placebo treatment, trigger a flood of dopamine in their neurotransmitters. After given a placebo, people with chronic pain often feel relief due to the release of pain-dampening endorphins and a decrease in pain-related activity in the brain and spinal cord [13].

In a 2014 review article on the genetics of personality, Turkheimer [14] and his associates concluded that personality traits are heritable but have no established genetic mechanisms, such that neither genes nor environment could be discounted from understanding any important factors in personality development. They also explained how genomic technology was advancing rapidly and someday may be able to identify the genetic mechanisms involved in suggestion and response expectancy. Further, Robins

[15] added that genetic factors account for about one half of the variability in personality. Some writers have even cited data from epigenetic research to suggest that environmental changes can alter gene expression and that these changes can be passed on to future generations. However, Ptashne [16] in a 2013 article in *Nature*, reported that there remains no convincing evidence to suggest that temporary modifications due to epigenetics self-perpetuate across generations. Hence, uncovering the exact mechanisms of heritability of personality traits still remains a challenge.

Shamanic Healing Practices and Hypnosis

Shamanic [17] and other traditional healing methods have been associated most closely with hypnosis for various reasons [18]. The word "hypnosis" is a social construct with a rich conceptual history, and it was popularized by James Braid, an English physician in the 19th century [19]. Although one can contend that traditional/indigenous healing practitioners employ "hypnosis-like procedures," it is not accurate to label their methods as "hypnosis." The ubiquitous nature of hypnotic-like procedures in traditional folk healing practices is the result of the way that adaptive human capacities can be canalized and shaped. These capacities include expectancy, suggestibility, responsiveness to placebos, the ability to imagine a suggested experience, and the capability to strive toward a goal [20,21].

Shamanic ceremonies typically consist of induction, deepening, suggestion, and enactment, the same stages that characterize most forms of contemporary hypnosis. The Navajo sand painting ceremony, the arrangement of "power objects" on a mesa by Andean curanderos, the drumming and chanting healing rituals of Siberian shamans, and the "throwing of the bones" by various Asian, African, and Nordic practitioners are examples of procedures that may not be "hypnosis" but are certainly "hypnotic." The use of social support and synergy in these procedures is consistent with Darwin's emphasis on cooperation as facilitators of the evolutionary process [22].

While parallels are often drawn between shamans and hypnosis practitioners, there are certain differences between their roles as well. The shaman is encountered as an open, involved, and accessible member of his or her community. However, a practitioner of hypnosis usually sees a client in a time-limited session, and little is known about the practitioner except what happens during the psychotherapeutic, counseling, medical, or dental session. Shamans generally take their time and work within the setting of the extended family and community, most often working in a group setting. While their methods might be dissimilar, both shamans and practitioners employ procedures designed to induce certain experiences in their clients that bring significance to each of their reputations as experts. Milton Erickson shared practices and roles in common with shamans, clinical hypnotists, and psychotherapists. He fit his cultural community, took his time, worked in various settings, and held the reputation of an expert ("Ericksons on Erickson Documentary" available at <https://www.youtube.com/watch?v=71GMGH70e8Q>).

Events and Experiences

The Greek philosopher Epictetus urged his students to discriminate between event and experience, noting that what happens to them was not as important as how they reacted to that event. There is a difference between the procedures carried out by the shaman or hypnotic practitioner and the internal phenomenology that marks the client's experience. A certain procedure that is intended to produce a particular experience might do so or not. Effectiveness can be determined by observable behavior as well as by clients' reports. The same is also suggested by the richness of placebo literature, which makes it clear that individuals have the ability to control their physiology down to the cellular level. This effect is so powerful that in formal studies, one assumes that at least one third of the participants who receive a placebo will do as well as or better than those getting the medication being evaluated. Similarly, the beliefs and expectations of the experimenter (and the practitioner) also have a powerful effect on the effectiveness of both the medication and the placebo. These effects were illustrated by Irving [23] in the book, *The Emperor's New Drugs: Exploding the Antidepressant Myth*.

