

# Beyond Intuition: An Examination of Comparative, Field and Experimental Studies of Psi and Shamanism

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*Paranormal data have largely been silently passed over in serious anthropological works.... This is deplorable, for whether you accept their reality or not they should be discussed and evaluated.*

Åke Hulthkrantz

What have been the most controversial issues in the study of shamanism? Two stand out especially: The psychological health of shamans, and the possible use of parapsychological abilities by them.

The psychological health of shamans has been much debated. Practitioners were first demonized as, for example, "people of evil custom who...serve the devil to deceive their neighbours,"<sup>1</sup> and later pathologized, for example as "...a severe neurotic and even as a psychotic."<sup>2</sup> Fortunately, such views have now collapsed under the cumulative weight of field, comparative, and psychometric studies, coupled with greater awareness of the dangers of ethnocentric, cognicentric, and psychoanalytic biases. Several reviews of the history of this debate and of the current understanding of the health of shamans are available.<sup>3-7</sup>

However, a longstanding controversy that continues unabated concerns the existence and possible role of psi (parapsychological process) in shamanic diagnosis, divination, and healing. Three interpretations prevail. Traditional shamans believe that the

primary forces they invoke are spiritual. There are two very different and very controversial Western interpretations of this belief. One common interpretation, especially among academics, has been to see the belief as a classic example of "magical" thinking. The other interpretation is that shamanic diagnosis and healing reflect, in part, the operation of paranormal, psychic abilities.

## The Debate

If you make the mistake of walking into a group of scientists and announcing that you believe in parapsychology, three things will quickly become clear. First, most scientists, like most of the public, hold very strong opinions on the topic. Second, despite these strong opinions, they know very little about the relevant research. Third, parapsychology is, to put it mildly, a very controversial and highly charged topic.

Supporters claim that "a vast parapsychological literature exists on a host of rigorous experiments,"<sup>8</sup> while skeptics retort that "not a single individual has been found who can demonstrate ESP (extrasensory perception) to the satisfaction of independent investigators."<sup>9</sup> Proponents point to controlled studies showing that humans are capable of both ESP and of PK (psychokinetic or mind on matter) effects on objects ranging from electronic circuitry to mice.<sup>10</sup> Of particular relevance to shamanic healing are reports of PK effects on the growth of plants and fungi, enzyme activity, the healing of mice, and the level of

blood hemoglobin in humans.<sup>11</sup> Hard-core critics dismiss such findings as miniscule, unreplicable, or due to experimenter incompetence or fraud. Consensus is not a common thing in parapsychology.

Despite this, any investigation of shamanism, if it is to be intellectually honest, needs to examine whether psi (psychic ability) plays a role. For as William James warned "There is no source of deception in the investigation of nature which can compare with a fixed belief that certain kinds of phenomena are impossible."<sup>12</sup>

A thorough examination of the possibility of psi in shamanism needs to cover four major areas:

- Claims for psi in other religious and healing traditions.
- Evidence (pro and con) in shamanism. This evidence includes anecdotal reports, experimental studies, and theoretical considerations.
- Experimental studies of psi, evaluating primarily its existence, and secondarily its possible nature.
- Meta-analyses of experiments.

### **Psi Claims in Other Traditions**

Most religions accept the reality of paranormal abilities such as, for example, the charisms of Catholicism, the *siddhis* of yoga, or the "adornments of the man of light" in Sufism.<sup>13</sup> Some religions offer explicit techniques aimed at cultivating psi, but many techniques require enormous powers of concentration.<sup>14, 15</sup>

Psychic abilities are often viewed as mixed blessings. While they can supposedly be used for good, they can also seduce practitioners away from more important spiritual goals. "All power corrupts," says the old saying, and psychic power is no exception. Consequently, yoga recommends *moksha* (liberation) before *siddhi* (psychic abilities), some Catholic saints were supposedly chastised for displaying their gifts,<sup>13</sup> and classical Buddhism "abhors the exhibition of occult forces."<sup>16</sup>

In the West, some highly respected physicians and psychiatrists, including such notables as Sigmund Freud, Carl Jung, and Jerome Frank, have suggested that psi can play a role in therapy. Frank wrote:

My own hunch, which I mention with some trepidation is that the most gifted therapists may have telepathic, clairvoyant, or other parapsychological abilities....they may, in addition, possess something that is similar to the ability to speed growth....and that can only be termed healing power. Any researcher who attempts to study such phenomena risks his reputation as a reliable scientist, so that pursuit can be recommended only to the intrepid. The rewards, however, might be great.<sup>17</sup>

In short, religious traditions and some notable medical authorities have accepted psychic abilities. *But proof by authority is one of the weakest of all proofs, so let us turn to evidence.* In assessing the possible existence and role of psi in shamanism, we need to consider four kinds of evidence: anecdotal reports, theoretical considerations, experimental studies, and meta-analyses of experimental studies.

