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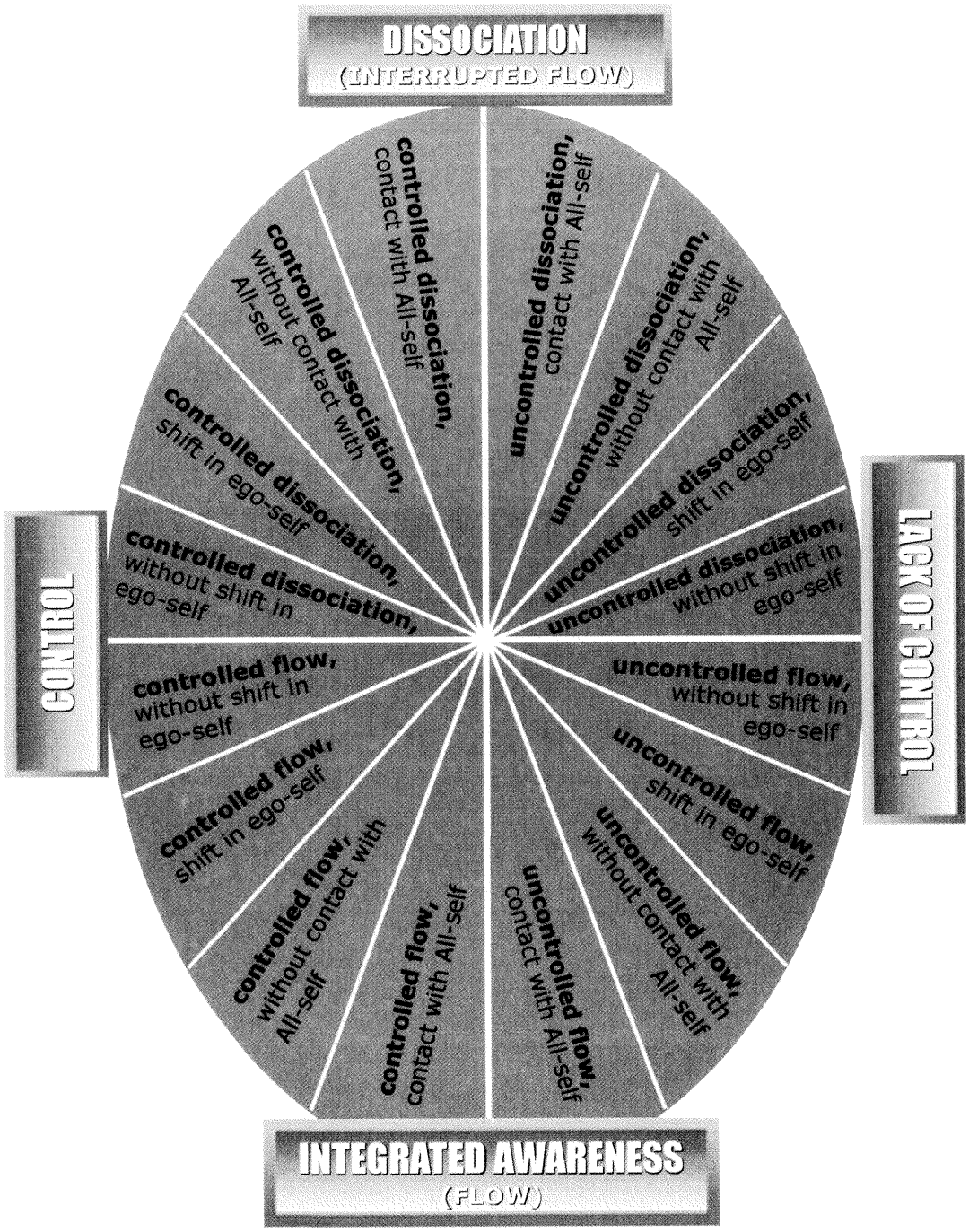
The Psychology and Parapsychology of Anomalous Experiences



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EDITORIAL

After ten years of publication by the team of the Koestler Parapsychology Unit at Edinburgh University, the European Journal of Parapsychology has in a sense regained its Swedish connections. Although the first issue was actually published from the Utrecht laboratory in Holland, Martin Johnson, was then in 1977 the newly appointed professor of parapsychology at Utrecht and had just moved there from his base in Lund, Sweden. In taking over the EJP and issuing it from Sweden, we are therefore particularly honoured that Professor Johnson and his co-worker from that time, Dr William Roll (now a leading international expert on spontaneous cases), have agreed to be editorial consultants.

The new issue of the EJP comes at a period of progress and optimism. Active research in parapsychology is being carried out at some 10 universities in the UK and has the support of the Perrott-Warrick Fund of Trinity College, Cambridge. A former editor of the EJP, Dr Deborah Delanoy, has been appointed a full professor at one of these research units. In Holland as a result of the work of Professors Johnson and Bierman, parapsychology is now well established at the Universities of Utrecht and Amsterdam. In Germany, parapsychological research has received a new impetus due to the major funding from the Holler-Stiftung given to the Institute for Frontier Areas of Psychology in Freiburg led by Professors Johannes Mischo, Inge Strauch and Dieter Vaitl. This allowed not only activities of the Institute to be considerably expanded, but also supports related research in Giessen and at other places.

A more open climate also appears to be developing in Sweden where for the last four years, research with the ganzfeld at Gothenburg University has received official funding from the Bank of Sweden. Research in parapsychology is being carried out in the Psychology Department at Stockholm University and an interest in starting projects has been shown by other universities. This volume of the EJP also happens to come at the time when, what may be a symbolically significant event in the history of parapsychology, is taking place in Stockholm: Parapsychology is, in the form of a symposium organised by Professor Bob Morris, represented at the XXVII International Congress of Psychology which takes place in the Swedish capital. Although, in terms of scientific recognition, the Parapsychological Association has had an official membership of the American Association for the Advancement of Science since 1969, in order to find representation at the International Congresses of Psychology, it is actually necessary to go back to the second congress which took place in 1892. (This was probably because the second Congress was presided over by Henry Sidgwick, one of the founders of the Society for Psychical Research). As far as I know the only possible exception was a minor presentation made by Sidney Alrutz, the founder of Swedish psychology, at the sixth Congress in 1909.

In keeping with this sign of a rapprochement between psychology and parapsychology, the current issue contains articles, which should be of special interest to cognitive and clinical psychologists. Indeed, Stanley Krippner's invited address: *A Cross Cultural Model of Dissociation and Its Inclusion of Anomalous Phenomena,* is written very much in the William James tradition in linking psi to altered states of consciousness. (Regrettably, James's major commitment to parapsychology is relatively unknown to modern psychologists). Dr Krippner is not only a widely respected and a well known psychologist in his own right but he could make a claim for being the most widely travelled and cross-culturally experienced researcher in the field of abnormal psychology. There can be few people who can mobilise this wealth of knowledge and experience, so it is hoped that the theory he presents may well create an impetus amongst psychologists for doing research in parapsychology. What is new here is that he takes us actually further than James did, by lifting us from our cultural norms while at the same time providing us with firm criteria for classifying experiences as functional and dysfunctional. In doing so he gives us the much sought after theoretical framework for

understanding the content of a wide range of psychic experiences, possession and dissociative experiences.

Some recent findings[1] have given substance to the claim that higher standards exist in parapsychology than in other sciences as regards for instance the use of blind controls to exclude experimenter biasing. In a similar vein, the article by James Houran and Peter Brugger highlights the need for independent controls for chance or base-line events in research. Their review concerns in the first instance anomalous events - such as hauntings and poltergeists and by that they mean that the freak chance events can occur anyway, independent of any paranormal claim. (This of course raises questions concerning the nature of these freak events and it could be argued that certain paranormal events are merely more common than hitherto realised.) The authors are however not slow in pointing out that there is a need for controls for these type 1 errors, not only in psychical research, but in many other fields such as cognitive psychology, medical treatment and diagnosis.

Another approach to this area is to look at the basis for the polarised belief systems and attitudes towards the paranormal. Dr Friederike Schriever probes through the use of interview data and questionnaires the nature of our cognitive structures and shows how the triplet of what she terms "experiencing-being effected-explaining" lies at the core of all motives concerning our attitudes, whether positive or negative, towards the paranormal. This may mean that personal experience and a personal understanding of anomalous phenomena play a more important role in determining attitudes than scientific findings. Dr Harvey Irwin's paper complements this study by looking at the role these beliefs have with respect to a need to experience control over life-events and examines the possible role of a gender factor in the way this control is expressed.

Finally, we are particularly encouraged to have the support of psychologists who master being both open-minded and critical minded. Professor Richard Bentall is one of the UK's foremost experts in the area of abnormal psychology. His research has provided many researchers with a way out of the impasse which blocks much of current research on schizophrenia. By abandoning the medical model and its so-called mental diseases, his work has been able to focus on the cognitive function of what we all can agree upon, namely, the symptoms. In this article, he reviews some of this work and is concerned with an area of common interest to many of us: How do we distinguish pseudo-psi, especially those experiences which may be symptomatic of a clinical disturbance, from genuine psi?

Our intention is to produce one to two issues of the EJP per year. The next issue will primarily concern the parapsychology papers presented at the 27th International Congress of Psychology, held in Stockholm this year.

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[1] Watt, C., & Wiseman, R. (1999) Examining the objectivity of Science. Paper presented at the 23rd International Conference of the Society for Psychical Research, University of Durham, England.

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A Cross-cultural Model of Dissociation and its Inclusion of Anomalous Phenomena*

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Abstract: A review is made of cross-cultural findings and literature relating to altered states of consciousness and anomalous experiences. A model is presented in which these experiences can be understood as expression of controlled or uncontrolled flow contra dissociation occurring in combination with an expression of the ego-self or the all-self. The functional and dysfunctional aspects of these experiences are presented as an alternative to the psychiatric or medical model.

Perhaps the first text of what can be called "anomalistic psychology" was written by the Danish psychologist Alfred Lehmann (1898). Having received his doctorate in experimental psychology from Wilhelm Wundt, one of Lehmann's specialties was perception. His book, titled *Superstition and Magic*, focused on such observational errors as the misinterpretation of optical effects that were responsible for people's erroneous belief systems. However, Lehmann granted that some extraordinary phenomena might have to wait for a scientific explanation.

Since that time several other books and articles on the topic have appeared (e.g., Jastrow, 1935; Reed, 1972; Truzzi, 1971). The anthropologist Roger Wescott (1980) suggested that "anomalistic" be used as a prefix to the name of any discipline dealing with alleged extraordinary events unexplained by currently accepted scientific theory. Leonard Zusne and Warren H. Jones (1989) used the term to preface the title of their book, *Anomalistic Psychology*, the second edition of which was subtitled *A Study of Magical Thinking*. Zusne and Jones contended that "magical thinking is wholly or party at the root of any explanation of behavioral and experiential phenomena that violates some law of nature or suggests, without supporting evidence, the existence of principles, forces, or entities unknown to science" (p. 13). For them, "anomalous psychological phenomena" are "those behaviors and experiences that seem to violate natural laws" (p. ix).

My use of the term "anomalous experience" more closely adheres to its etymology. The English word "anomalous" derives from the Greek anomalos, meaning "irregular," "uneven," or "unequal," in contrast to homalos meaning "the same" or "common." Hence an "anomalous experience" is "irregular" in that is differs from "common" experiences. It is "uneven" in that is not "the same" as experiences that are "even" and "ordinary." It is "unequal" in that it lacks the power to access the same attention given to "regular" experiences. Hence, an "anomalous experience" is uncommon and/or deviates from a dominant explanatory paradigm. I do not propose "observational errors," "wishful thinking" or "magical thinking" as explanations of these experiences, although such attributions may be appropriate in many if not most of the cases. Nor do I assume that these experiences "violate natural laws," in this instance, the paradigms of natural and social science.

Nor do I assume that what is anomalous in one culture is anomalous in another culture. The Russian psychologist Boris Bratus (1990) has used the term "anomalies of personality" to describe many people considered "abnormal" by other psychologists. Objecting to the use of either statistical or psychoanalytic criteria to determine what is "normal," Bratus replaces dehumanizing terminology and conceptualizations with a focus on uncommon, rare activities

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* Different versions of this paper appeared in Krippner (1997) and in the International Journal of Transpersonal Studies, 18, number 2.

involving creativity, values, and quest for meaning that, nevertheless, may be extremely adaptive for those individuals under question.

From my perspective, stigmata are anomalous because they are rare. They are not necessarily pathological, nor are they inexplicable; a number of psychological and psychophysiological explanations for these apparently spontaneous bleeding phenomena exist within current scientific paradigms (Zusne & Jones, 1989, pp. 54-56). In comparison, so-called "telepathic" experiences and other examples of putative psi are relatively common (MacDonald, 1994) but are anomalous in that their occurrence still begs for a full scientific explanation. In other words, all psi-type experiences are anomalous, but not all anomalous experiences fall within the framework covered by the term "psi."

Psi-Type Experiences and Dissociation

A variety of subjective psychic (or psi-type) experiences occur in conjunction with dissociative phenomena. Commonalties among mediumship, automatic writing, and dissociation were recognized in the 19th century (Ellenberger, 1970). In diagnostic interviews for dissociative disorders, a number of questions are phrased that refer to psi-type experiences. For example, the Dissociative Disorders Interview Schedule contains questions that tap into subjective telepathic, precognitive, and psychokinetic experiences, as well as purported recall of past lives and contacts with ghosts, spirits, and poltergeists (Ross, Heber, Norton, Anderson, Anderson, & Barchet, 1989).

Psychotherapists' current understanding of dissociative experiences is largely drawn from studies of clients with varying degrees of psychopathology, rather than from the general population, but Ross, Joshi, and Currie (1990) conducted a study demonstrating the ubiquity of dissociation in the general population. A link between dissociation and anomalous experiences was noted in the same study (Ross, Joshi, & Currie, 1990), but had already been pointed out by L. E. Rhine (1962) on the basis of her collection of anecdotal reports. Later, results from an inventory of phenomenological experiences supported this conjecture (Pekala, Kumar, & Marcano, 1995).

Richards (1991) administered several tests to 184 participants in conferences sponsored by the Association for Research and Enlightenment, Virginia Beach, Virginia, an organization devoted to investigating and applying the work of Edgar Cayce, the well-known American psychic claimant (e.g., Vahle, 1987). The Dissociative Experiences Scale (DES), a 28-item self-report questionnaire developed by Bernstein and Putnam (1986) to measure dissociation in both clinical and non-clinical populations, was administered, along with a questionnaire to identify subjective psychic experiences and a measure of general affect. There was a highly significant correlation of .51 (p <.001) between the DES and the subjective psychic experiences questionnaire. In addition there was a significant correlation between the DES and positive affect (r =.17, p<.05) but not with negative affect (r =.14). Richards concluded that psi-type experiences may be a marker of a dissociative trait, but are not in themselves indicative of a disorder, a conclusion reached by many psychotherapists who specialize in dissociative disorders (e.g., Ross, 1989).

A different form of the DES was administered by Dalton, Zingrone, and Alvarado (1999) to 96 research participants selected on the basis of artistic or creative talent. A significant difference favoring those participants reporting out-of-body experiences compared with those who did not was observed, demonstrating another link between dissociation and anomalous experience. Another connection was reported by Haraldsson, Fowler, and Mahendram (1999) who administered the Child Dissociation Checklist to 27 children claiming memories of past lives and 27 who did not. A significant association was noted, in comparison with a control group, especially regarding frequent daydreaming and rapid changes in personal structure.

Over the years, I have observed, heard about, and read many events described as "dissociative." For example, in 1993, the philosopher Jean Houston received the Gardner Murphy Award from the American Society for Psychical Research. At the banquet in her honor, she told the audience about the time that her father, a comedy writer, took her with him when he delivered a script to Edgar Bergen, the famed ventriloquist. Houston recalled encountering Bergen, sitting with his back to them, talking with his dummy Charlie McCarthy, but this was no show business rehearsal. Bergen was asking Charlie existential questions: "What is the meaning of life?" "What does it mean to be truly good?" "Where is the human soul?" And the dummy seemed to answer with the wisdom of the millennia, his insight astounding Bergen as much as it impressed the Houstons.

Finally, Jack Houston announced their presence. Bergen turned around, embarrassed, and remarked, "Oh, hello, Jack and Jean. I see you caught us." Jack Houston asked what was happening. Bergen replied, "I'm talking with Charlie. He's the wisest person around." Jack Houston probed, "But Ed, that's your voice, your knowledge coming out of that dummy's mouth." Bergen answered, "Yes, Jack, I suppose it is. But, you see, when I ask him these questions and he answers, what he says is so much more than anything I know!" (Houston, 1996, p. 115).