Shamans made use of a variety of herbs, brews, teas, and poultices derived from plants, animals, metals, and other natural ingredients. If their clients were indeed suggestible and exhibited response expectancy, these remedies would still be regarded as effective, regardless of whether they contained active ingredients. Nonetheless, more than one indigenous pharmacopeia contains many remedies that would be considered effective even at present day standards. For example, the pharmacopeia of the Rappahannock tribe contained more medically active substances than did the pharmacopeia of the European invaders [24,25]. Likewise, the indigenous Samoan pharmacopeia contained over 100 herbal mixtures that drew on over 90 different plant species. At present, there are over 120 plant-derived substances used globally as medicines, the best-known being reserpine, digitalis, and vincristine.

Placebo Effects and Mechanisms

Regardless of the effectiveness of the shamans' methods in alleviating symptoms and treating health conditions, it is still considered as a type of placebo effect by many. In order to validate this claim, it is also important to look at the nature in which placebos work. Placebos fall into several categories; illusions of observation, bias, non-specific effects, and physiological effects. The illusory effects include the time when an effect is measured, which might be a time when the symptom is temporarily reduced. Bias effects include participants' desire to please the experimenter and modify their change in pain level or other symptoms accordingly. Non-specific effects include the fact that simply being observed in a clinical trial often results in positive changes. Finally, there are actual physiological effects resulting from what Steven Novella [26] calls "the ritual of treatment."

Believing that one is being treated may reduce anxiety – in turn – potentially reducing sympathetic activity, blood pressure,

strain on the heart, and the level of stress hormones. In addition, conditioning and expectation may evoke the release of natural endorphins and an increase of dopamine in the brain's reward centers. Therefore, when someone takes a placebo and believes it will work, this expectancy often leads to a cascading effect that promotes healing. Thus, the placebo effect is more self-empowering than a reflection of vulnerability influence. This perspective is supported by data indicating that research participants showed positive changes even when they were told that they were being given inert placebos. However, there are some alternative therapeutic techniques that have been proven to be more effective than placebo or pharmaceuticals, such as acupuncture for the treatment of irritable bowel syndrome [27]. Regardless, there is a lot to learn from traditional forms of healing, without dismissing the complex psychological and physiological human reaction as mere placebo effect compared to alternative methods [14].

Placebo Vs. Pharmaceutical Methods in Treatment

In considering the efficacy of placebo treatments, it is also worth noting the other side of the debate: the efficacy of pharmaceutical drugs. Although people commonly believe that specific drugs are more potent for treating certain disorders, the reality is often masked. A study published in the *Journal of Clinical Epidemiology* in 2015 found that one third of 185 meta-analyses regarding drug efficacy were written by pharmaceutical industry employees or funded by the industries, indicating the relative influence of profit-driven corporations and a shift away from evidence-based medicine [28]. Similarly, an independent review found that the drug Paxil (paroxetine) was not safe for use by teenagers despite the initial drug trials in 2001, which was funded by the manufacturer GlaxoSmithKline and marketed Paxil as safe for adolescents [29]. It has also been found that drug response decreased over time in treatment of neuropathic pain, in contrast to considerable increase in placebo effects [30].

The debate surrounding the efficacy of antidepressants vs. placebos in the treatment of depression has been around for a while without any foreseeable consensus. The debate also holds some significance to the utility of alternative therapies like hypnosis in the treatment of depression. Yapko [31] pointed out the following key problems in the supposed efficiency of antidepressants;

- Unidimensional clinical formulation of depression that is purely biological
- Passive role of patients
- Existing medico-politics that corrupt clinical trials and reporting
- Misleading advertisements
- Conflicting data that confuse clinicians and consumers
- Inaccurate dosing
- Side-effects
- Harm to the environment

He proposed that psychotherapy coupled with hypnosis could offer the best solution to all eight concerns mentioned. While the advantages of automatic response systems were a positive survival trait favored by evolution, some of these, such as an aggressive reaction to perceived threat, are now less appropriate, and humanity needs to "de-automatize" them through hypnosis, medication, and other voluntary control procedures. Such practices seem to have long-term effects on neural systems, with specific strengthening of the evaluative networks. This allows for some degree of human control of their evolutionary pathways [32].

Example: Curanderismo and hypnosis

Curanderismo, a type of Mexican and Mexican-American traditional healing practices, is widely employed in the Southwest United States and helps us draw some useful comparisons with hypnosis. Curanderismo combines Mayan and Aztec folk medicine with Roman Catholic religious rituals, European witchcraft, Arabic medicine, and regional influences. The underlying focus of Curanderismo is spiritual essence such that every item on their altar have religious significance, providing focus for the patient's goal-striving. Motivation and striving toward a goal also are important components of hypnotic treatment. Similarly, the curandero also plays healing songs on their flutes drawing attributions to the seven chakras. This type of multisensory experience is also a frequent component of hypnotic treatment.