### **PSI and Shamans: What is the Evidence?**

#### **Anecdotal Reports**

Anecdotes of supposed psychic displays are common. For example, a French missionary claimed that he witnessed clairvoyance in a New Caledonian shaman. In the course of a great joyous feast he suddenly plunged himself into despair, announcing that he saw one of his illustrious relatives in Arama (a town several miles away) agonizing. A canoe was speedily sent to Arama, a three hour trip from there. The chief had just died.<sup>18</sup>

An example closer to home was said to involve possible psychokinesis. The psychiatrist Stanislav Grof reports that a well known Huichol Indian shaman, Don Jose, was brought to the Esalen Institute in Northern California during a long, severe drought when water supplies were strictly rationed. Don Jose therefore volunteered to perform a rain making ceremony. As dawn broke the next day, the bemused participants found themselves dancing in the rain.<sup>19</sup>

But anecdotal reports, no matter how dramatic, are at best suggestive, never conclusive, and can be interpreted in different ways. For example, the anthropologist Bogoras observed a Chuckchee who:

Made one of his "spirits" shout, talk, and whisper directly into my ear, and the illusion was so perfect that involuntarily I put my hand to my ear to catch the "spirit." After that he made the "spirit" enter the ground under me and talk right in between my legs, etc. All the time he is conversing with the "separate voices" the shaman beats his drum without interruption in order to prove that his force and attention are otherwise occupied.

I tried to make a phonographic record of the "separate voices" of the "spirits" . . . when the light was put out, the "spirits" after some "bashful" hesitation, entered in compliance with commands of the shaman, and even began to talk into the funnel of the graphophone. The records show a very marked difference between the voice of the shaman himself, which sounds from afar, and the voices of the "spirits," who seemed to be talking directly into the funnel.<sup>20</sup>

Bogoras was impressed, but remained convinced that these were ventriloquist tricks. There can be no doubt, of course, that shamans, during their performances, employ deceit in various forms and that they themselves are fully cognizant of the fact. "There are many liars in our calling," Scratching Woman (A Chuckchee shaman) said to me. One will lift up the skin of the sleeping room with his right toe and then assure you that it was done by spirits; another will talk into the bosom of his shirt through his sleeve, making the voice issue from a quite unusual place.<sup>20</sup>

However, other people are just as certain that Bogoras witnessed psychic phenomena. From their perspective, the problem is that Bogoras "was never able to break through his scientific training and bias to admit that he had witnessed the miraculous. . . . he explained that everything he witnessed was no doubt due to trickery, though he never offered any hint as to how the feats could have been fraudulently performed."<sup>21</sup> However, psi enthusiasts often seem unaware of how difficult it is to rule out more conventional explanations.

Another clash of interpretations centers on the practice of fire walking. Long practiced by native peoples, including some shamans, fire walking has recently become popular in the West, where the debate

over competing explanations has become heated, so to speak. Enthusiasts such as Eliade suggest that the ability, at least among shamans, is due to special skills and training.

Skeptics explain the ability to walk on hot coals in purely physical terms. For example, coal can be very hot, yet the fact that it has both low conductivity and capacitance (heat storage capacity) means that relatively little heat is conducted to the foot. Skeptics also emphasize the brief time that any specific area of the foot is actually in contact with the coal. Then, too, there is the so called "Leidenfrost effect": the evaporation of sweat on the soles of the feet which may provide a microlayer of insulating water and steam. In the middle are people like Charles Tart, who argues that physical mechanisms may be supplemented by protective effects of ASCs (altered states of consciousness) that reduce inflammation and blistering.<sup>22</sup>

the ability is due to special skills and training

These conflicting interpretations epitomize a central problem of the debate over parapsychology. Most people decide the issue on the basis of their prior beliefs rather than on a considered evaluation of research. Actually, this problem is not unique to parapsychology: it riddles and ruins debate in many controversial scientific areas.<sup>23</sup> Consequently, for true believers, shamans are "psi masters . . . veritable early warning systems for their peoples"<sup>24</sup> while for skeptics, psi is clearly impossible and shamans must therefore be charlatans. Opinions run very strong in this area, and the opinions are usually based on strong convictions and little evidence.