In addition, literature provides its readers with numerous accounts that could be regarded as "dissociative." As a child, I read Robert Louis Stevenson's (1886/1967) story, *The Strange Case of Dr. Jekyll and Mr. Hyde*, an account he claimed was partially inspired by a terrifying dream. Erik Woody and Kenneth Bowers (1994) note that "Stevenson described the process that led to some of his best writing as one in which the characters took on an independent life of their own and seemed to move about and speak for themselves completely unaided" (p. 52). Stevenson looked forward to dreaming, hoping that something would emerge that he could sell to magazines, and referred to the "little people" who adroitly unfolded plots while he watched their efforts as if from a stage box (Hennessey, 1974, p. 20). In this tale, Dr. Jekyll conjectures that people are plural rather than singular: "I hazard the guess that man will be ultimately known for a mere polity of multifarious, incongruous and independent denizens" (Stevenson, 1886/1967, p. 68). The potion conjured up in the physician's laboratory evokes potentials that were always within him, appalling as they turn out to be when the loathsome Mr. Hyde assumes his identity.

The Jekyll-Hyde transformation as well as the writing process in which characters took "on an independent life of their own" would be considered instances of "dissociation" by many Western social and behavioral scientists. They would affix the same label to Edgar Bergen's reported philosophical conversations with Charlie McCarthy. I have constructed a model that can be used for cross-cultural comparison, and to reflect various aspects of what appears to be an ubiquitous experience.

Cross-Cultural Perspectives on Dissociation

Westerners are prone to take terms with which they are familiar and superimpose them on phenomena in other cultures with which they are unfamiliar. Like other hypothetical constructs in the social sciences, the term "dissociation" is an attempt by a social group to describe, explain, or otherwise account for the world in which they live (Gergen, 1985, p. 266). So-called "dissociative" phenomena have been given varied labels and interpretations in different eras and locations, as well as in diverse historically and geographically situated interchanges among people. An understanding of this situation should prevent the reification of such expressions as "dissociation" and "dissociative disorders," and the uncritical acceptance of the Western constructions of these phenomena.

Etzel Cardeña (1994a) comments: "It is paradoxical that in this so-called postmodernist era, an era when modes of knowing are questioned or even rejected, theoretical constructs

such as dissociation...are treated as things in themselves, instead of as theoretical constructs based on partial perspectives....Not only is there no pure scientific language, but experience (and our theoretical models of 'reality') cannot be construed without recourse to metaphors" (pp. 162-163). Thomas Kuhn (1970) remarked that scholars have now abandoned the hope of achieving the ideal of language constructed purely of sensory data; scientific language inevitably eludes the phenomena that it seeks to explain or describe (p. 206).

The definition that I have used for this cross-cultural comparison is descriptive rather than philosophical, diagnostic, theoretical, or strictly operational. For me, "dissociative" is an English language adjective that attempts to describe reported experiences and observed behaviors that seem to exist apart from, or appear to have been disconnected from, the mainstream, or flow, of one's conscious awareness, behavioral repertoire, and/or self-identity. "Dissociation" is a noun that refers to a person's involvement in these reported "dissociative" experiences or observed "dissociative" behaviors. The term "dissociation" is used in contrast with "association," the binding or linking together of concepts and memories, a notion prominent in the writings of John Locke, Edward Hume, and other British empiricists of the 17th and 18th centuries.

"Identity" has many meanings in psychology, but I use the term "self-identity" to describe a person's definition of himself or herself, encompassing his or her body, gender, social roles, values, and/or goals. The term "flow" is especially useful here in regard to the interruptions and disconnections associated with dissociative experience; it is described by Csikszentmihalyi (1990) as "the process of total involvement with life" (p. xi) and can be associated with any number of human activities from creativity (p. 108) to criminality (p. 69).

Individuals harbor several identities (see Ornstein, 1986), and a multiplicity of memories covering their behavior, affect, sensations, and knowledge (see Braun, 1988). When these constellations become disconnected, the result can be described as "dissociation." One example of dissociation would be ruptures in concepts of self-identity; another would be gaps in memories about time and space. It is also possible that one or more bodily systems could become dissociated from an organism's "life flow" (Wickramasekera, 1995), and that one or more information-processing system could become dissociated from an organism's experiential flow (Epstein, 1994, p. 717). Thus, my definition is congruent with Cardeña's (1994b) "domain of dissociation," and its focus on what it includes, such as disconnections or disengagements regarding people and their environment (p. 23).

A Model for Cross-Cultural Comparisons

To some extent, dissociative phenomena are the outcome of beliefs and practices that differ substantially in diverse times and places. These phenomena are complex socially canalized performances that change over time; they rarely consist of a discrete, enduring state or process (Kirmayer, 1994, pp. 93-94). In order to make cross-cultural comparisons, I have utilized a set of terms proposed by Ruth-Inge Heinze (1993, pp. 202-203) to study the development of either conscious awareness or dissociation and, at the same time, observe the increase or decrease of volitional control at a given point in time. Other writers (e.g., Braun, 1988) have described dissociation in terms of a continuum, and that observation is easily incorporated into this model inasmuch as the extreme poles of awareness vs. dissociation, flow vs. interrupted flow, and control vs. lack of control are reached less often than a point that is somewhere in between.

A patient suffering from fugue and loss of identity in a mental hospital may experience "uncontrolled dissociation," whereas a tribal practitioner, whose identity supposedly has been transformed or replaced by discarnate "spirits," may be engaging in "controlled dissociation." A seasoned camper might awaken to a morning sunrise, reporting a spontaneous onrush of "uncontrolled flow," that is, an intense appreciation of nature that appears to have occurred

with no apparent volitional control. A mathematician may spend hours in a condition of highly "controlled flow," concentrating on a perplexing problem.

However, the descriptor of an individual's experience may shift, sometimes within minutes. A patient being treated for post-traumatic stress disorder in group therapy may exert controlled flow, paying close attention to the ongoing process. Suddenly, he may deliberately "tune out" of the session because he has become aware of an oncoming "flashback." But if he cannot control this dissociative "tuning out," he may fully experience the "flashback" in which he imagines himself in a different location. Within a short period of time, the experience has changed from one of (1) controlled flow to (2) controlled dissociation to (3) uncontrolled dissociation. A very different oscillation could occur when a dreamer becomes aware that he or she is dreaming and begins to exert control -- ascending, flying, soaring, and gliding. Abruptly, the dreamer may lose lucidity as well as identity, imagining that he or she has changed into a flaming ball of fire heading for the ocean. Controlled flow within the dream has become an uncontrolled dissociative experience. This model also recognizes that control and its absence may fluctuate during the same event, and that the two descriptors may even complement each other, for example, the wild but disciplined frenzy of some shamanic rituals or the "effort of no effort" in Taoist practices. Western dualities, such as control vs. lack of control, are obscured in many collectively-oriented cultures and their spiritual practices.

Because my definition of dissociation stresses ruptures in conscious flow, behavioral repertoire, and/or self-identity, I have combined Heinze's descriptors with those of Rhea White (1997) who uses the term "ego-self," which resembles the concept of "ego-syntonic," and the term "All-Self," which resembles Cardeña's (1989) description of the "transcendent" dimension reached by some ritual practitioners, when discussing what White calls "exceptional human experiences." A glimpse of the All-Self, or "oneness" with all things, can occur in any of Heinze's four varieties of experience. An experient (1) may become aware of this "oneness" in ritual prayer or any other procedure in which the ego-self gradually merges with the All-Self, that is, controlled flow. Another experient (2) may contact the All-Self while dissociating from the ego-self, as when "channelling" messages from a source of "universal knowledge," (that is, controlled dissociation). A third experient (3) may momentarily feel a "oneness" with nature, with an infant, or with one's lover, that is, uncontrolled flow. Finally, an experient (4) may ingest a powerful drug and enter a "void" in which self-identity is lost, that is, uncontrolled dissociation, yielding unmitigated terror, transcendent bliss, or something in between (Krippner, 1997).

The interface of Heinze's and White's dimensions is also apparent in experiences concerning the ego-self. Everyday embeddedness in the ego-self marks Heinze's uncontrolled flow (1), while an ego-self's focused problem-solving task characterizes controlled flow (2). Controlled dissociation (3) frequently involves a deliberate move away from one's ordinary ego-self to the incorporation of a "spirit guide" or similar entity. Uncontrolled dissociation (4) is frequently marked by involuntary estrangement from the ego-self, and would fail to meet most of the criteria White gives for "exceptional human experiences," at least in the West. For example, many health care practitioners are familiar with psychiatric patients who have lost their own identity and are embroiled in a delusional thought pattern of union with an All-Self. Other examples of uncontrolled dissociation where a type of "oneness" is experienced would include comatose accident victims or people in an alcoholic stupor; these experients would be unlikely to engage in self-awareness, self-reflection, self-control, or self-fulfillment.

According to this framework, Edgar Bergen could be said to have made use of controlled dissociation to make contact with the All-Self, an ostensibly transcendental source of wisdom. The draught of the hapless Dr. Jekyll originally was a deliberately contrived controlled dissociation but later escaped his control, as his customary identity became overpowered by another ego-self. Thus, the third aspect of my model is evaluative in nature. The personal, social, or professional adjudication of a dissociative event may brand it as

positive or negative, life-affirming or life-denying, functional or dysfunctional, ego-syntonic or ego-dystonic, or any number of other descriptive pairings that, of course, are neither static nor synonymous. Edgar Bergen's experiences, by his own admission, were ego-syntonic, while Dr. Jekyll's experiences, again by his own admission, were ego-dystonic.

There are many examples of dissociation, both controlled and uncontrolled, that do not involve major shifts in the ego-self or encounters with the All-Self. Nevertheless, these instances are still dissociative because they comprise reported experiences and observed behaviors that seem to exist apart from, or seem to have been disconnected from, the mainstream of one's conscious awareness or behavioral repertoire. Examples would be "de-realization," in which one's identity is intact but time and space are judged "unreal"; "depersonalization," in which the challenge to one's own reality centers not around identity but on feeling detached from one's body or behaving like an automaton; and those types of "fugue" in which identity is maintained but chunks of one's past cannot be recalled. Each of these instances affects personal concepts or memories, further delineating my definition of dissociation.

This model would not be complete without three other considerations. Gergen (1985) reminds us that the "self" is constructed differently by society in various times and places. In traditional Balinese culture, the individual self plays a minimal role in everyday life; rather, individuals are considered representatives of more general social categories (Geertz, 1973), and Triandes (1996) has described the variety of ways, many of them contradictory, that contemporary societies conceptualize individualism. Therefore, a fourth aspect of the model is whether the everyday ego-self represents individual identity or community identity. In either case, this everyday identity can be altered or transcended by dissociative experience, but the subjective experience is quite different.

A fifth facet of the model reflects not only the cultural context of the experience but the immaturity or maturity of the experient's identity and ego development at the time of that experience. For example, young children may have dissociative experiences that overwhelm their immature identity, because their ego-self is immature. A traumatic experience in childhood or adolescence that may produce a severe dissociative disorder, is often assimilated by a mature ego-self, without the development of a dissociative disorder. For example Tillman, Nash, and Learner (1994) note that dissociation was not a prominent post-traumatic symptom of World War II concentration camp survivors. On the other hand, people predisposed by their genetics or by their early environment to weak ego boundaries may be characterized by immature identities as adults, and be vulnerable to ego-dystonic dissociative experiences at any age, depending on how they experience and construct the "trauma."

The sixth facet of this model is especially important for psi researchers, investigators of those interactions of organisms and their environment (including other organisms) that appear to violate mainstream science's understanding of time, space, or energy. A pioneering book, *The Psychology of Anomalous Experience* was written by Reed (1972, 1988) that discusses anomalies of attention, belief and judgment, consciousness, recall, recognition, perception and imagery, and problem-solving that are "irregular, disordered, or unusual" (1988, p. 9). Truzzi (1971) added that anomalous phenomena contradict common sense or institutionalized scientific or religious knowledge; therefore, they are "anomalous to our generally accepted cultural storehouse of truths (p. 367). Hence this model could also ask whether a behavior or experience is highly anomalous or minimally anomalous; most dissociative events are explainable by mainstream science, but a few -- if accurately reported -- push the boundaries of facile explanation. See figure 1, page 24.

Uncontrolled Dissociation and Major Shifts in the Ego-Self

Perhaps the 20th century's most celebrated story of dissociative identity disorder (DID) is that told by Chris Costner Sizemore. Her condition, and its denouement, were chronicled in several books, numerous magazine articles, and an award-winning movie, "The Three Faces of Eve." Eventually, Sizemore experienced a total of 22 different identities. These "alters" had their own wardrobes, were of varied ages, obtained different scores on personality and intelligence tests, and even had different physical characteristics. Her story exemplifies uncontrolled dissociation accompanied by major shifts in the ego-self.

I have frequently discussed Sizemore's (1989; Sizemore & Pittillo, 1977) autobiographies with her; in these books the observation was made that often it was impossible to know where "she" was. For example, the "Turtle Lady" managed a dress store but the "Purple Lady" resigned that position. Her alters contradicted themselves in various diaries and notes, sometimes writing on blackboards and napkins. Sizemore's alters emerged in threes: one set of three alters contained one who was allergic to nylons, one who was allergic to feathers, and one who was allergic to furs.

Sizemore's alters were characterized by various habits and abilities. There were drivers and non-drivers, smokers and non-smokers, drinkers and non-drinkers, church-goers and non-church-goers. There were 7 painters and 10 poets. Moving from one identity's consciousness into another one is called "switching," and some "multiples" or cases of DID switch simply by blinking their eyes or repeating a sound. For Sizemore, switching was never this easy; moving from one identity to another was involuntary. Sizemore had engaged in switching behavior as a child but was never taken to a specialist. As an adolescent, the "switching" began to be accompanied by headaches followed by weakness and inertia. As a child, young Chris had the propensity for play-acting "everybody under the sun" and so her parents did not believe her stories until Corbett Thigpen, one of Sizemore's initial psychiatrists, took her seriously. Sizemore's first medical diagnosis had been schizophrenia, and electroconvulsive therapy was prescribed for her condition. One of her alters, the redoubtable "Eve Black," adamantly rejected this recourse, and Sizemore found her way to Dr. Thigpen's office. Sizemore's eighth psychiatrist was fully accepting of her story and guided her to her final "resolution" at the age of 46.

It would seem that Sizemore's pre-resolution condition could be fairly described as dystonic, and as one of uncontrolled dissociation where the ego-self fell under control of various alters. On three occasions, her torment was so severe that it resulted in suicide attempts. When a particular alter took over, there were bodily changes as well as changes in other aspects of the identity. Sizemore (1989; Krippner, 1994a) has discussed presumptively anomalous events that occurred during her ordeal, such as one that occurred in 1981 when she had what she refers to as a "visual flash." Sizemore visualized Ronald Reagan, who looked mortally wounded after having been assaulted with a firearm, and remarked to a friend, "Ann, the president is going to be shot." Three days later, this premonition was confirmed (pp. 190-192).

Controlled Dissociation and Major Shifts in the Ego-Self

To contrast this example of uncontrolled dissociation, I will present an example of controlled dissociation accompanied by major shifts in the ego-self. During a 1971 visit to Brazil I heard of Francisco Candido "Chico" Xavier. Born in 1910, Xavier reported his first experience with automatic writing in 1927, and completed his first "channeled" book in 1932, *Collections of Poems from Beyond the Grave.* This was followed by over 300 other books purportedly "written" by several hundred "spirits" with Xavier serving as their "medium" or "control." Besides poetry, the "dictated" material consists of historical romances, fiction,

essays, plays, and moral teachings. These books have sold over 18 million copies in Brazil and have been translated into three dozen languages, and Xavier has donated all money from the sale of his books to charity (Severino, 1990/1994). In these instances, there were numerous displacements of Xavier's customary ego-self, but the dissociation was controlled and the episodes were regarded as positive experiences. In addition, this ego-self represented everyday individual identity, rather than a community identity.

All spiritistic practitioners share a belief in discarnate entities (e.g., departed relatives and friends, saints, folkloric deities, "intranquil spirits" and "low spirits"). Most spiritistic practitioners believe in reincarnation and in the role that one's past life activities can play in one's current life situation. Communication with the "spirit world" sometimes occurs in dreams but more often these entities speak directly through mediums who are endowed with such anomalous "facultades" (faculties) such as "telepathy," "clairvoyance," "precognition," and the ability to "incorporate" their "allies." These mediums exemplify controlled dissociation in which one's ego-self is temporarily displaced by the incoming "spirit," an experience regarded as positive.

Sometimes controlled and uncontrolled dissociation co-exist in the same time and place. In 1995, I was a guest at the Tupyara Spiritual Temple in Sâo Paulo, Brazil, a major healing center. Tupyara, the "spirit guide" who protects this center, is an Indian entity who purportedly lived in Brazil during colonial times; he allows himself to be "incorporated" by the mediums who serve, without pay, as healers for the hundreds of individuals who visit the temple every night. These mediums could be said to exhibit "controlled dissociation" that is felt to be life-affirming in nature, but many of their clients claim to suffer from life-denying "possession," an example of "uncontrolled dissociation."