In Curanderismo the etiology of sickness is understood as being triggered by natural, psychological, or supernatural causes. Among their vast collection of herbal medicines, some did contain medicinal properties, while others were relied on for their role as placebos to increase medicinal effectiveness. Similarly, clinical hypnosis can enhance a patient's response to medical procedures, especially anesthesia or analgesia. A major part of Curanderismo practice involves the active involvement of the patients in eating healthy or following certain regimens. Similarly, in hypnotic treatment, homework assignments are provided. In some cases, the patient is taught self-hypnosis or given a cassette that will reinforce suggestions made during the hypnotic session.

Another aspect of the Curanderismo method involves use of colorful fabric containing images of plants, animals, and birds thought to empower patients, often in sessions where they are asked to imagine contact with healing agencies. In clinical hypnosis, imagination is often utilized where patients might be asked to imagine immune system enhancement or the improvement of blood flow and the release of nervous tension. Curanderismo utilizes several specialists; herbalistas supervise herbal treatment; *senoras* prescribe home remedies; *magicas* combine herbs with spiritual practices, such as prayers, chants, burning incense, and lighting candles. In comparison, there are sects within hypnosis such as clinical hypnosis, medical hypnosis, and dental hypnosis, all provided by different specialists [33,34].

Curanderismo also often employs forms of movement and dance that reinforces treatment and promotes the balance that is a central concept of the practice. In hypnosis, reinforcement is

provided by telephone calls, self-hypnosis, homework assignments, and social support. Just as dance rituals are highly scripted, hypnosis sessions are carefully scripted, structured, and sequenced to obtain the maximum effect. Curanderismo and other traditional healing systems often use chants as well as drums and other percussion instruments in their rituals. Rhythmic sounds can produce “sonic driving,” which alters patients’ attention. In the same light, clinical hypnosis often uses repetitive statements as an attention-altering procedure. Both Curanderismo and clinical hypnosis enable patients to decipher symbols and metaphors, carry out “task demands,” translate suggestions into appropriate action, and develop learned skills. Aspects of Curanderismo and other traditional healing systems resemble hypnosis and hypnotically facilitated psychotherapy, even though one cannot rightly proclaim that curanderos and curanderas employ “hypnosis” [35,36].

Conclusion

In conclusion, it can be proposed that traditional healing practices played a role in human evolution, leading to what might be called the “survival of the suggestibles.” With the exception of surgery and the herbs that had medical properties, patients’ responses to traditional healing rituals and practices depended on factors such as expectancy, suggestion, and the placebo effect. Those patients who did not possess these traits did not respond favorably to those methods and hence died; and their genes dropped out of the gene pool. Hence, expectancy, suggestibility, and placebo responsiveness were traits that were adaptive in human evolution. These traits are among those that characterize people who respond to hypnotic suggestions as well [37,38].

In present day psychotherapy too, suggestion and rituals play a significant role, even if they operate on an unconscious level, as demonstrated by Jerome Frank in his classic book *Persuasion and Healing* [40]. Similarly, Milton [39] used a method of storytelling in psychotherapeutic procedures in order to bring about non-voluntary responses, which is comparable to the methods of the shamans and their injunction of tricking people to help them get well.

When psychotherapists speak of using their “clinical intuition,” they are obtaining information in ways not accessible to their peers. This is tantamount to shamanic journeys, especially when the psychotherapist has a dream about the client that is instructive [41,42]. Adam Crabtree [43-45] has summarized the evolutionary process quite well, stating that there are three powerful beliefs that came to be the basis for contemporary insights into human potential. First, humans have a dynamic inner mental world that operates continuously, even when it is not available to conscious awareness. Second, in exploring this world, psychotherapists and other practitioners discover a reservoir of inner awareness that can be evoked in hypnosis and similar conditions. Third, the evocation of these resources is the means by which humans have engaged in their evolutionary development. Hypnotic-like procedures and processes may well be catalysts for some aspects of human evolution.

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Conflicts of Interest

Authors declare no conflict of interest.

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