Let us, therefore, turn from opinions to data and ask what, if any, evidence beyond anecdotal reports we have of psychic abilities in shamans. Two types of evidence need to be examined: theoretical and experimental.

## Theoretical Considerations

Theoretical support comes from a novel reinterpretation. Michael Winkelman points out that the conditions employed in tribal magic rituals—conditions such as ASCs, visualizations, and positive expectations—parallel those supposed to facilitate psi.<sup>25</sup> Conceivably, trial and error could have led tribal peoples to adopt ritual forms that favor psi. This argument is obviously far from conclusive. However, Winkelman deserves credit for having the courage to suggest it since, of course, he was loudly lambasted by critics. Understandably, his more recent writings make virtually no mention of the topic.

## Experimental Studies

If psi does occur in shamanic practices, it could be of two kinds: a psychokinetic (PK) effect such as accelerated healing, or an extrasensory ability to acquire information.

There have been two reports of significant PK effects in healers that the researchers called "shamans."<sup>26, 27</sup> However, the healers did not fit precise definitions of shamans, nor did the studies test PK effects on actual healing. Consequently, the question of whether shamans ever successfully use PK to enhance healing cannot be answered experimentally at this time.

The other parapsychological ability that might be involved in shamanic healing is extrasensory perception (ESP or clairvoyance). Certainly, shamans claim to perceive things unseen by ordinary people. Indeed, the development of "spirit vision" is central to shamanic training, and essential for diagnostic and healing work.

Despite the importance of spirit vision to tribal healers, there have been few experiments on it. Two studies of so-called Afro-Brazilian "shamans"<sup>28, 29</sup> seem to have actually observed mediums who became possessed by spirits, but who did not usually engage in soul flight. They were asked to identify unknown objects located at a distance, but showed no evidence of ESP, and in one study scored significantly worse than controls.<sup>26, 28</sup>

These negative findings are not surprising since the tests were artificial, and subjects performed in an

ordinary state of consciousness. Yet, mediums and shamans usually claim that their psi abilities are enhanced in ASCs, and so it remains possible that true shamans sometimes display psi abilities in ASCs.

Since shamans claim that psychic ability is greater in altered states, it is not surprising that psychedelics are sometimes used as diagnostic aids. In Latin America, *yagé* (ayahuasca) is regarded as particularly potent, and shamans use it regularly to assist with diagnosis and journeys.<sup>30-34</sup> Several anthropologists have reported possible ayahuasca-induced psi, and the plant from which *yagé* is produced is called "the visionary vine."<sup>30, 35</sup> However, despite such tantalizing stories, no experiments have been done on shamans' psychic abilities after taking psychedelics. To learn more we must turn to research in the West. The psychiatrist Stan Grof, who has done extensive research on psychedelics, states that:

in my own clinical experience, various phenomena suggesting extrasensory perception are relatively frequent in LSD psychotherapy, particularly in advanced sessions....Every LSD therapist with sufficient clinical experience has collected enough challenging observations to take this problem seriously.<sup>36</sup>

Verifying such clinical observations requires controlled laboratory studies. However, the results are largely negative. While occasional subjects scored well, overall there was no significant effect.<sup>36</sup>

Of course, these could be false negatives. Unlike shamans, the experimental subjects were not trained in either ASCs or psi. The negative findings could also reflect the uninteresting nature of the experiment and the enormous difficulties that subjects have concentrating. Psychedelics produce a cavalcade of dramatic images and overpowering emotions, so it is hardly surprising that subjects report great difficulty and little interest in focusing on experiments which, by comparison, may seem utterly trivial and boring.

There is also a danger of false positives. Psychedelic experiences can be truly mind boggling and belief shattering. Anyone who doubts this statement is invited to read Stan Grof's books, *Realms of the Human Unconscious*<sup>37</sup> or *When the Impossible*

*Happens*.<sup>19</sup> In fact, psychedelic experiences can be so powerful, their insights so compelling, and their apparent certainty so convincing, that many novices come away convinced of the earth-shattering importance of their insights, and of the unquestionable validity of their psychic abilities. This is one reason why so many spiritual teachers, both indigenous and Western, are so cautious. They commonly recommend that psychedelics be used, if at all, only in the context of an on-going spiritual discipline, and that any insights should be adjudicated by teachers and further spiritual practice.<sup>32, 34, 36, 39</sup>