Occasionally uncontrolled dissociation may give way to controlled dissocation. In 1913, in Missouri, Pearl Curran was using a Ouija board when the planchette spelled out the message, "Many moons ago I lived. Again I come. Patience Worth my name" (Litvag, 1972). Eventually, Curran "channeled" the messages from Worth (by means of a typewriter) into a series of historical novels, some of which were acclaimed by literary critics. Curran's detailed description of the settings for these novels has been considered an anomalous phenomenon by some writers (e.g., Hintze & Pratt, 1975). She also produced (and published) numerous poems such as the following:

I have heard the moon's beams
Sweeping the waters, making a sound
Like threads of silver, wept upon.
I have heard the scratch of the
Pulsing stars, and the purring sound
Of the slow moon as she rolled across
The Night. I have heard the shadows
Slapping the waters, and the licking
Sound of the wave's edge as it sinks
Into the sand upon the shore.... (pp. 181-182)

In 1963, I held several interviews with a woman in Ohio who exclaimed excitedly that she was now using the Ouija board to "channel" messages from Patience Worth. After several visits to her home, and after a close inspection of the "channeled" texts, I reached the conclusion that the new "channeler" was self-deluded, attention-seeking, or that Worth's literary skills had decomposed over time. Years later, at Maimonides Medical Center, we conducted a clairvoyance experiment with Tina Johnson, a psychic claimant whose alleged spirit guides agreed to guess the identity of postcard-size art prints in sealed envelopes. Johnson utilized automatic writing to record the guesses of what she referred to as her "dear

friends," and those descriptions demonstrated a closer correspondence to the art prints than those made by Johnson in her ordinary conscious state. For example, when the randomly selected art print was de Chirico's "The Enigma of Arrival," Johnson's "dear friends" described the picture as portraying "people," one of whom was "a very young man in a blue suit." The painting depicts a figure dressed in blue, but also one dressed in red (Krippner, Hickman, Auerhahn, & Harris, 1972).

A unique example of controlled dissociation with a major shift in the ego-self is the case of JZ Knight who described her first encounter with the alleged entity "Ramtha" following a 1977 demonstration of so-called "pyramid power" in her kitchen. After placing a paper pyramid over her head she recalls noticing a "glimmer of a bright light" and seeing "a giant man...aglow" who announced himself as "Ramtha, the Enlightened One" (Knight, 1987, pp. 11-12). Later, Ramtha (1986) described himself as part of "an unseen brotherhood" who loves humanity, telling Knight that she was to be a "channel" for his messages. As Knight began to "channel" Ramtha's words for audiences, he explained that "to prevent you from worshiping me, I have not come to you in my own embodiment. Instead, I have chosen to speak to you through an entity who was my beloved daughter when I lived upon this plane....When I speak to you, she is no longer within her body, for her soul and spirit have left it completely" (p. 2).

My colleagues and I (Krippner, Wickramasekera, Wickramasekera, & Winstead, 1998) have published an account of our work with Knight and six of her associates at the Ramtha School of Enlightenment, including their phenomenological reports of what could be called "anomalous healing" and "clairvoyance." Their scores on the Dissociative Experiences Scale (Bernstein & Putnam, 1986) averaged 31.1. A score of 30 is regarded as the cutoff point for those who are "clearly dissociative," but only 17% of individuals making these scores are later diagnosed as clinical cases of dissociative identity disorder. Because the seven individuals we tested were functioning well in society, we suggested that social support, coping skills, and self-regulation enabled them to engage in their studies at the Ramtha School without obvious adverse side-effects.

Eileen J. Garrett (1968/1991), an Irish-born medium who launched the Parapsychological Foundation and collaborated with a number of investigators, invited me to a conference in southern France in 1968. Hoping there would be an opportunity for a demonstration, I brought along a sealed envelope, one in which there was a picture, unknown to me, prepared by a student assistant. One of Garrett's "spirit controls" correctly described the picture as a man kneeling underneath an electric light fixture. (The enclosed photograph was a Muslim on his knees in prayer underneath an electric chandelier.) Garrett's "control" went on to say that the person who owned the envelope was with us at the conference, "someone very much like Dr. Krippner." The "control" went on to state, "The picture does not interest me as much as the person who prepared the picture. He is a bright young man who is interested in science; before the end of the month he will be in the newspapers, and before the end of the year there will be an addition to his family." Upon my return to the United States, I discovered that the New York City newspapers had reported the student's prize in a city-wide button contest; his winning slogan had been "Ignore This Button." When I told him of Garrett's other prediction, the student told me that his sister and her husband were expecting a baby -- but not until January. However, the baby was born on December 28th, just in time to confirm Garrett's other prediction (Krippner, 1975, pp. 100-101).

Controlled Dissociation and Encounters With the All-Self

In none of the above examples was there contact with anything that could be considered the All-Self; one's ego-self was displaced by specific "spirits," "allies," or "teachers," but not by "God," the "Divine," or a "Ground of Being." However, encounters with

the All-Self have been reported by some individuals claiming to have control over dissociative events. For example, controlled "out-of-body" experiences sometimes are described as "transcendent," although they are often regarded as examples of "depersonalization" when seen in a clinical setting. They take a variety of forms, for example, viewing one's body from a distant point of the room, rising above the body but remaining attached by a slender cord, leaving the body and traveling outside of the room (e.g., Viera, 1995).

Contact with the All-Self is claimed by practitioners of glossolalia, or "speaking in tongues." My first observation of this phenomenon occurred in 1956 when the actress Adrian Booth conducted a private session for the staff of the Parapsychological Laboratory at Duke University in Durham, North Carolina. Soon after Booth relaxed and took several deep breaths, she began to utter rhythmic monosyllables that were unintelligible but marked by phrasing, affect, and dramatic facial expressions -- all in the service of encountering the Divine. Although not related to any current or past language, similar phenomena occur in charismatic prayer meetings where they are canalized by the set and setting. Fraser (1994, pp. 134-135) categorizes glossolalia as a dissociative phenomenon, but admits his studies of church members who "speak in tongues" did not indicate that they were suffering from dissociative disorders. In my opinion, this finding demonstrates that the context of what is called a dissociative disorder is critical; what is life-denying in one context may, in another context, be life-affirming, sometimes producing experiences labelled "transcendent," "transpersonal," or "mystical."

Glimpses of the All-Self through controlled dissociation are sometimes reported in a group setting. In 1984, I observed a Balinese performance of the "Kecak," which relates a story from the Hindu Ramayana collection. Sita, the heroine of the tale, is captured by the abhorrent Rawana but is rescued by Hanuman and his indomitable monkey army. At one point a circle of some 150 men provided incredibly coordinated movements, and their vocalizations, "Chak-Chak-Chak," were remarkable imitations of monkey chatter. The purpose of this performance was to drive away Rawana and his evil coterie; as this occurred, individual awareness gave way to group awareness, that is, the All-Self.

In Bali I have witnessed childhood dissociation in which union with the All-Self is accomplished in the form of "holy energy" from *niskala*, the realm of the sacred. For example, I have seen the "Sanghyang Dedari," the "dance of revered angels" that is performed by young girls after they supposedly "incorporate" this "holy energy," assisted by the smell of sweet incense and the music of a chorus that chants sacred songs. I observed two girls moving rhythmically with their eyes closed for the purpose of protecting their beloved temple from malevolent entities, dancing in flawless tandem, never opening their eyes but -- perhaps -- carefully responding to the music and to kinesthetic cues, keeping their movements perfectly synchronized. Once the chanting ended, the girls, their undertaking a success, fell to the ground and were attended to by the *pemangku*, a village priest.

I also witnessed the "Sanghyang Jaran" dance during which a young man purifies the temple by "incorporating holy energy" while riding a wooden hobby horse around and through a bonfire made of burning coconut husks, fiercely pounding out the flames with his bare feet, proudly showing no burns or callouses on his feet once the fire diminishes. These ceremonial dances are so frequently performed that some skeptics claim that those done for tourists no longer involve much of a dissociative element. However, dissociation is ubiquitous in Bali, and one study (Picard, 1990) found it impossible to distinguish between "authentic" and "touristic" dances. Local authorities claim that the young girl dancers do not rehearse the Legong dances and that the young men cannot ordinarily walk on fire.

One reason that dissociation is ubiquitous in Bali, is that one's everyday identity is more closely identified with one's family and one's "banjar" or community than with an encapsulated "ego-self." As a result, many psychological boundaries that would be rigid in Western cultures are easily transcended among the Balinese and similar cultural groups. For

traditional Balinese, the "ego-self" represents a broader identity than it does in Western societies, and extending it even further into an "All-Self" may require less effort.

The Indonesian psychiatrist Denny Thong (1993, pp. 77-88) has deconstructed the word "trance" as a special state of consciousness, and has reconstructed it as a set of learned behaviors that evoke special attention and gain social approval (p. 74). His reconstruction, for me, eliminates the dichotomy between "authentic" and "contrived" performance unless there is deliberate manipulation and exploitation involved. Even here, the issue is not clear-cut; James McClenon (1994) suspects that some self-styled "psychic surgeons" whom he observed using sleight-of-hand, engaged in dissociation to block out perceptions or activities that contradicted their beliefs (p. 114). He also suggests that in such hazardous performances as firewalking, dancing on knives, and penetrating the skin with sharp objects, a "hidden observer" remains aware of the dissociation, protecting the practitioner from serious harm (p. 120). Blatantly inauthentic behavior has been termed a form of dissociation that attacks one's very sense of selfhood (Mead, 1967), and these strategies may lead to an internal resolution what might seem dissonant to an outsider.

Uncontrolled Dissociation and Encounters with the All-Self

According to some yogic traditions, *kundalini* ("spiral") energy creates and sustains the universe (Radha, 1993); it is symbolized by a coiled serpent that can be awakened slowly by meditation and yoga, or abruptly without an obvious trigger. In the latter instances, the rush of energy, typically from the base of the spinal column to the head, can be alarming, bringing with it uncontrolled emotions, involuntary movements, and memories of psychological and physical trauma (Grof & Grof, 1990, pp. 77-80).

On two occasions in the 1970s, I visited Gopi Krishna (1971) in Kashmir to discuss the spontaneous *kundalini* awakening which occurred during his morning meditation in 1935 that was life-denying and propelled him to the edge of insanity and death. He recalled, "Suddenly, with a roar like that of a waterfall, I felt a stream of liquid light entering my brain through the spinal cord....I was no longer myself...but instead was a vast circle of consciousness in which the body was but a point, bathed in light and in a state of exultation and happiness impossible to describe" (pp. 12-13). However, Krishna was unable to sleep, became depressed, and entered a profound crisis regarding his sense of reality. It took him more than a decade to regain his health. A new identity emerged, "endowed with a brighter, more refined and artistic perceptive equipment, derived from the original one by a strange process of cellular and organic transformation" (p. 145). Krishna spent the rest of his life lecturing, writing, and teaching about the potentials of properly awakened life-affirming *kundalini* for spiritual growth and creativity.

Albert Taylor (1998), an aeronautical engineer, reported a 1993 experience that allegedly changed him "forever." While he "floated" about his body, he had an encounter with "soul consciousness" later described to him as a *kundalini* experience. He recalls, "For the first time in my life I had absolutely *no* questions about anything....Suddenly the ups and downs of the earth life system made sense....The mysteries, frustrations, disappointments, and miracles, all had a distinct purpose....I had the overwhelming feeling of finally being home" (p. 54). Allegedly long-lasting effects of this dissociative experience were "losing the fear of death" and "realizing that although I am on this earth, I am not of it" (*Ibid.*).

Controlled Dissociation Without Major Shifts in the Ego-Self or Encounters With the All-Self

Controlled dissociation can occur without major shifts in the ego-self or encounters with the All-Self; this was made evident to me during my first journey to Portugal in 1967 when I discovered the work of Fernando Pessoa. Born in 1888, Pessoa was a poet who described Portugal as "his passion" and who also manifested all the major symptoms of a dissociative disorder (Bacarisse, 1980; Saraiva, 1990). Amnesia? Pessoa wrote, "Do you know who I am? I don't know." Depersonalization? "I'm sort of like I'm here, but I'm not really here, and that I kind of stepped out of myself, like a ghost." Derealization? "Not even the bedroom was stable....Like fog, it drifted away." Confused Identity? "Who am I beyond this unreality? I don't know. I must be someone." Multiplicity? "I break my soul into pieces, and into diverse people."

Pessoa's dissociative experiences were apparently outside of his volitional control, but extraordinary language skills were within his grasp, and Pessoa had the ability to put his unusual experiences to use in his remarkable poetry, sometimes under the name of Alvaro de Campos (a heteronym of Fernando Pessoa). In 1931, Pessoa (1986) wrote:

Cat, you tumble down the street
As if it were your bed.
I think such luck's a treat,
Like feeding without being fed....
Because you're like that you're happy;
You're all the nothing you see.
I look at myself -- it's not me.
I know myself -- I'm not I. (p. 146)

Marlene Steinberg (1995) has cited excerpts from Pessoa's poetry to help diagnosticians learn how to utilize her structured clinical interview for the identification of dissociative disorders. The degree of control manifested by Pessoa varied, and it is likely that on different days his symptoms would lead to different diagnoses on the dissociative spectrum.

Another case of controlled dissociation is the pain management I observed on the part of Jack Schwartz who dates his capacity for self-regulation to his childhood in the Netherlands, a talent that was to help him withstand the tortures of Nazi troops during the occupation of his country. Years later, I observed him run a 26-gauge steel needle through the medial aspect of his left upper arm during a demonstration sponsored by the Menninger Foundation. There was no observable or subcutaneous bleeding; Schwartz (1978) attributed these skills to insights and abilities derived from his meditative practice.

Pelletier and Peper (1977) included Schwartz in a study of three adept meditators who voluntarily inserted steel needles into their bodies while physiological measures were recorded. None of them reported pain, but each described a different self-regulation technique to control pain. Schwartz dissociated himself from his arm, recalling, "I did not stick a needle through my arm; I stuck a needle through *an* arm." The Korean adept voluntarily dissociated himself from the stimulus sensation as he placed spokes through his skin, diverting his awareness by letting it "drift away." An Ecuadorian adept told how he had focused on a small point of light that he moved from the bottom of his abdomen to the place where he inserted the needle, "in other words...voluntarily dissociating himself from the stimulus sensation as he placed spokes through his skin" (p. 363). When compared with baseline data, levels of respiration rate and muscle tonus showed no significant differences. Alpha brain wave activity

increased for two adepts, heart rate decreased, and skin resistance increased. For all adepts, there was no spontaneous or subcutaneous bleeding at the puncture site.

Uncontrolled Dissociation Without Major Shifts in the Ego-Self or Encounters With the All-Self

Sometimes an individual experiences an anomalous event involuntarily; an example is "leaving the body," in which one's conscious flow is interrupted in a way often described as "depersonalization." The Dutch actor, Jean-Claude Van Damme, describing the depths of his cocaine addition, recalled being "in the corner of the room. I was dying. I saw my body on the floor. I felt cold, I felt hot, I felt scared. I didn't feel like a man or a woman. And then I just came back into that envelope, that body, with that soul, and I said, 'I'm not ready. I know what's death after life'" (Garchik, 1998).

In "flashbacks," past memories invade a person's ordinary stream of conscious awareness. They may consist of a visual image or a video-like replay of a scene, usually traumatic in nature (Fraser, 1994, p. 140). I have had "flashbacks" reported to me during my work with the Olympia Institute where I have met with U.S. veterans of the Vietnam War and Russian veterans of the Afghanistan War, as well as during a 1992 visit to a Bosnian refugee camp in Slovenia. These intrusive memories often are triggered by loud noises or other stimuli that some investigators believe cause an overload of norepinephrine in the brain. They may also represent memories that have been rendered amnesic by dissociation, although the recollection in these "flashbacks" may not be completely veridical (Fraser, 1994, p. 140).

Many of my students at Saybrook Graduate School have studied instances of uncontrolled dissociation. Jack Morin (1995), whose graduate work focused on sexual experience, noted that if abused sexually, boys and girls often protect themselves by dissociating. Consequently, they are not "fully present" during the abusive act; some "leave their bodies," viewing their abuse with detached indifference as if it were not really happening to them. In the prize-winning play, "How I Learned to Drive", the central character, a young woman nicknamed "L'il Bit," is sexually abused by her uncle during a driving lesson. At that moment, she recalls, "All the feeling left my body and went to my head. It never came back."

Only rarely does this type of experience lead to DID, but these children's memories may be "stored" differently than they are under ordinary circumstances. Later, "flashbacks" of these abuse memories may be triggered by something related to the event, for example, a sound, a smell, or an image (Morin, 1995, pp. 365-366). Abuse memories often are difficult to retrieve accurately; they may be distorted due to attempts to keep them in check through repression, denial, and rationalization (p. 208).

Selma Ciornai (1997), another graduate student at Saybrook Graduate School, interviewed Brazilian women who had been active in the counter-culture movement of the 1960s. Some of them had been incarcerated and tortured by the military, experiencing episodes of dissociation under the most reprehensible circumstances. One woman, demonstrating exceptional resilience, described how she "fell to pieces" when electric shocks were administered to her eyes, lips, and genital areas, but laboriously "put myself together again because I would not let them break me."

Major or minor instances of uncontrolled dissociation may occur in any number of ordinary situations -- daydreaming, reverie, hypnagogic and hypnopompic "twilight" states, nightmares, sleepwalking, absentmindedness, "déjà vu" experiences, absorption in fantasy, culture shock, engaging in performance arts such as acting, carrying on two complex activities at the same time, religious conversion, charismatic healing, anxiety attacks, bouts of depression, marathon psychotherapy group sessions, scrying -- that is, staring at mirrors or a crystal ball -- and computer-generated "cybersickness" in which the computer hacker becomes

disoriented and nauseous after riveting his or her attention on the keyboard and screen (e.g., Moyer, 1996).

Dissociative events may emerge from several less common problems -- eating disorders, substance abuse, ritual abuse, brainwashing and political indoctrination, long-term sensory deprivation, self-mutilation, aftereffects from natural disasters (fire storms, tornados, earthquakes), residue from incarceration (including the Nazi Holocaust and Communist repression), physical, sexual, and emotional victimization, and so on. However, dissociation as the term is defined here, does not *inevitably* accompany the above situations, nor is it an inexorable component of many of the schizophrenias or other major psychoses (Steinberg, 1995, p. 295); in these afflictions, the "reality-testing" aspects of reflective consciousness are not sufficiently integrated for "depersonalization" or "derealization" to occur (p. 109). The dissociation that occurs in most schizophrenias is the "split" or interrupted flow between the individual's cognitive and affective information-processing modes. As for identity dissociation among schizophrenics, I agree with Steinberg (1995) that it is "either mild or moderate and usually accompanies psychotic episodes" (p. 236), "lacking the distinctness and complexity of the personalities manifested in people with DID" (p. 238).

Uncontrolled dissociation is sometimes associated with various conditions -- sleep disorders, strokes, encephalitis, Alzheimer's disease, a severing of the cerebral commissure between the brain's hemispheres, temporal lobe epilepsy, etc. These lists may seem intimidating, but my preference is to use the construct of "dissociation" cautiously. I have delimited the domain of dissociation severely, asserting that it is not found in most instances of what passes for "dreaming," "meditating," or "shamanizing," three constructs that some writers have considered tantamount to dissociation in the past.

Controlled Flow With Major Shifts in the Ego-Self

Controlled flow can take place with major shifts in the ego-self. Some actors describe a number of ways in which their awareness shifts while playing a role for the stage, movies, or television. Liv Ullman, in performance, reports that she is filled with another presence, a character possessing her, a spirit shared by the actor and audience (Bates, 1987, p. 2). When John Hurt was filming the George Orwell novel, "1984," he admitted that he could not leave the part of Winston Smith behind. He remarked, "When you create a whole fantasy world like this you can lose your self in it" (Bonner, 1984).

When playing Captain Queeg in a stage version of *The Caine Mutiny Court Martial*, Charlton Heston confided that he sometimes allowed the character of Queeg to possess him, often to the point where he could not control the resulting emotional outburst, despite his conviction that the best acting comes when one is only "partially possessed" by a character. "After all," Heston remarked, "when I'm playing Macbeth, if I lose control in the dagger speech then I'm going to stab some poor stagehand" (Bates, 1987, p. 76). In this instance, Heston described the difference between life-denying and life-affirming instances of theatrical "possession." Sam Waterston, while playing Torvald in "A Doll's House", allowed the character to live through him, revealing his inner life as if it belonged to the possessing personality (p. 82).

Shirley MacLaine, referring about her incarnation of characters in film roles, feels that these may not just be imaginary people, but the spiritual essences of people who have lived and died, reborn to be among us (MacLaine, 1983). Marlon Brando has observed that actors each contain within themselves the seeds of all the characters they will ever play (Bates, 1987, p. 83). In comparing contemporary actors with tribal shamans, Brian Bates (1987) notes that actors build from imagination and observation as well as from early life experience to learn the secret of "self possession" (pp. 83-84).

Controlled Flow With Encounters With the All-Self

My work with shamanic practitioners has brought me to the realization that dissociation is not a prerequisite for major shifts in the ego-self or encounters with the All-Self. There can be controlled flow accompanied by encounters with the All-Self. In 1980, a Mazatec Indian, María Sabina, the most celebrated shaman of the 20th century, allowed me to interview her at her home in the hills of Oaxaca, Mexico (Krippner & Welch, 1992). Mazatec shamanic healers are referred to as *sabias* and access esoteric information through the ingestion of psychotropic mushrooms during sacred ceremonies known as *veladas*. Claiming that "with words we live and grow," doña María chanted a liturgy that contained an overlay of Roman Catholic imagery which cloaked the odes and psalms used by the Mazatec priests who were overthrown by the Spanish invaders in 1521. The Spanish Inquisition outlawed the *veladas* but, among the Mazatecs, the rituals simply went underground for more than four centuries. Doña María, as *sabia*, had studied these sources and was the recipient of oral traditions that preserved the colorful material that had survived the Spanish repression. However, she used her own creative abilities to add personal references, symbols, and metaphors to the existing framework. Her ability to encounter the All-Self is revealed by her chants:

I am the sacred eagle woman [the mushroom] says,
I am the Lord eagle woman, says,
I am the lady who swims, says,
Because I can swim in the immense,
Because I can swim in all forms....
I am the shooting star woman, says,
I am the shooting star woman beneath the water, says,
I am the lady doll, says,
I am the sacred clown, says,
Because I can swim,
Because I can fly (Estrada, 1981, pp. 93-94, 96).

I have the heart of the Virgin,
I have the heart of Christ,
I have the heart of the Father,
I have the heart of the Old One,
It's that I have the same soul,
The same heart as the saint, as the saintess. (*op. cit.*, pp. 107)

In these brief excerpts from María Sabina's life-affirming *veladas*, we find a woman whose faculties of control allowed her to travel into the primordial "waters" of oceanic union but to safely emerge. She returned to devote herself to service, to healing, and to her community. I have also interviewed shamans who regulate their attention through controlled breathing, lucid dreaming, mental imagery, and the meticulous utilization of music, movement, and vocalization during ceremonies, rites, and rituals, claiming to encounter the All-Self or its equivalent.

Unlike the controlled dissociation of a medium or spiritistic practitioner, and unlike the controlled dissociation of those shamans who claim to incorporate "spirits" or other entities, María Sabina's controlled flow of awareness allowed contact with the All-Self, but without a major disruption in the mainstream of her ongoing activities. This is in line with White's (1997) suggestion that optimum conscious states may involve awareness of both the ego-self and the All-Self while not being identified with either.

Controlled Flow Without Major Shifts in the Ego-Self or Encounters With the All-Self

Controlled flow most typically occurs without major shifts in the ego-self or encounters with the All-Self. I define "consciousness" as the ongoing stream of perception, cognition, affect, and/or motivation displayed by an organism at any given point in time. When people are aware of this stream of consciousness, it can be said that they are "mindful." Swami Sivananda Radha (1993) referred to this process as "awakened consciousness," often telling me that spiritual work must be applicable in a practical way to one's daily life, otherwise it lacks meaning. Various meditative disciplines have endeavored to develop and extend their students' control of awareness. Adepts may claim to reach a stage in their practice which is life-affirming and during which the ego-self is transcended and the All-Self is encountered, but most meditation emphasizes "direct awareness" (Whiteman, 1986, p. viii). Even when so-called "mystical experience" occurs as a result of these practices and the practitioner is enveloped in the All-Self, the resulting phenomenon can hardly be labelled "dissociation" because its attainment has emerged from the experient's flow of meditation, contemplation, prayer, the martial arts, or a similar method of controlled flow.

However, these experiences are often unusual enough to be considered anomalous. Whiteman (1961) comments that the reported "thought forms" that appear human-like in nature should not be casually dismissed. "To impute the unreality of such thought-forms...might be tempting to some confirmed skeptics, but is a quite irrational proceeding" (p. 227). Other anomalous experiences described by Whiteman include the "second rebirth," the "divine marriage," and "mystical form liberation," occurrences described in similar terms in the larger corpus of mystical literature.

Uncontrolled Flow With Major Shifts in the Ego-Self

Major shifts in the ego-self can occur spontaneously apart from a dissociative episode. Marlon Brando once observed that "Acting is something that most people think they're incapable of but they do it from morning to night" (Bates, 1987, p. 7). People develop their own performances and their own cast of characters, each becoming a familiar and well-rehearsed "ego state" to be performed in appropriate settings. Role playing in such forms of psychotherapy as Psychodrama or Gestalt therapy allows clients to portray an important person in their life history or a part of their own psyche. This role playing has been conceptualized as a specific form of behavior simulation, one that creates experiential processes that can offer clients a direct way to address their difficulties (Kipper, 1990). The workshops in "personal mythology" that David Feinstein and I originated encourage participants to play the role of their parents, positioning their bodies to reflect parental myths. We also enable participants to identify their own conflicting myths, giving each a distinctive voice, body posture, and gesture pattern (Feinstein & Krippner, 1997).

Rockefeller (1994) observed how motion pictures provide larger-than-life visual images and auditory stimuli that are interpreted, processed, and become attached to one's internal world, aiding in the construction or revision of an individual's personal mythology. "Seeking out a film, standing in line, buying a ticket, and sharing with others who, for the most part, are strangers sharing an intimate experience in a darkened theater may be one of our last large-scale modern, cultural ritualistic behaviors" (p. 185). In an interview study conducted at Saybrook Graduate School, Rockefeller's research participants reported identifying with characters from their favorite films. Interview material revealed how particular scenes in the films reiterated a personal myth. One research participant identified with Scarlett O'Hara in "Gone with the Wind," and stated, "Scarlett makes it and I'm going to

make it too," giving her a strong renewed personal myth to carry forward into her life--one that had just been freed from a desperate, abusive marriage.

Uncontrolled Flow With Encounters With the All-Self

An example of uncontrolled flow accompanied by an encounter with the All-Self occurred in a clairvoyance experiment we conducted at Maimonides Medical Center in Brooklyn (Krippner, 1968). Some participants were taken through formal hypnotic induction procedures, and members of a comparison group were given relaxation suggestions. While trying to identify the randomly-selected target picture in a sealed envelope, a member of the latter group reported several imagery sequences, one of which could be said to represent an encounter with the All-Self. This research participant had a spontaneous exceptional experience, the results of which were long-lasting and perceived as beneficial. Her mental imagery centered around:

> A painting of the sky, clouds, and God stretching forth his hand and touching the finger of a man whose hand is outstretched too....A spark is ignited by God's touch....I feel good about this thought, as if to say, "This is it, now I've got it." The picture seems to say that man is dependent on God for his discoveries and intuitions. Religion and God and the search for some new discovery in reality seem connected with this picture and my thoughts right now. I see space, distant myriad stars, expanding universe, stars flying away from each other, and man's voice resounding, "Who are you? Where are you?" I feel embarrassed by these thoughts as if I'm a religious fanatic. Yet at the moment they fill my head. (p. 52)

This experience took the research participant by surprise; the label of "dissociation" is not warranted, and the experient felt that her experience was life-affirming. The target picture was a print of Chagall's "Rabbi with a Lemon," and outside evaluators were able to match the painting with the woman's description, attesting to its anomalous nature.

Uncontrolled Flow Without Major Shifts in the Ego-Self or Encounters With the All-Self

Uncontrolled flow usually occurs without major shifts in the ego-self or encounters with the All-Self. In 1993, I gave several dream seminars for the Human Development Corporation in Osaka and Tokyo, and was struck by the number of minor shifts in identity in some of the dream reports. These were not of the magnitude to qualify as derealization or depersonalization, but they illustrate the alterations along these lines so common in dreams. One man, the executive director of an organization, reported, "I am at a narrow side street between my neighbor's houses. A white snake is chasing me. I am very scared. *I leave my body and observe my body* running toward a larger street, but the street gets longer and longer, until it is almost impossible to reach the end of it." A black-haired housewife reported, "I am looking at myself in a room. I notice that *my hair is blonde.* My mother is there but *I do not recognize her; she is sitting in a rocking chair and she has blonde hair too.* My grandmother is also in the room, *also with blonde hair and I do not recognize her at first.* They both wear *some strong classic long fluffy skirt with many pleats.* They are drinking black tea and the room has a fireplace; *it resembled our room at home but there is no fireplace*" (italics added). Both dreams were described as repetitive, dating back to childhood.

There is considerable controversy on the topic of dissociation in dreams (e.g., Barrett, 1994), but I see dreaming as a constant interplay of flow and interrupted flow, of continuity and discontinuity, of association and dissociation. The psychophysiology of rapid eye movement sleep can account for much of dreams' bizarreness and emotional quality, with the experiences of the dreamer making contributions as well. Hobson (1998) has expressed the situation well: during dreaming, dissociation is "in a dialectical and oppositional struggle with associativity" (p. 211). Both association and dissociation are present in rapid eye movement sleep, and this dialectic contributes to the creativity often found in dream reports.

Hypnosis can be described as a process in which one person suggests than another person experiences changes in sensations, perceptions, thoughts, or behaviors. Those who subscribe to the notion that hypnosis involves "special processes" that differ in certain ways from ordinary waking behavior emphasize the potentially dissociative or "neo-dissociative" aspects of hypnotic experience (e.g., Bowers, 1991, 1994; Hilgard, 1994; Woody & Farvolden, 1998), while those who see hypnosis as a "sociocognitive" phenomenon discount its relationship with dissociation (e.g., Spanos, 1989; Spanos & Burgess, 1994). Keeping in mind the continuum of dissociation in each of the categories I have discussed to illustrate my model, it should be apparent that hypnotic induction procedures could produce experiences at many points of this continuum. However, even experients who are highly responsive frequently describe hypnosis in ways that McConkey (1986) interprets as "a normal state of consciousness that simply involves the focusing of attention [and] thinking along with and imagining the suggestions given by the hypnotist" (p. 314).

Many clients report important health benefits from hypnosis; those who make high scores on fantasy tests and on tests for amnesia typically report hypnotic experiences that appear to be dissociative. Those clients who are highly motivated may obtain equal benefits from hypnosis without a break in the ordinary flow of their awareness, behavior, and/or identity that is dramatic enough for it to be labeled dissociative (Barber, 1997).

Conclusion

As a founding member of the International Society for the Study of Dissociation, I consider its initial meeting in 1984 to be an historic event in the understanding of dissociative experiences. But this revival of interest may be but one blip in Ellenberger's (1970) registry of the cycles in psychotherapists' interest in dissociative disorders. Kenny (1981) found that 19th century spiritualism not only favored the development of mediums, some of whom were studied by William James and his colleagues, but stimulated the appearance of multiplicity in the same communities. With the decline in the belief of "spirit possession," fewer cases were reported.

Hacking (1995) claims that the attention given to child abuse in the United States to some extent has taken the place of possession and mediumship as a spur for the diagnosis of DID. The possibility of iatrogenesis, in which alter identities are created in a therapist's office, in multiplicity was considered by many of the pioneers in this field (Alvarado, 1991). Janet (1889) noted that once he had named a "personality," that "personality" became more life-like (p. 318). James (1890) asserted that "It is very easy...to suggest during trance the appearance of a secondary personage" (p. 465). Ross (1989, pp. 58-63) has argued convincingly that a condition as serious and complex as DID cannot be haphazardly elicited, but the controversy remains. This issue is a critical one because the diagnosis of DID, even when accurate, tends to frighten both the patient's caregivers and family members. Gergen (1991) recognizes that the term "dissociation" is a negative one as currently used, as it tends to "discredit the individual, drawing attention to problems, shortcomings, or incapacities" (p. 13). In fact, Kunzendorf, Crosson, Zalaket, White, and Enik (1999) have presented data indicating that amnesia is the only "truly pathological dimension of multiple personality" and that there are

forms of "multiple self-identity" and "multiple self-control" that are "normal manifestations" of individual differences in personality (p. 205). Other data reported by DePrince and Freyd (1999) indicate that dissociative tendencies "can be advantageous in certain contexts" (p. 449).

"To put it more broadly," Gergen (1991) postulates, "the vocabulary of human deficit has undergone enormous expansion within the present century" (p. 13). Koss-Chioino (1992) even raises questions concerning "the validity of the concepts behind the definitions of hallucinations and delusions" (p. 140) because "relatively few ideas have been advanced of ways to distinguish hallucinations from visionary experiences" (p. 143). For this reason, my model has drawn upon two contributors to transpersonal psychology, Heinze (1993) and White (1997), because their designations of the varieties of dissociative experiences illustrate both volitional control and nonvolitional dissociation, as well as the part played in the experience by contact with the so-called ego-self and the All-Self. These issues have been central to transpersonal psychologists since the founding of the *Journal of Transpersonal Psychology* in 1969.

However, few transpersonal scholars have made cross-cultural comparisons that focus on everyday community identity. If one's identity is with a group rather than with one's self, transpersonal experience may be more easily attained. In the meantime, Laughlin, McManus, and d'Aquili (1990) assert that the "Western ego" has "deluded itself about its own primacy, it own separateness" (p. 264). Furthermore, Laughlin, McManus, and Shearer (1993) contrast Western "monophasic" societies with the many indigenous "polyphasic" societies which expand rather than confine experience and knowledge suggesting that "failure to integrate polyphasic experience may result in psychopathology" (p. 191). It is also of interest that the overlap between transpersonal psychology and parapsychology is so narrow with the prodigious work of Tart (e.g., 1977) standing as a welcome exception.