Not surprisingly, Westerners exploring psychedelic shamanism while ignoring these caveats have come up with some wild theories. After some hefty doses of ayahuasca, the physicist Fred Alan Wolf attempted to marry shamanism and quantum physics, and claimed to have found, in the words of his book's subtitle, "The scientific truth at the heart of the shamanic world."<sup>40</sup> Likewise, Jeremy Narby speculated that the visions of intertwined serpents found across cultures, and sometimes fueled by ayahuasca, reflect insights into the helical structure of DNA,<sup>41</sup> and that the DNA is trying to communicate with us. Maybe, but then again... Psychedelic insights can be valid and valuable, but they can also be compelling and wrong. Proceed with caution! Several reviews are available.<sup>31, 34, 36, 37, 42-45</sup>

Let's summarize the evidence for claims that psychedelics can enhance psi. There are many anecdotal reports of psychedelic enhancement of psi abilities in shamans and clinical subjects. However, this is not something that occurs regularly or reliably in laboratory situations. Whether it occurs in, and whether it can be harnessed by, shamans remains experimentally untested.

### **Parapsychology Meets the Laboratory**

Anecdotes can be intriguing and field studies fascinating, but the fate of beliefs about parapsychology will be settled in the laboratory. Only impeccably designed, exquisitely controlled, and reliably repeated experiments will be enough to convince believers or skeptics one way or the other, if anything can. What does laboratory research tell us?

For over a century, parapsychology limped along collecting case reports and doing individual studies of such things as card guessing and influencing the throw of dice. Some studies reported significant findings, but virtually no skeptics were convinced. They routinely complained that the studies were unreliable, poorly designed, statistically flawed, due to experimental fraud, or outright impossible. Then came a revolutionary statistical technique.

### **Meta-Analysis**

Meta-analysis combines and analyzes many studies simultaneously, and can therefore discern trends that individual experiments easily overlook. Not surprisingly, meta-analysis is revolutionizing research in many fields, and one of them is parapsychology. What does it reveal?

### **Experimental Findings**

Psychic abilities, if such there be, are usually divided into two major categories: "receptive" telepathy or clairvoyance, and "active" psychokinesis (PK). Actually, it turns out to be extremely difficult, if not impossible, to distinguish between telepathy (in which information is supposedly acquired from another mind), from clairvoyance (in which information acquisition is not dependent on another mind).

Studies of clairvoyance have typically used three methods: card tests, remote viewing, and Ganzfeld studies. In card tests, subjects are asked to "guess" which of a set of cards has been selected (these days usually automatically by a computer). Meta-analysis of all studies revealed odds against chance of more than a billion trillion to one.<sup>11</sup> Since experimental odds of one hundred to one are often considered sufficient to establish a phenomenon, these results are obviously astronomically high.

Analyses of remote viewing have also been highly positive. In 1995, the CIA commissioned a review of all remote viewing research that had been sponsored by the United States government. Even the skeptic on the review team acknowledged that the results could not be dismissed as mere chance.<sup>11</sup>

The Ganzfeld is an experiment in which receivers first relax in a state of sensory isolation. They are then asked to describe, and subsequently select from

an array of choices, a video being played in another room. Several meta-analyses have been conducted. The general consensus seems to be that the phenomena is not always replicable, but that the results remain positive even as the quality of studies has improved over the years.<sup>41, 46</sup>

The results of PK are also positive. Subjects appear able to exert small influences on both falling dice and atomic random number generators (RNGs), and to speed healing. Meta analyses of RNGs analyzed 597 experimental studies done up to 1987 and produced astronomical odds against chance of over a trillion to one,<sup>47</sup> although a recent replication attempt was unsuccessful.<sup>47, 48</sup>

In summary, meta-analysis reveals highly significant effects for diverse experiments of both ESP and PK. However, the effects are usually small, not always reproducible in any single experiment, and they remain the subject of intense debate.<sup>49</sup>

## Prayer

"Prayer is good medicine" proclaims the title of a book by the noted physician Larry Dossey.<sup>50</sup> A majority of the population agrees and periodically prays for health benefits. Being prayed for could obviously make a person feel cared for and elicit a placebo effect. But, could it have other benefits on disease and mortality?