For me, transpersonal psychology is the disciplined study of behaviors and experiences that appear to transcend those hypothetical constructs associated with individual identities and self-concepts, as well as their developmental antecedents, and the implications of these behaviors and experiences for education, training, and psychotherapy. Classification systems (such as those of Heinze and White) based on this perspective are useful when attempting to comprehend such accounts as the one Braude (1995) gives of a Zen Buddhist nun who claims that she has no self and who avoids using personal pronouns in order to counter the illusion that she is characterized by selfhood. Instead of saying, "I'm hungry," she will say, "There's hunger here" (p. 75). In this case, controlled dissociation apparently has led away from the ego-self to the All-Self in a way that is considered positive by the experient and her social group.

In Euro-American culture, White's proposal of being aware of both but not identified with either might be more likely to promote optimal functioning, especially as regards empathy with and communication among others. Such persons are equally at home with those who are totally identified with the ego-self or the All-self. Experiences of this nature are taken on their own merit by transpersonal psychologists (see Grof & Grof, 1990) rather than being subjected to a Procrustean bed of psychodynamic causation, schedules of behavioral reinforcement, or psychopathological labelling.

The first aspect of my model focuses on whether an experience can be thought of as controlled flow, uncontrolled flow, controlled dissociation, or uncontrolled dissociation, while acknowledging frequent fluctuations in these spectrums. The second aspect asks whether there are alterations in one's identification with the ego-self or whether one transcends the ego-self, making contact with a hypothetical All-Self. The third aspect of my model of dissociative experiences is in concordance with the descriptions proposed by White (1995, 1997) of life-affirming experiences and life-denying experiences, classifications that are extremely subjective. For example, when Sister Teresa, who later became Mother Teresa, the Nobel laureate, was traveling to Darjeeling on a train in 1946, she claims that she "heard God." God

allegedly told her that her life's work was to recognize the divinity in the poorest of the poor and to serve them with love.

In 1996, an Israeli student also "heard God." In this case, God allegedly gave him orders to kill Yitzchak Rabin, another Nobel laureate. There are devout persons who would reject the divine origins of one or another of these divine commands, and skeptics who would belittle them both. Taking a postmodern perspective, the judgments of "life-affirming" and "life-denying" are a matter of time, place, and power (see Foucault, 1980), although White's (1997) description circumvents a relativistic stance by adding that any "voice" that advocates behaviors the experient would not like done to him or her is not "life-affirming." Hermeneutic and phenomenological research studies need to be applied to dissociative narratives to help clarify these issues.

In the meantime, health care workers need to realize that dissociation sometimes can be considered life-affirming or life-denying, sometimes as adaptive or maladaptive, sometimes as positive or negative, sometimes as constructive or destructive; the term "dissociation" no longer needs to be reified or pathologized. Dissociation, in the sense of "reported experiences and observed behaviors that seem to exist apart from, or seem to have been disconnected from, the mainstream of one's conscious awareness, behavioral repertoire, and/or self-identity" can even be viewed as a basic skill or capacity similar to imagination and absorption.

Instances of dissociative experiences evaluated positively among athletes have been cataloged by Murphy and White (1995), who have proposed several implications of their findings for mind/body training. Masters (1992) found that marathon runners often use a cognitive style in which they cut themselves off from the sensory feedback they would normally receive from their body during the run. Their deliberate use of this type of dissociation as a running strategy was positively related to scores on a hypnotic susceptibility test. For example, one runner "regressed" back to the first grade, then proceeded to recall his educational experiences up through receiving his doctorate. Other positive uses of dissociation include "tuning out" a boring conversation, exerting pain control by "distancing" oneself from the excruciating area, holding a conversation while skillfully driving an automobile, and fostering creativity through "fancy" or "musing." In some parts of the world, fantasy-proneness is reinforced by cultural forces, but "daydreaming" and "not keeping your mind on the job" are pejorative descriptors in most Western cultures (Krippner, 1994b).

This leads into the fourth aspect of my model, which concerns the limitations of the term "ego-self." Dissociation will be more acutely experienced in a society where the ego-self is allied to a narrow individual identity than in a society where the ego-self is tantamount to a broader social identity. This difference probably helps account for the way in which "dissociation" as a hypothetical construct is felt to indicate dysfunctional behavior by most Western psychotherapists. But the term also can be applied to voluntary "spirit incorporation," which in certain cultural contexts is socially adaptive, especially when it empowers women who have few other ways of redefining themselves and asserting their capabilities. In the Ethiopian *zar* cults, many ailing women are believed to be possessed by entities; Boddy (1988, p. 19) identifies this diagnosis as an opportunity for the possessed woman to develop her capabilities, becoming "life-affirming," in White's terms. Indeed, there are alternative prototypes for the 3-part model I have constructed to discuss dissociation; prominent categories could be built according to gender, age, intensity of the experience, empowerment of the experient, and any number of other variables.

The DSM-IV (American Psychiatric Association, 1994) attempted to enhance its claim to universal validity with a brief mention of "dissociative trance disorder," a supplemental category of "religious or spiritual problem" and a glossary of "culture-bound syndromes." Lewis-Fernàndez and Kleinman (1995) admit that this aspect of the DSM-IV stands as the "main clinical development in current cultural psychiatry in North America" (p. 437), even though they consider *anorexia nervosa*, "chronic fatigue syndrome," and DID Western

"culture-bound disorders." The application of the DSM categories often has been acontextual. For example, Breasure (1996) tells of meeting a 70-year-old woman who had been diagnosed as schizophrenic because she had answered affirmatively when a psychiatrist asked if she heard voices. The psychiatrist had not inquired as to whether this was part of her culture as a Native American where part of her life style was to listen to the earth's messages for signs sent by a higher power, in other words, the All-Self. This woman was hospitalized as a result of this diagnosis, remaining in the hospital until her inner voices guided her in ways to obtain a release. Steinberg (1995) cites both "out-of-body" experiences and auditory hallucinations as clinical symptoms of DID, but they could also be indicators of such types of controlled dissociation as shamanic journeying or mystical experience, or simply as an indicator of someone who is highly hypnotizable or "fantasy-prone" (Lynn, Pintar, & Rhue, 1997).

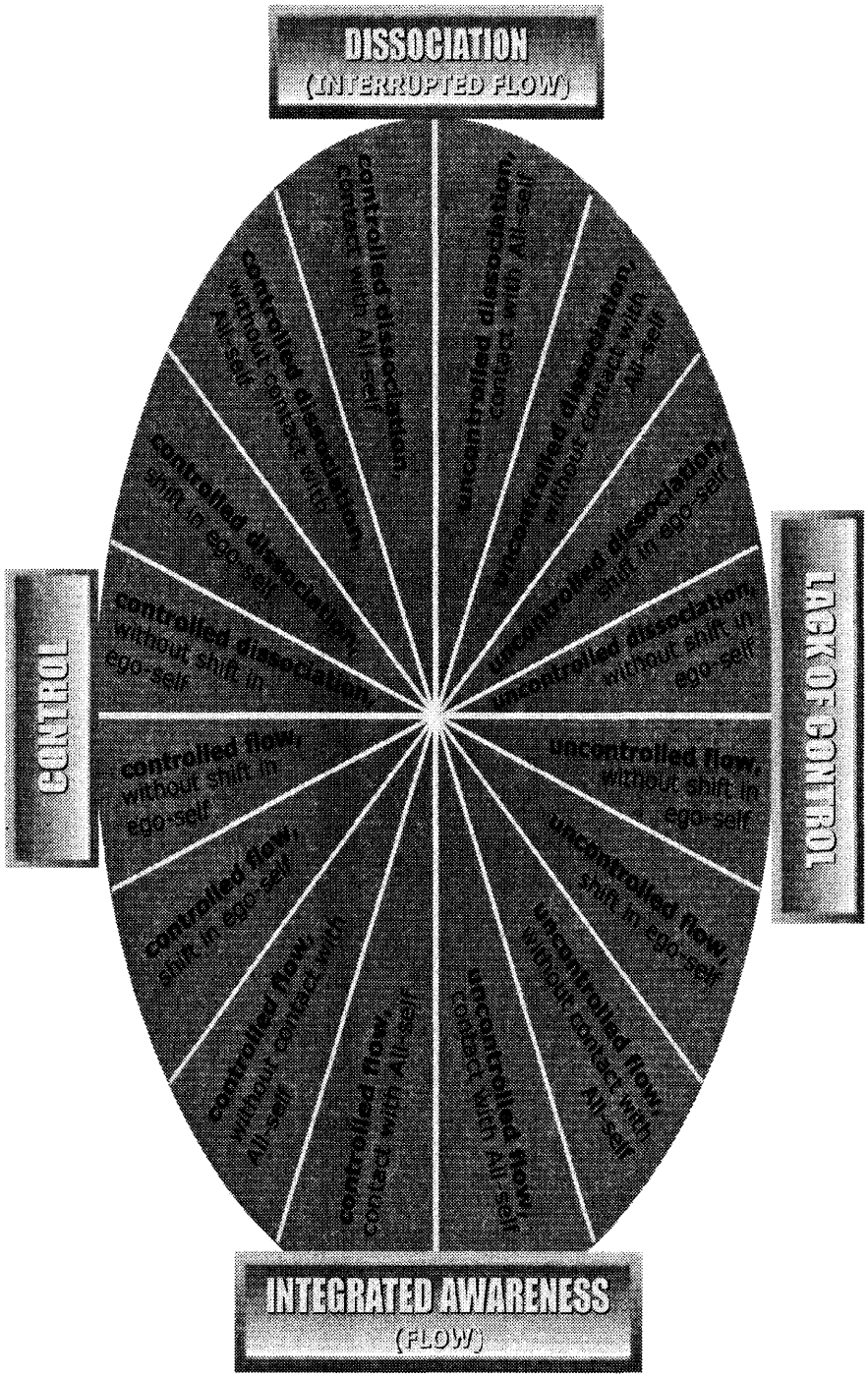
The fifth facet of the model reflects the immaturity or maturity of the experient's identity and ego development at the time of that experience. One extreme example is given by Ken Wilber (1980) who notes that infants often exist in what can be called a "pre-personal paradise" but points out that this experience is far different from the "trans-personal paradise" that can only be obtained following the development of self-awareness and ego development (p. 8). This development may occur in childhood, permitting an awareness of the All-Self to exist but, as White (1997) observes, in the West it is socialized out, usually by the time a child goes to school or shortly thereafter (p. 89).

The sixth aspect of the model concerns the anomalous nature of the reported experience or observed behavior. Some anecdotal data links purported psi with dissociation, but a plethora of anecdotes exist to the contrary. Several literature reviews find an association between altered states of consciousness and both anecdotal and laboratory psi (e.g., Honorton, 1977; Krippner & George, 1986), but not all altered states are dissociative in nature. Again, there may be important cultural variables; in those societies were the ego-self has strong group components, flexible psychological boundaries may facilitate psi experiences (Heinze, 1993).

In my four decades of studying dissociative events on five continents, I have learned that, at best, dissociation can yield tangible and intangible rewards and benefits for experients and their community; at worst, dissociation is tantamount to agony and pain -- but may represent the most viable strategy that is available in an otherwise unbearable situation. If parapsychology is to integrate lessons from this literature, it needs to determine if the practices under consideration for psi research are safe, efficient, and effective. The hypnosis literature contains examples of well-designed studies that could be used as models for other research procedures, as well as meta-analyses that demonstrate the effectiveness of hypnotically-facilitated psychotherapy (e.g., Kirsch, 1993; Patterson & Ptacek, 1997). But the same literature demonstrates the care that must be taken in defining the term; like "hysteria" in the late 19th century, the parameters of "dissocation" may become so permeable that it will eventually mean everything -- and therefore nothing (Tillman, Nash, & Lerner, 1994, p. 408).

It has become apparent that the human being is extremely malleable. People can create identities as required to defend themselves against trauma, to conform to cultural pressures, or to meet the expectations of a psychotherapist, medium, or exorcist (Martìnez-Taboas, 1991). This malleability can have both adaptive and maladaptive, both life-affirming and life-denying aspects. One of the beneficial results of renewed interest in dissociation is the recognition of its ubiquity in human behavior and experience. As such it poses unique possibilities for psi research as long as researchers recognize its variability in different times and places, at different levels of human development. Edgar Bergen and Dr. Jekyll both engaged in dissociative practices. The recipient of a Nobel Prize for Peace and the assassin of another recipient of another Nobel Prize for Peace both reported dissociative episodes. All these phenomena demonstrate dissociation's capacity for both creative activity and reprehensible behavior.

Figure 1. Model of Dissociation in Relation to Anomalous Experiences



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The Need for Independent Control Sites: A Methodological Suggestion with Special Reference to Haunting and Poltergeist Field Research

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Abstract: The results of field investigations of haunting and poltergeist cases are limited in that they are not compared to the results from independent control sites. This is needed in order to determine whether the type and frequency of anomalies have predictive validity in being specific to the target sites. This is an important issue, because the argument that paranormal effects differ qualitatively and quantitatively from freak occurrences is considered here to be suspect. Several anecdotal examples and formal demonstrations reveal that freak occurrences may be more common than previously thought and can be sufficiently large in scale and apparently complex in nature to suggest intelligent agency. We show that neglect of appropriate control data is a ubiquitous problem in many areas of the behavioral sciences and provide examples from various non-parapsychological fields. We argue that, in field studies of hauntings and poltergeists, experiments and other methodological inquires should be conducted at independent control sites to avoid errors of Type I. Potential procedures of such control studies are outlined.

" 'Erratic functioning of appliances' as a criterion for paranormal experiences?! My stove went on the blink [malfunctioned] *a while back, but it didn't seem paranormal to me. This criterion would seem to increase the false positive rate substantially."*
[Comments made by anonymous referee who reviewed a paper by Lange and Houran (1999) and felt that certain types of anomalies are questionable as evidence for haunting and poltergeist activity].

Introduction

Anomalous sensory experiences and physical changes in the environment that are generally short-lived and focus around certain individuals are termed *poltergeists*, whereas similar manifestations that persist for long periods at a particular location are regarded as *hauntings*. These manifestations range from being almost trivial (e.g., easily disregarded noises, curious odors) to being spectacular (e.g., visual apparitions, object movements with seemingly unusual trajectories), and typically occur sporadically. Many researchers make a clear distinction between hauntings and poltergeists, yet their features overlap considerably (Roll, 1977; Alvarado & Zingrone, 1995) and the psychological mechanisms underlying their perception and report appear to be similar (Houran, in press; Houran & Thalbourne, 2000).

Parapsychology has been criticized for showing little interest in hauntings and poltergeists as compared to other types of ostensibly paranormal phenomena (e.g., Lay, 1988; Maher & Hansen, 1995; Alvarado & Zingrone, 1995). Fortunately, however, there seems to be a recent resurgence of attention given to these phenomena in the academic literature. A keyword search ("poltergeist," "haunting," "ghost," and "apparition") on the PsychINFO database yielded fourteen references related to these topics since 1995. This is double the number we noted for the period 1990-1995. Many of these studies were concerned with psychological aspects of these experiences, while only a few involved actual on-site

investigations. Each approach has strengths and weaknesses but both are arguably needed in order to resolve the ultimate nature of these phenomena. However, in our opinion, field investigations have consistently lacked scientific rigor in that proper controls are not utilized. Consequently, it is not known whether anomalies such as photographic distortions, movements of objects, apparitions, extra-chance findings from random event generators, and differences in subjective feelings between "sensitives" and "skeptics" reflect parapsychological phenomena, or even if these effects are unique to target sites. In other words, the predictive validity of these anomalies in distinguishing between target sites and independent control sites has not been empirically established.

Control Sites: An Old Idea

In a review of the physical effects associated with hauntings and poltergeists that have been documented with instrumentation (Houran & Lange, 1998), we noticed that the various approaches only tested for the presence of anomalies at target sites. Controls, if used at all, consisted of testing reportedly "unhaunted" areas of the same target site. This is inadequate. It is also unclear why this should be the case when Gauld and Cornell (1979) set an excellent precedent in field investigation twenty years ago. Specifically, it had been hypothesized (Lambert, 1955) that minor seismic activity, underground water flows, and shifting house foundations might produce some physical effects associated with the poltergeist. Gauld and Cornell (1979, pp. 330-337) tested these theories by subjecting a "control" house that was scheduled for demolition to mechanical vibrations. Objects within the house only slid short distances, none replicating the lengthy movements often seen in alleged poltergeist outbreaks.

Gauld and Cornell's (1979) procedure was a notable advance in the empirical testing of conventional hypotheses for poltergeists and kindred phenomena, but it was limited in scope. There are a multitude of sources for both psychological experiences and physical manifestations (Houran, 1997) that were not considered and probably could only be considered if a longitudinal approach was conducted at a series of residences in which people were going about their normal, daily routines. Under these circumstances, some notable events of conventional origin have been documented. Tandy and Lawrence (1998) provided a nice list: "...water hammer in pipes and radiators (noises), electrical faults (fires, phone calls, video problems), structural faults (draughts, cold spots, damp spots, noises), seismic activity (object movement / destruction, noises), electromagnetic anomalies (hallucinations), and exotic organic phenomena (rats scratching, beetles ticking)" (p. 360). Interestingly, these authors also reported that standing air waves can elicit sensory experiences suggestive of ghosts, a natural cause which had not been documented previously. These types of events may occur frequently yet may easily go unnoticed or simply disregarded and thus are scarcely reported under normal circumstances ("hidden events"). Other times such events may be labeled as "freak occurrences" or "flukes," because they may be isolated or sporadic events that happen only when environmental conditions are conducive. Investigations should naturally attempt to control for conventional explanations (see Society for Psychical Research, 1968), but freak occurrences can be more spectacular as well as more elusive than previously noted.

Impressive Anomalies at "Haunted" Sites

An argument we encounter frequently (e.g., Stevenson, 1972; Irwin, 1999) is that haunting and poltergeist events differ qualitatively and quantitatively from random or freak events in that the former seem to reflect an intelligence, are more frequent over a short period of time, occur under meaningful contexts, are more spectacular and complex in nature, and are not the type of incidents that occur under normal circumstances. However, these distinctions may be illusory. The type and frequency of freak occurrences that parallel intense haunting and

poltergeist phenomena may be more common than is assumed. Freak occurrences are usually only noticed or given credence under meaningful contexts and so are perceived as too remarkable to be due to chance, and some preliminary data indicates that patterns in the perception of freak occurrences conform to the major characteristics of poltergeist outbreaks. We would like to stress that it is by no means our intention to suggest that the problem of choosing appropriate control conditions would be confined to the study of ostensible paranormal phenomena. Quite to the contrary, we recognize that the lack or inadequate use of control data is a notorious source of Type I errors in many fields of the behavioral sciences. Considering this, it can be argued that it is all the more important for parapsychology not to commit the same errors.

Anecdotal Examples

James Randi, a well-known professional magician and public debunker of the paranormal, has been criticized for lacking a professional approach (see e.g., Hansen, 1992; Thalbourne, 1995). We are not advocates of Randi's methods and we are not associated with him in anyway, yet in our view some of his demonstrations have heuristic value. For instance, on May 16, 1975, Randi arranged for his full-time assistant, James Pyczynski to pose as a psychic on the "Long John Nebel/ Candy Jones Show" on radio station WMCA. Pyczynski recounted a fictional story of how he acquired psychic abilities and told the audience that "...he'd had to drop out of X-ray school because weird things happening to the films and machinery and he was afraid of what might befall the other students if he continued there" (Randi, 1982 p. 141). Soon after, listeners to the radio program began calling in to report spectacular events in their own homes. Randi (1982, pp. 141-142) listed twenty-four examples that strongly resemble incidents that have been labeled as recurrent spontaneous psychokinesis (RSPK) by field investigators and macro-PK events reported in the context of death and dying (Bozzano, 1948; Rhine, 1970; Osis & Haraldsson, 1977; Wright, 1998):

1. A shower head bent out of shape.
2. A container of milk burst.
3. Several cats began howling and running about in an agitated manner.
4. A clock began running at superfast speed.
5. A television set turned on by itself.
6. Parts fell off a stuffed animal.
7. A refrigerator stopped operating.
8. Two mirrors cracked.
9. A clock, not running for years, had begun running when [Uri] Geller was on television the day before; it had then stopped again. It started running once more as Pyczynski began talking.
10. Two reports came in of flickering lights.
11. Two calls reported loud noises, one saying a radiator had begun knocking though it was turned off.
12. A spaniel started sneezing loudly.
13. A window cracked.
14. A watchband fell off a watch.
15. A crucifix and a religious picture fell off a wall.
16. A light-bulb exploded.
17. An air-conditioner quit dead.
18. A toilet bowl was reporting gurgling for the entire time Pyczynski was on.

19. Toilet paper fell off the roll.
20. In *one* report, a record turntable started going, a dog began howling, and a neighbor's chandelier fell.
21. All the lights in one house went out.
22. A radio turner moved from another station to the WMCA frequency.
23. A piggy-bank cracked open and pennies rolled out.
24. An alarm clock was being wound, and the spring broke.

Anecdotal reports that may be spontaneous examples of this "Randi effect" are not difficult to find. Randi (1982, pp. 142-150) provides other examples, and professional magician, Milbourne Christopher (1975) related several interesting instances in his *Mediums, Mystics and the Occult.* Further, an author of a series of popular books on ghosts and hauntings wrote in one of his introductions:

"Whenever I write these books...psychic things start happening around me. My notes disappear and then reappear, a film roll disappears from plain sight never to appear again, strange things happen to tape recordings while I'm interviewing people. Sometimes their voices don't appear on the tapes, or mine doesn't, or the talk is all backwards. Now I'm having problems with photos... Now why should this happen? I had not touched the camera's adjustments. All the photos on the roll were taken under the same conditions, outside in bright sunlight. I think spooks were gumming up the works...Oddly enough, when I finish a book on the parapsychological and start working on more mundane projects, these things quiet down (Myers, 1990, pp. xi-xii).

We doubt whether the things really did quiet down when the author turned his attention towards more mundane phenomena. Acknowledging the universality of the "Randi effect," i.e., the power of contextual effects, we rather assume that *their continuation in a mundane context was experienced by the author as more mundane and may even have completely escaped his attention.* We have often observed speakers on the topic of psychokinesis (whether of the "micro" or "macro" type) comment on break-downs of equipment during their talks in a jestful manner: were these not lively illustrations of the principle of mind over matter? We have never seen speakers on "mundane" topics to blame psychokinetic forces for dysfunctional remote controls, sticking or upside-down slides, mute video-recorders and all the many other break-downs regularly accompanying an average public lecture.

It's not just book authors and public speakers who experience these likely displays of freak occurrences under meaningful contexts. Myers (1990) recounted other similar tales:

"I was on a show called 'People are Talking,'...in Boston. There was a medium on the show, and the host asked her to try to bring in a spirit. She gave it a try, and I think succeeded, apparently contacting a young man who had died in an automobile accident and was wandering confusedly in the astral plane. Suddenly the show's staff noticed that the image on one of the cameras was rolling back and forth, something that had never happened before. It reminded me of an incident of which I was told...I was doing a chapter on a notably haunted restaurant in Merion, Pennsylvania, called the General Wayne Inn. A Philadelphia TV station had done a segment on the place's ghosts, and on the evening of the showing many staff and patrons gathered in the bar to watch the TV there. The moment the ten-minute part about the Wayne's ghost began, the TV picture started rolling. It stopped as soon as that section of the show was over. The TV set, I was told, had never done that before and never has since" (pp. xii-xiii).

These purely anecdotal observations speak to the influence of contextual effects on the interpretation of hidden events and freak occurrences on a rather humorous level. More serious are instances of context-dependent effects in purportedly rational inquiries. In the following cases neglect of a neutral baseline has led to a gross misinterpretation of phenomena observed under a critical condition:

1. ***Phantom limbs*** are traditionally conceptualized as perceptual-motor memories of once owned limbs (for an overview see: Ramachandran & Hirstein, 1998). This view silently assumes that people born without a limb will not experience phantom sensations. In fact, most current studies explicitly endorse this assumption without having assessed the frequency of occurrence of phantoms in congenitally limb deficient subjects. A number of investigations including such important "baseline" information have been published over the past 150 years and presented evidence for the existence of congenital phantoms (e.g., Valentin, 1836; Melzack, Israel, Lacroix, & Schultz, 1997). Yet, due to the inability of the traditional model to account for phantoms of limbs that never existed, these reports are only rarely acknowledged. (Note: we do appreciate the importance of a person's longstanding experience with a limb for the later development of phantom sensations. Nevertheless, the occurrence of congenital phantoms proves wrong any theory of phantom formation exclusively in terms of a process of remembering. For an alternative theory, see Brugger, Kollias, Müri, Crelier, Hepp-Reymond, & Regard, submitted,).

2. ***Hysterical paralysis*** refers to the condition of a (mostly unilateral) paralysis of a limb without underlying neurological impairment. Absence of such impairment is assessed by standard neurological examination as well as by a variable number of neurophysiological and neuroimaging tests. This absence provided, the diagnostic criterion for a hysterical paralysis (and the differentiation from, e.g., pure malingering) is the presence of some "psychological trauma" (Parobek, 1997). Such a diagnosis is meaningless as long as two important baselines are not respected (and the rule is, unfortunately, that they *are* ignored). First, there is a great number of people having suffered psychological trauma who do *not* develop a hysterical paralysis (or any other form of conversion disorder); second, a considerable number of patients paralyzed for obvious neurological reasons have also suffered psychological trauma. Without taking into account this baseline information, an assessment of the probability of psychological trauma *as the cause of a paralysis* is impossible. (Note: Not denying the relevance of a patient's psychological status for the experience of neurological symptoms, we think that it is the limited resolution of current neuroscience methods which leaves undiscovered the organic basis of a "hysterical" paralysis; see e.g., Marshall, Halligan, Fink, Wade & Frackowiak, 1997).

3. The validity of ***acupuncture treatment*** is often assessed in clinical trials that omit (a) sham stimulations at disease-irrelevant acupoints, and (b) the use of "placebo needles" (i.e., needles which are felt by the patient to penetrate the skin without actually doing so; see Streitberger & Kleinhenz, 1998). (Note: We are far from claiming that acupuncture is quackery. For instance, see a recent neuroimaging validation by Cho, Chung, Jones, Park, Park, Lee, Wong, and Min (1998). We simply wish to stress that in a field with controversial status, attention by the scientific community can only be gained by the use of appropriate control conditions).

4. ***Facilitated Communication*** is a method apparently allowing persons with severe communication disorders (often autism) to express feelings and thoughts by typewriting (for an overview see: Jacobson, Mulick & Schwartz, 1995). It is argued that autism is not primarily accompanied by cognitive dysfunction but by "apraxia", i.e., an inability to program the motor sequences needed for oral or written expression. To overcome this apraxia, the autistic person's hand is held over a spelling board and, letter by letter, messages are formed. A multitude of paradigms has been used to show that the origin of these messages is not the autistic person's but the "facilitator's" brain (Brugger, in press; Spitz, 1997). Yet, clinical evaluations of the

method continue to attest some validity. These studies regularly fail to consider an important control condition: meaningful messages also emerge if facilitators are made believe that the persons they support have a communication disorder, whereas in fact they are completely healthy. The content of the messages is then fully determined by the facilitators' expectations about the subject's psychological state (Burgess, Kirsch, Shane, Niederauer, Graham, & Bacon, 1998). (Note: Here, we clearly deny that the method has any clinical validity at all. Nevertheless, the systematic study of the neglected baseline condition, i.e. "facilitated communication" between pairs of normal subjects, could reveal important insights for parapsychology. Extending the results of early studies in automatic writing, such studies could help resolve the riddle of how unconscious information is accessed; for details see: Brugger, in press).

5. ***"Hidden messages"*** are regularly found in various sources of spoken or sung words (Vokey & Read, 1985) as well as in written texts (e.g., Drosnin, 1997). Complex codes allow a detection of such "meaningful" material also in sequences of apparently random sequences of letters or digits (Hoagland, 1992; Larhammar & Chatzdimitriou-Dreismann, 1999). It is not generally appreciated that the most embarrassing claims of this sort can be found in the psychoanalytic literature: Among others, Freud (1901/1960) and Adler (1905) "discovered" the sexual content of subjective random numbers (i.e., numbers, "mindlessly ejected" by a patient; Adler, 1905, p. 263). In all these cases, the most appropriate baseline for an evaluation of the "meaningfulness" of hidden messages is the number of comparable ones found in carefully randomized sequences of letters or digits. With respect to psychoanalytic numerology, recommendations to use such a control condition (Flugel, 1923; Wohlgemuth, 1923) have remained unheard by psychoanalysts. [Note: We think that taking serious claims of hidden messages without proper control tests is a waste of time. However, particularly interesting for parapsychology may be investigations which study an individual's inclination to suspect the presence of hidden information in random configurations as a function of the subject's belief in the paranormal (see e.g., Brugger, 1997; Brugger & Graves, 1997; Brugger, Regard, Landis, Cook, Krebs & Niederberger, 1993)].

In all these instances, recognition of the necessity to include a proper baseline would lead to a new interpretation of the reported phenomena. Much more important, however, the study of the baseline condition *per se* may open up completely new avenues of research. For instance, with special reference to parapsychology, the fact that a person can have a vivid representation of limbs which have never been physically developed (our first example), could be of relevance for research in OBEs. The experience of a phantom limb can be conceived of as a "partial OBE" (Brugger, Regard & Landis, 1996). Modern neuroimaging techniques allow monitoring of phantom limb movements in traumatic (Ersland, Rosen, Lundervold, Smievoll, Tillung, Sundberg & Hugdahl, 1996) as well as congenital amputees (Brugger et al., submitted), and application of these methods to subjects able to deliberately induce an OBE would allow, for the first time, a delineation of those brain regions activated by movements of the "astral body".

More Formalized Demonstrations

In referring to a field investigation of an alleged haunting, Maher and Hansen (1995) commented that "...it has been our experience that...investigations are likely to produce peculiar physical effects, although the affected item of equipment varies, and the cause or causes remain obscure" (p. 48). We see this as an example of the "Randi effect" introducing Type 1 errors in parapsychological field research, because these same effects are found at independent control sites.

For instance, the first author arranged for two experienced photographers who were blind to the purpose of the study to take random photographs (using color film) in an

"unhaunted" cemetery under as controlled conditions as possible, i.e., the photos were obtained during various times of the same day, when the cemetery was closed to the public, and were taken under excellent weather conditions. This was a well-known cemetery near to the first author's city of residence, and it was a site that no history of haunting or poltergeist-like phenomena. Since haunted (target) sites are only known and thus defined by reported incidents of anomalous phenomena, it follows that locations with no history of such reports should be defined as unhaunted (control) sites. Each photographer used two rolls of film- one roll for photographs taken during the daytime and one for nighttime photographs- and this yielded a total of 144 exposures. The first author did not direct the photographers' actions in any way. Rather, the photographers were merely instructed to take photographs at their leisure and at their discretion. None of the daytime photographs revealed any anomalies. However, the nighttime photographs revealed three artifacts that resembled descriptions of photographic anomalies reported in field investigations (e.g., Maher & Hansen, 1992, 1995). Our results of these unpublished sessions with color film are given in Figures 1 through 3.

Figure 1: Bluish translucent orb shape on ASA 400 speed "Gold" Kodak film

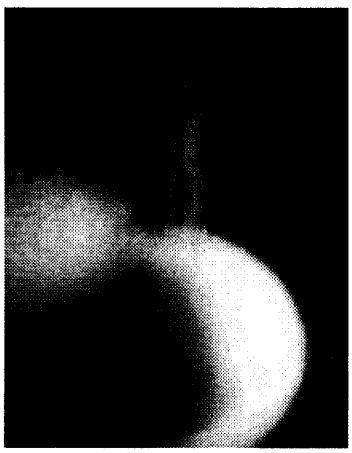

Figure 2: Large multicoloured distortion on ASA 400 speed "Gold" Kodak film

Figure 3: White pentagonal density spot
on ASA 400 speed "Gold" Kodak film

Figure 1 shows a translucent bluish orb in the background of the photograph, while Figure 2 shows a striking multi-color distortion in the foreground. Figure 3 depicts a glowing white density spot that resembles a round headlight of an automobile. However, upon close inspection one can see that the shape of the density spot in Figure 3 is a pentagon. All of these anomalies were not observed at the time the photographs were taken, and the photographers were careful to ensure that no water droplets (it was clear a night with minimal wind) or other obstructions (e.g., their own hands, fingers, or the lens straps) were within the frame. Actually, these types of film artifacts are not uncommon even during the normal handling of film and camera (see e.g., Nickell, 1994) and seem to be related to the type of film media that was used (Lange & Houran, 1997a). In fact, there are many different potential sources for such artifacts, and we refer to Hattersley (1981) for an introductory discussion.

Since many readers may argue that cemeteries, even lacking a history of haunting and poltergeist reports, inherently make poor control sites, the photographic sessions described above were repeated at a "haunted" children's playground area within twenty-five miles of the cemetery, as well as a similar park area site just across the street (to serve as a control). The first author was not present at this test, but rather sent a representative who knew the locations of the sites to facilitate the proceedings. The same two photographers were used as before and they were again blind to the purpose of the tests as well as blind to the nature of the two sites. According to local folklore, the playground area became "haunted" after a young girl died in a farming accident on the property approximately 68 years ago. We note that the area does not contain any overt context effects to suggest that the area is associated with anomalous experiences. Nevertheless, this site is associated with many reports of apparitions, the sensing of a presence, erratic functioning of equipment, strange odors, and the sound of children crying.

The photographs taken at this "target" site yielded no abnormalities, however, the control area yielded an exposure with a density spot (see Figure 4). Interestingly, this photographic effect was also obtained during the nighttime, rather than daytime, hours. In the opinion of the photographer who took this picture, the artifact may represent the camera's flash reflecting off a large moth. However, the photographer did not specifically remember seeing a moth at the time of photography, so the effect remains unexplained.