To the surprise of hard headed skeptics, a few experiments suggested it could.<sup>51</sup> Needless to say, they excited considerable controversy and much media attention. However, better designed follow-up studies have been less favorable,<sup>52</sup> and health benefits from intercessory prayer remain unproven.<sup>53</sup>

## Factors Effecting Psi

Most psi researchers feel that the battle has been won, that psi has been demonstrated, and it is time to move on to more interesting questions. The University of California statistician, Jessica Utts, concluded from a review of formerly secret CIA research:

The statistical results of the studies examined are far beyond what is expected by chance. Arguments that these results could be due to methodological flaws in the experiments are soundly refuted....It is recommended that future

experiments focus on understanding how this phenomenon works, and on how to make it as useful as possible. There is little benefit to continuing experiments designed to offer proof...<sup>11</sup>

So what have researchers learned about how psi works? Three kinds of factors seem to affect it: individual differences between people, subjective psychological factors, and physical environmental factors.

*Individual Differences:* A consistent finding is the famous "sheep-goat effect." Sheep (those whose belief in psi) tend to score positively. However, goats (those who disbelieve in it) tend to score at chance or, most intriguingly, below chance. Those below chance scores suggest that the goats are actually picking up psi cues, but then giving opposite answers so as to unconsciously support their belief that psi does not exist. A small minority of gifted people consistently score well on psi tests such as remote viewing, while most people do not. Moreover, gifted subjects seem to be born, not made, and neither practice nor training consistently improves remote viewing ability.

*Psychological Factors:* In fact, practice can be detrimental. Many parapsychology experiments are long, repetitive, and boring. Not surprisingly, subjects commonly show a "fatigue effect" in which their scores drop off the longer the experiment drones on. However, two things can help. Receiving immediate feedback—being told how well you are doing—can help maintain interest. Altered states of consciousness—such as relaxation, hypnosis and meditation—also increase psi scores, and this is obviously relevant to shamans who commonly enter ASCs before making diagnoses.

*Physical Factors:* Physical factors can also exert an influence. For example, when the earth's magnetic field is particularly active, traffic and industrial accidents rise, while psi scores plummet.<sup>11</sup> Two final physical factors are utterly mysterious. The first is sidereal time: a measure of the earth's rotation relative to the stars. For reasons quite unknown, psi scores vary dramatically according to sidereal time.<sup>64</sup> Second, contrary to all other types of signals, psi scores do not seem to depend on distance from the target. People a thousand miles away may score as

well as people in the next room. This finding is particularly alarming to conventional scientists since it runs counter to our knowledge of signal propagation and other forms of information transfer. In short, psi scores seem to vary in systematic ways depending on the individual, their state of mind, and aspects of the physical environment, but not with distance.

Comprehensive, informed reviews of psi can be found in Dean Radin's<sup>11</sup> book *The Conscious Universe* and the special issue "Psi Wars: Parapsychology" of the *Journal of Consciousness Studies*.<sup>49</sup> Examples of bad reviews, of which there are many, that display an astounding ignorance of the research, include Charpak & Broch *Debunked! ESP, Telekinesis, Other Pseudo-science*,<sup>55</sup> as well as the review of this book by Freeman Dyson<sup>66</sup> which appeared in the *New York Review of Books*.

Despite many valiant attempts, there are no accepted theories to explain psi.<sup>57</sup> If such a theory does arise, it may call some laws of physics and principles of psychology—as well as our understandings of reality—into question which, of course, is one reason why psi is so vehemently opposed by many mainstream academics.

### The Contrast with Astrology

*The fault, dear Brutus is not in our stars, but in our selves.*

Shakespeare: *Julius Caesar*

Hardcore critics who know little about experimentation or statistics might attempt to dismiss the research support for parapsychology by saying that if you look hard enough for anything, you will find it. But that is simply not so, at least for good research. For contrast, consider astrology. If simply doing large numbers of experiments was sufficient to produce positive findings, then we would certainly expect them for astrology. Its claims have been put to over 500 experimental tests, including studies using expert astrologers, some run by astrologers themselves, and some run by astrologers and scientists in collaboration.<sup>58</sup> Yet, by contrast with parapsychology, the findings are uniformly, in fact devastatingly, negative.<sup>54, 59</sup>

### Conclusions about Shamans and PSI

Having surveyed ethnographic, clinical, and laboratory research, what can we conclude about the possibility that shamans employ parapsychological processes in their diagnostic and healing work? Certainly, there are some remarkable anecdotal reports of psi in shamans and other native healers. In addition, the conditions used in tribal rituals often correspond to those reported to facilitate psi, and some laboratory studies and meta-analyses seem supportive of psi. However, as yet we have no good experimental studies of shamans. Therefore, for those whose minds remain open, the issue also remains open.<sup>60</sup>

### Notes

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