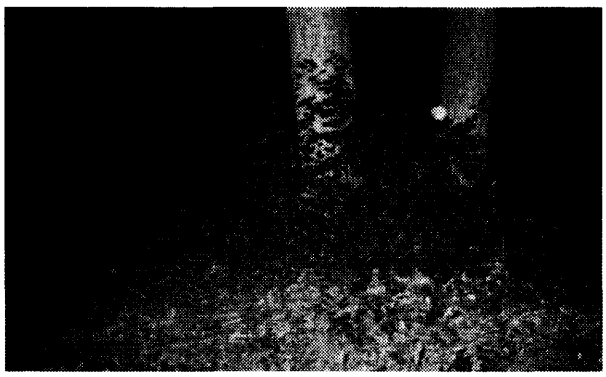

Figure 4: White density spot on ASA 400 speed "Gold" Kodak film.

The lack of variance among the film exposures prevented statistical analysis, but it can be seen that only control sites produced film effects and thus their presence in these specific cases did not distinguish target sites from an independent control site. A similar instance of film anomalies being obtained where they were *unexpected* and not being obtained where they were *expected* was also reported recently by Maher (1999, pp. 66-67). It seems then that photographic distortions are not a reliable indicator of paranormal phenomena. Still, when these types of artifacts are obtained under contexts that have a paranormal pretense such as a visit to a cemetery or a "haunted house," as opposed to say a golf course or a shopping mall, they often take on special meaning. Similar results have been observed for other types of ambiguous stimuli as well (e.g., Eastham, 1988; Lange & Houran, 1997b; Smith, 1992-93; Wiseman & Morris, 1995; Wiseman, Seager & Smith, 1997; Blackmore, 1986, pp.195-207).

Clearly then, context effects such as beliefs and expectations can prime individuals to notice and give credence to freak occurrences and coincidences that can vary in type, intensity, and frequency. Other contextual variables such as a person's psychophysical state, demand characteristics, environmental cues, and symbolic-metaphorical cues have also been found to predictably affect the content and modality of anomalous experience (Lange, Houran, Harte & Havens, 1996; Lange & Houran, 1996, 1997a; Houran & Lange, 1997; Houran, Lange & Crist-Houran, 1997). We emphasize that the context effects of the sort publicized by Randi (1982) and perhaps experienced by Myers (1990) and Maher and Hansen (1995) are not relegated to speculation or rhetoric but have been demonstrated formally in case studies with strong ecological validity, as we will review next.

In addition to solitary or "static" anomalous experiences stimulated through context effects, Houran and Lange (1996) demonstrated that anomalous experiences can also be induced in an "unhaunted house" and show "dynamic" properties, i.e., *experiences that are sustained over time.* They asked a married couple at a university setting to chronicle the type and frequency of anomalies in their student apartment over the course of a month. The apartment complex was approximately twenty five years old and had absolutely no history of anomalous experience prior to the study. Further, the couple did not identify themselves as strong believers, but rather simply interested in the topic of parapsychology. They were given an "anomaly checklist" derived from Lange et al. (1996), which primed them to notice seven

types of poltergeist-like effects: visual, auditory, olfactory, tactile, sensed presence, erratic functioning of mechanical and electrical equipment, and movements of objects[1].

As expected by the investigators, the couple reported both individual and collective experiences that varied qualitatively and quantitatively. There was a total of 22 anomalies, including an auditory experience (a name being called), the repeated erratic functioning of a telephone (no cause was determined), and repeated and impressive movements of a souvenir "voodoo mask" off a shelf to another part of the room that appeared impossible. The mask was on a shelf above a couch, leaning against the wall, and was situated behind various knick-knacks and a large picture frame. If the mask simply fell down it seemingly should have dislodged the picture frame and a couple of small items. Instead, the mask was found to have moved an average of 1.96 meters, and no other objects were similarly displaced on the shelf. This effect mimics the appearance of intelligent action and unusual trajectories of object movements reported so often in haunting and poltergeist cases. Further, the phenomenology of these perceptions paralleled published poltergeist outbreaks. First, only certain areas and objects were affected ("object/ area focusing"), ignoring joint observations the woman reported significantly more anomalies than the man ("focal person"), and akin to patterns reported in the literature (e.g., Roll 1968, 1969, 1970), the events did not follow a uniform distribution. Few events were reported on days one through five, there was a marked increase over days six through fifteen, and then the anomalies died out thereafter.

Since the frequency of events conformed to a logistic curve characteristic of infectious process, we dubbed the phenomenon "perceptual contagion" (for an early discussion of a "theory of contagion" in connection with haunting phenomena see: Kerner, 1836; cf. Bauer, 1989). We hypothesize that perceptual contagion accounts for clustering effects in the reported frequency of events (cf. Jones & Jones, 1994). This may also be the cause for "psychological infection" observed in hauntings whereby "...person-centered phenomena among one group of tenants inspire similar activity in the house's next occupants" (Irwin, 1999, p. 188). Within the field of normal perception, there have long been similar attempts to subject perceptual contagion to scientific scrutiny. Precisely one hundred years ago, Slosson (1899) quantitatively assessed its spatial-temporal spreading among a group of observers. In a classroom demonstration he poured perfectly odorless distilled water over a cotton ball and had the students in the auditorium believe that it was a chemical with a strong odor which nobody would ever have smelled before. He asked them to raise their hands as soon as they got aware of the odor. He described how, within fifteen seconds, most persons sitting in the front row had raised their hands. Whether as a consequence of peer pressure or of genuine olfactory hallucinations (or both), those students sitting more in the back of the room gradually indicated awareness of the odor, and within a minute about three quarters of the observers had raised their hands.

More recently, O'Mahony (1978), in the course of a television program about the chemical senses, told viewers that most recent research would allow to transmit smell by sound. He announced that on sending a particular tone, viewers would be able to synaesthetically experience an odor. Because the program (along with a parallel radio version) was broadcast in the late evening, viewers were told that the tone chosen would not correspond to any smell typically present in average households at that particular time of day. Rather, they would have to expect a "pleasant country smell". Viewers were asked to communicate their experiences by phone or in written, irrespective of whether or not the synaesthetic transmission was successful. After sending a tone (a standard Dolby tuning sound) of ten seconds duration, a total of 179 reports of listeners were received within the next 24 hours. 24 subjects reported that they had not smelled anything contingent on the critical sound. The other 155 subjects

[1] It was this checklist, and specifically the criterion of "erratic functioning of mechanical and electrical equipment," to which the comments of the referee of Lange and Houran (1999) refer: cf. opening citation to this article.

reported a variety of odors, mostly of hay, grass, leaves or fruit. In addition, some attributed one or more of the following effects to the experimental sound: sneezing, sudden clearing of the nose, attacks of hay fever, vibrations across the bridge of the nose.

It is easy to label these perceptual experiences a "suggestion effect;" nevertheless, for the subjects the odors were subjectively indistinguishable from those occurring in natural scenes. Almost certainly, a listener's preconceptions about the scientific status of the phenomenon of synaesthesia have influenced his or her "threshold" of contextually-mediated odor perception. It is equally likely that belief in the existence of ghosts will be a good predictor of the number of "ghost-related" perceptual illusions a person will experience at a purportedly haunted site.

Discussion

This report might be perceived as an attempt to discredit published findings from field studies of hauntings and poltergeists. Our motivation, in fact, is to try to *understand* those findings in the context of evidence for the ontological reality of paranormal phenomena. As social scientists and field researchers ourselves, we are interested in identifying those cognitive and environmental phenomena that elicit illusions of the paranormal and can lead to Type I errors in parapsychological research. We see this goal as equally important as conducting research that emphasizes anomalous origins for spontaneous phenomena. While we are personally compelled by the evidence that most poltergeists, hauntings and other paranormal beliefs and experiences are the equivalent of non-pathological delusions (see e.g., Brugger, in press; Lange & Houran, 1998, 1999; Houran & Williams, 1998; Leonhard & Brugger, 1998), it must be emphasized that we are not antagonistic toward the investigation of other hypotheses, including RSPK or even post-mortem survival (for an extensive overview see: Houran & Lange, in press).

One question we anticipate at this point is how investigators should control for the paranormal when investigating independent control sites or when assessing case studies such as Randi's (1982) radio stunt, Houran and Lange's (1996) unhaunted house demonstration, or the photographic tests reported in this paper. We are certainly in a desperate need to control for genuine psi, but, unfortunately parapsychological authorities have been struggling for over a century (and still are these days) to develop an appropriate method. In our opinion, achieving this goal will only become necessary and subsequently realized once parapsychologists have specified the mechanisms of paranormality.

We have considered conducting a large-scale survey of "hidden events" and freak occurrences that are found among a spectrum of various types of buildings and environments[2]. The rationale of this study being to produce "normative data" on the types and frequencies of various freak occurrences with which researchers could compare their findings from field studies. This idea might be worth pursuing. For example, strange sounds and unaccountable odors might be quite pervasive within normal environments. However, phenomena that seemingly reflect intelligence, such as large-scale and precise object movements or non-random percussive sounds would seem to be more significant and thus less prone to be freak occurrences. Even more significant would be incidents that seem to almost never occur within normal environments, notwithstanding incidences of fraud or substantial misreporting by witnesses -- jets of water, apparent teleportations and levitations, spontaneous firestarting, and well-controlled recurrent and even reciprocal physical effects (for some interesting cases see e.g., Owen, 1964, pp. 129-170; Roll & Pratt, 1971; Fontana, 1991, 1992).

[2] We note half-humorously that the computer crashed inexplicably eleven times when we were preparing this paper.

For our part, we will periodically submit studies of conventional phenomena that occur at control sites when results are available. But the prevalence of a large range of anomalies in control environments could mean two things: that there are normal explanations underlying these phenomena, or that spontaneous psi happens more often than we think. One referee suggested that there is no logical method on how to decide between the two. That is a curious statement given that it is the responsibility of proponents to demonstrate that PK and RSPK exists, and that includes a compelling theoretical framework to explain its prima facie conflict with modern scientific theory. Until that time, we feel that the only logical choice is to ascribe any unexplained occurrences to natural causes by default.

Yet at this time, we recommend that field investigators study events that occur at randomly selected control sites whose salient characteristics match those of the target sites, as well as for each investigation of a target site try to set up a control investigation of a similar house whenever possible. The same approach should be followed with the psychological testing of witnesses by administering the same instruments to a sample of matched controls (Martínez-Toboas, 1984; Irwin, 1999). We hope the increased attention given to hauntings and poltergeists will continue and that studies published in the future will adopt the methodological approach presented here. Only in this way can we empirically validate the assumption that certain types and frequencies of anomalies (and the psychological characteristics of those reporting them) occur exclusively at target sites. Maybe we will find, as suggested in the introductory quote, that the false positive rate has been substantial.

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Are There Different Cognitive Structures Behind Paranormal Beliefs?*

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Abstract: Attitudes towards paranormal and other anomalous phenomena frequently find their expression in contradictory positions of extreme agreement and rejection. Differences in the cognitive processing mechanisms may cause these contradictory positions. To examine this hypothesis, an empirical study recorded patterns of justification for paranormal convictions as manifestations of cognitive structures.

A questionnaire study and an interview were conducted with 60 adult subjects (30 believers and 30 non-believers in the paranormal). The study used as its starting point the question: "What kind of cognitive structures behind stated beliefs with regard to the paranormal can be uncovered through the analysis of subjective theories that persons have formed about the life-long development of their own convictions?" To answer this question, the subjects were asked in a semi-standardized interview (1) for their judgements (forms of acceptance vs. rejection) towards selected paranormal and other anomalous phenomena, and (2) for the justification of their subjective convictions. A qualitative content analysis categorised and analysed motive variables with reference to (a) the phenomena themselves and (b) the respective judgements on those phenomena.

A multilevel analysis of the linguistic productions, was used to study the justifications given by the participants for their positive and negative beliefs concerning particular paranormal phenomena with the aim of revealing possible differences in underlying cognitive structures (clusters of motives with similar meanings). The analyses show that judgements (acceptance and rejection) concerning paranormal phenomena make use of the same cognitive structures, even though they do so in rather different ways when it concerns specific phenomena.

In roulette a gambler puts his stake on the seven for five consecutive times. Each time the roulette ball falls onto the seven. What will the bystanders think about this remarkable hit rate? They might think, for example, that the gambler "has foreseen that series of sevens," or that he "is able to influence the ball through his mind," or that he "is very lucky today." There are at least three possibilities for interpreting this gambling success: precognition, psychokinesis, or mere chance. Three persons may interpret the same event in three very different ways. They are challenged to interpret or to explain their experience. The bystanders' situation illustrates Heider's (1958) basic theoretical assumption that people feel compelled to seek explanations for their perceptions including the perceptions of their own behaviour. The situation can also be described in constructivist terms. According to Von Glasersfeld (1990, p. 37), Radical Constructivism cannot be regarded as a representation of absolute reality, but rather "as a possible model of knowledge in cognitive living beings, who are able to build a more or less reliable world on the basis of their own experiences" (author's translation).

If it is generally necessary for us to interpret our perceptions of the world, everything that is true for the whole world must apply to parts of the world and, hence, to psi-phenomena. The perception of paranormal or anomalous phenomena therefore requires the recipient's subjective interpretation. Confronted with such phenomena the individual forms an interpretation, i.e. a subjective theory of the phenomena. In forming this subjective theory, judgement as to the phenomena's existence represents one such category. Such judgements can be approvals or rejections. This leads us to pose several questions which lend themselves to

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scientific investigation. One of them is the question of how the individual forms a judgement as to the genuineness of paranormal phenomena.

The Construction of Paranormal Beliefs

Little is known about cognitive structures behind paranormal beliefs. In looking at the cognitive structures underlying the interpretation of and attitudes towards paranormal phenomena, the research question can be phrased as follows: "Do the subjects rely on the same cognitive structure to account for all paranormal phenomena, or do they use different cognitive structures to deal with different phenomena? If the latter is true, what are the structural differences?"

This question originated from an extensive study that was to develop in to an explanatory model[3] for paranormal beliefs. The models that exist can be considered less than satisfactory. Personality models, for example, that look for special personality traits among believers are unsatisfactory for several reasons. Firstly, correlation coefficients between personality traits and paranormal beliefs are seldom higher than $r = 0.3$. This means that personality traits do not even explain 10% of the common variance. Secondly, most studies do not treat paranormal belief as a multidimensional construct and search instead for characteristics of "believers in the paranormal". Yet it obviously does make a considerable difference which scale is used. For instance, in order to separate believers and non-believers, the *Paranormal Belief Scale* by Tobacyk and Milford (1983) covers several factors and phenomena. A scale like the one by Schouten (1983) has ESP items only, and the scale by Thalbourne and Haraldsson (1980) is based on belief in ESP and life after death. Clearly, the full scale scores of these three scales represent different contents, but high scores might be nevertheless interpreted as characteristic for "believers" in all three cases. Thus it is not at all clear from this which phenomena cause the conviction that is represented in the full scale score. An exception is the scale, developed by Schouten, who explicitly asks for belief in ESP. Only in a very few studies, such as those by Tobacyk, Nagot & Miller (1988) or Irwin (1986), is the dependency of the results on a certain type of phenomena taken into consideration. In the majority of surveys, when questions were being asked about paranormal beliefs, no distinctions were made between different kinds of paranormal phenomena.

A previous questionnaire study[4] has already indicated that there are cognitive differences with regard to different phenomena[5]. It raised the question as to what these content-dependent differences are. The present study focuses on the nature of cognitive structures being utilised by the subjects. Since specific paranormal beliefs show phenomena-related differences, we already have some indirect evidence of content-dependent differences between cognitive structures. This brings up again the question of what the underlying cognitive mechanisms are. This empirical study to be reported here directly addresses this question.

The study was designed as follows: Semi-standardised interviews were carried out on an individual basis with 60 adult subjects (30 believers and 30 non-believers in the paranormal) focusing on the motives for their beliefs or non-beliefs in a variety of paranormal phenomena. A previous questionnaire had separated believers from non-believers and served to prepare the subjects for the subsequent interview and to familiarise them with its topics. The form of the interview was chosen to provide the subjects with the opportunity to report

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[1]A detailed explained model for paranormal beliefs was presented by the author at the 5th Euro-PA Convention in St-Piat, France, on October 1-3, 1999 (Schriever, 1999a).

[2] Following Tobacyk & Milford's (1983; Tobacyk, 1991) "Paranormal Belief Scale," the "Skala zur Erfassung paranormaler Überzeugungen" ["Paranormal Conviction Scale"] was developed and administered to 60 adult subjects (Schriever, 1998).

[3]For statistical differences see Tables A1a and A1b (Appendix).

their paranormal experiences and related thoughts. As much information as possible was gathered in the interview centred around the question: "What makes a person believe, or disbelieve, in the existence of paranormal phenomena?" The dialogic interview process collected various subjective justifications that were given for phenomenon-specific paranormal beliefs.

Anderson (1996) considers the use of language to be the most impressive cognitive ability of man. Structures have been found in language production which appear to reflect deeper cognitive structures. The structures being investigated in the presented study concern the patterns of argumentation that are used when a person is asked to justify his or her phenomenon-specific paranormal convictions. Those patterns are considered manifestations of cognitive structures.

The interview material represents 80 tape-recorded hours amounting to 1,400 pages of transcribed text. The contents of the interviews then were subjected to a qualitative structure analysis (Mayring, 1993). In the process of evaluating the research hypothesis, five dimensions of content structures empirically derived out of the linguistic productions of the interviewees. These were: Phenomena, Phenomena Distinctions, Judgements, Motives, and Functions. For these five dimensions, 158 different categories were established. The categories needed for answering the research question presented in this paper are:

- Phenomena (n = 26 items; see Appendix, Table A2)
- Judgements (n = 13 items; see Appendix, Table A3)
- Motives (n = 32 items; see Appendix, Table A4a)[6]

The ***motive categories*** represent the justification of paranormal convictions. They describe how the individual explains his/her experiences of and thoughts about the phenomena. These categories also include the individuals' ideas about the existence and function of paranormal phenomena. These ideas together with the individuals' subjective phenomena-related views of the world, are often used to justify their general belief or disbelief in the paranormal. However, it was not possible in every one of the numerous interview statements to distinguish the justification given for belief from the suggested explanations given for the reported phenomena.

The complete interview data were encoded and converted into formalised subject statements (n = 12,291).

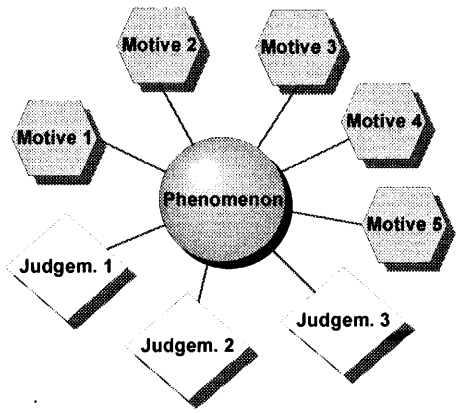
One phenomenon always served as the grammatical subject of any of those many statements. This grammatical subject, ***the phenomenon itself***, is characterised by up to three judgements and by up to five motives (see figure 1)[7].

Judgement categories refer to various expressions of acceptance or rejection of the existence of paranormal phenomena (see figure 1).

[4] Low-frequency motives were combined to form ten super-categories: Reality critique [REALCRIT], Assumption of special abilities [ABIL], Certainty [CERT], Distance and partial acceptance [DIST], Family and education [FAMED], Not supported by persons in private environment [mPERSENV], No reality critique [mREALCRIT], None of the other motive categories apply [mDIVERS], Other persons' cognitions [oCOGN], and All additional motives of other persons [Odivers]), as shown in Table A4b in the Appendix. The table presents the 36 motive categories that were subjected to further analyses.

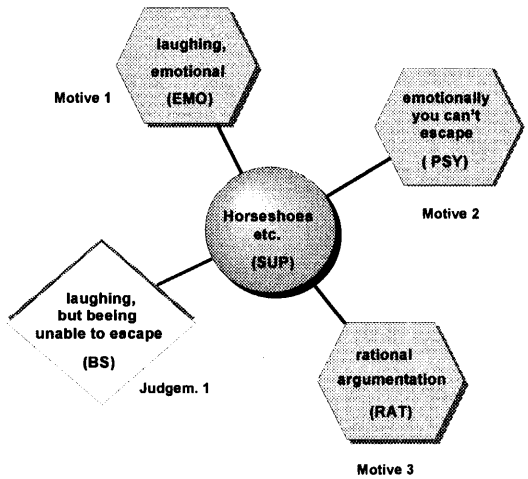
[5]The numbers of judgements and motives were empirically derived from the data.

Figure 1: *The Schematic Representation of a Subject's Formalised Statement. A phenomenon serves as the statement's grammatical subject. It is characterised by up to three judgements and up to five motives.*



The following example (Subject 11) may serve to illustrate the coding process:
"Ich mein, ich lach natürlich auf der anderen Seite darüber und was es sonst noch gibt an Hufeisen und Schornsteinfeger und sowas, aber ich mein, man weiß es und man kann sich nicht entziehen völlig, emotional, rational schon."
"I mean, on the other hand, naturally I laugh about things like this, such as belief in [favorable effects of] horseshoes and chimney-sweeps[8]. Everyone does. And yet, I mean, you can't completely escape from that emotionally, only rationally."
This is visually depicted in the form shown in figure 2:

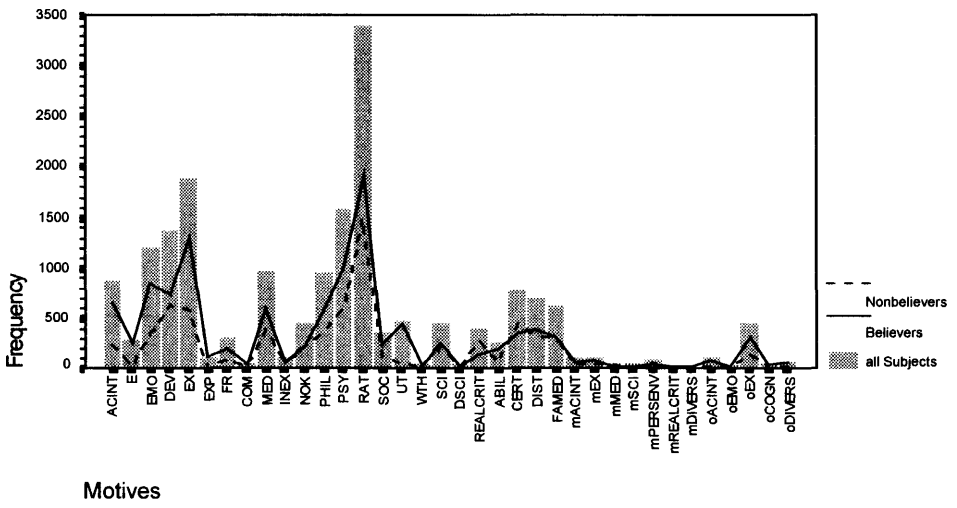
Figure 2: *Schematic Example of Coding[9] (Subject 11)*



[6] In Germany horseshoes and chimney-sweeps stand for good luck.
[7] For an explanation of the variables' names, see Tables A2, A3 and A4b in the Appendix.

In order to examine the hypothesis of the existence of basic cognitive differences relating to different paranormal beliefs, the data were subjected to a multilevel analysis from a variety of perspectives. Particular ***motives*** (used here in the sense of personalised reasons) were found to have a specific relevance, and their frequencies are depicted in figure 3.

Figure 3: *Motive frequencies across respectively all 12,291 formalised subject statements and, respectively across statements made by believers and non-believers*[10]



The distribution of motives clearly shows relevance of the various motives (in the sense of apparent reasons) when it comes to the justifying of paranormal belief and disbelief. The motive categories Rationality, Experience, Development, Emotion and Psychological Processes, for example, each turn up more than 1,000 times in the 12,291 statements. This distribution also shows that so-called believers and non-believers make use of the very same motives, even though they do so with somewhat different frequencies. (For the number of motive categories and their statistical differences between their usages in both groups, see Table A4c in the Appendix.) The applied categories are sufficient to describe exhaustively the total linguistic production. The total volume of the subjects' statements is termed their ***"total cognitive effort"***. This total cognitive effort is characterised by a very specific structure. If one common principle of cognitive construction existed for all the individual's judgements about anomalous phenomena, then there we would not find any real difference between the structure involved in evaluating a single phenomenon and the structure which involved the total cognitive effort. The following major hypothesis was therefore derived: *The cognitive structure associated with a particular paranormal phenomenon differs from that of all other paranormal phenomena and hence differs from the structure of the total cognitive effort.* This was the basis to research question #1: Which motives or patterns of motives distinguish a particular phenomenon from all the other phenomena?

[8] For an explanation of the variables' names, see Table A4b in the Appendix.

The CHAID Analysis

In order to demonstrate the cognitive effort necessary for the description of any of the separate phenomena, a special analytical procedure is introduced: the CHAID analysis. CHAID (Chisquare Automatic Interaction Detection) is a multivariable (as opposed to multivariate) marketing-research procedure (Magidson, 1990, 1993a, b, 1994) for the analysis of contrasting groups of nominal and ordinal data. In the analytical process, CHAID consecutively groups, according to chi^2-based criteria, the data to be analysed into sets of data which show different combinations of characteristics. This serves to identify such groups of carriers of characteristics which significantly contribute to the data that are determined by the dependent variable. The analysis has been described as follows: "The CHAID algorithm assumes that the population represents a heterogeneous grouping with respect to some dependent variable criterion, and divides the population into two or more distinct groups based on the categories of the most significant predictor. For a nominal (qualitative) dependent variable, statistical significance is measured using the chi-squared test of independence in the two-way table formed by the dependent variable and the predictor" (Magidson, 1993b, pp. 30-31). The general CHAID algorithm proceeds as follows: CHAID divides a population into distinct subgroups based on categories of the 'best' (i.e. the most significant) predictor of a dependent variable. The program splits each of these groups into smaller subgroups based on other predictor variables. This splitting process continues until no more statistically significant predictors can be found. The results of the CHAID[11] analysis are summarised in forms of a gains chart and a tree diagram.

CHAID can be expected to provide features (such as motive or judgement patterns) characterising this special construction of a phenomenon, if these features are significantly different—at least $p<0.05$— from all the other features that are found in the phenomena descriptions located in the total data pool. In other words: All resulting predictors found by this statistical procedure are significant. CHAID reveals for us the peculiar features of a phenomenon, not the common features that it shares with others. In short, this method of data analysis reveals any differential dependencies between categories. The procedure makes it then possible to determine the characteristic motive patterns for each of the 26 registered paranormal and other anomalous phenomena.

All the instances of the dependent variable (in the present case, the phenomena) are called *"responders"*. The characteristic features of the influencing variables (the motive categories) are called *"predictors"*. The predictors reveal patterns that characterise the responders. In other words, the patterns found among the motives will characterise the phenomena. The statistical results of the CHAID analysis provide precise information about the gains of the predictor patterns for the dependent variable as compared to the patterns found in the total data pool.

The CHAID analysis that is illustrated here concerns the motive patterns distinguishing psychokinesis from all other reported phenomena. The variable "psychokinesis" is the dependent variable; the 36 categories of motives (see Appendix, Table A4b) are chosen to be the predictor variables; required level of significance is at least the 5% level. The results of the CHAID analysis are presented in Tables 1a and 1b.

[9] The CHAID algorithm is an additional modul implemented in the SPSS software package (see Magidson, 1993a).

Table 1a: Gains charts of the CHAID-Analysis: Pattern of motives distinguishing psychokinesis (n=490) from all other phenomena (n=11,801)

Id	Size	% of all	Resp.	% Resp.	Score	Index	Cum Size	Cum % of all	Cum Resp.	Cum % Resp.	Cum Score	Pat-tern No.
21	63	0.5	14	2.9	22.22	557	63	0.5	14	2.9	22.22	1
23	120	1.0	20	4.1	16.67	418	183	1.5	34	6.9	18.58	2
13	50	0.4	8	1.6	16.00	401	233	1.9	42	8.6	18.03	3
4	50	0.4	7	1.4	14.00	351	283	2.3	49	10.0	17.31	4
24	411	3.3	54	11.0	13.14	330	694	5.6	103	21.0	14.84	5
20	145	1.2	16	3.3	11.03	277	839	6.8	119	24.3	14.18	6
2	557	4.5	39	8.0	7.00	176	1,396	11.4	158	32.2	11.32	7
3	1,441	11.7	93	19.0	6.45	162	2,837	23.1	251	51.2	8.85	8
1	3,360	27.3	156	31.8	4.64	116	6,197	50.4	407	83.1	6.57	9
17	115	0.9	3	0.6	2.61	65	6,312	51.4	410	83.7	6.50	10
...												
22	70	0.6	0	0.0	0.00	0	12,291	100.0	490	100.0	3.99	25

Id = No of segment (= subgroup); Size = number of items in each segment; % of all = percentage of all items in each segment; Resp. (Responder) = number of items of the chosen category (here: psychokinesis) in each segment; % Resp. = percentage of all responders for each segment; Score = percentage of responders among all items in the segment; Index = score refers to the response rate of each segment in relation to the overall response rate (The index score for segment #21 [557], which is computed as [22.22 / 3.99] x 100, indicates that the response rate for this segment was 457% higher than the average); the following columns, Cum Size, Cum % of all, Cum Resp., Cum % Resp., Cum Score, represent the cumulated statistics of the earlier defined columns; Pattern No. = number that marks the pattern which characterises each segment.

As we are interested in identifying those responders which are characterised by predictors that *increase* the response score of the dependent variable, we restrict our interpretation to segments marked by an index greater than 100. 10 out of 25 segments meet this condition in the present example. Each segment is characterised by one or more predictor variables which are called patterns.

This statistical procedure has established, among others, the following selected phenomenon-specific motive patterns. The motives presented in Table 1b each characterise the selected phenomenon, i.e. psychokinesis, in comparison with all other reported phenomena. Predictors here—standing alone or in combination with others to characterise the subgroup—are motive categories which are either significantly over-represented or significantly under-represented (/0 added to the predictor name) in the characterisation of the phenomena.

When, in the total of 12,291 statements, the justifications for the acceptance or the rejection of the existence of psychokinesis are analysed by means of CHAID, nine separate motives or motive patterns emerge which differ significantly from the justifications for paranormal convictions with regard to all other reported phenomena.

Table 1b: Patterns of motives distinguishing 'psychokinesis (n = 490) from all other phenomena (n = 11,801)

Pattern No.	1st Predictor	2nd Predictor	% Responder	p-Value	Gains* (% of n)
1	Energy	Rationality	2.9	0.041	
2	mExperience**		4.1	5.6×10^{-8}	
3	Experience	Distance	1.6	2.0×10^{-5}	
4	Demand for Scientific Invest.		1.4	0.024	
5	Reality Critique		11.0	1.8×10^{-13}	
6	Energy	Rationality/0	3.3	0.041	
7	Certainty		8.0	0.024	obs: 83.1
8	Rationality		19.0	0.037	exp: 50.4
9	Certainty/0		31.8	0.024	+ 32.7

*Gains = difference between cumulated observed and expected percentages of the predictors with an index>100, n = total number of responders (490 in the present case); ** m (for *minus*) preceding a predictor name signifies motives which in a given situation are considered non-applicable by the subject.

Rational Arguments, in combination with an Energy Concept (Pattern #1), have the most predictive power (index = 557). However, a greater number of responders are accounted for by *Reality Critique* (Trick, Delusion, Irony, and Coincidence) (Pattern #5). The same is true for Rational Arguments as a single predictor (to which the Demand For Scientific Investigation of the phenomena as another rational argument may be added; Patterns #8 and #4). Strikingly, the significant under-representation of the *Certainty motive* (Certainty/0) accounts for the greatest number of responders. This is to say that amongst the subjects who mention psychokinesis (n = 490 statements) only 8% of cases justify their beliefs by refering to Certainty (without further justification) (Pattern #7), while about 31.8% of cases avoid using this motive (n = 158) (Pattern #9).

Certainty as a motive is used significantly less frequently than is to be expected. It may then be that professional psychics such as Uri Geller (who aim to produce certainty in their converts) have had then little impact on the beliefs of the subjects who participated in the present study. An Energy Concept combined with and without Rational Arguments describes 6.2% of the cases (Patterns #1 and #6). The remaining 5.7% are characterised by missing Experience and Distance to the own Experience (Patterns #2 and #3). Taken together these nine predictors characterise 83.1% of 490 statements mentioning psychokinesis, whereas only 50.4% are expected. This means: Among 490 statements concerning psychokinesis, there are 32.7% more than would be expected that are characterised by the described nine motive patterns.

Psychokinesis is only one of 26 categorised phenomena for which the characteristic patterns of motive, such as the ones mentioned above, were calculated. (Analyses for various other phenomena are included in Schriever, 1998, 1999b). These patterns of motives strongly indicate that each of the phenomena require a specially constructed justification to be made and that they cannot be accounted for by one general model of justification. Consequently, the hypothesis that supposes some basic cognitive differences with paranormal beliefs to exist with respect to different phenomena, is in fact confirmed by these findings.

As for the possible causes of these differences appearing in the total of 12,291 statements, there is one obvious explanatory hypothesis which needs to be further studied and

can be stated as follows: *The differences in motives are due to the lack of separation of phenomena that are judged positively from those judged negatively.*

In order to evaluate this hypothesis, the original statement pool was divided into two subgroups: one comprising all the phenomena that were judged positively, and another one comprising all the phenomena given negative judgements.

The above hypothesis can then be evaluated in terms of two questions:

(#2a) Which motives or patterns of motives characterise a phenomenon judged positively as compared to all the other phenomena that are judged positively?

(#2b) Which motives or motive patterns characterise a phenomenon judged negatively as compared to all the other phenomena that are judged negatively?

Let us consider the findings of *these second level analyses* that result from this (tables 2 and 3). For reasons of space economy, the corresponding gains charts will not be added.

Table 2: Patterns of motives that distinguish psychokinesis judged positively (n = 148) from all the other phenomena that are judged positively (n=3,928)

n Σ Responder	Pattern No.	Predictor	% Responder	p-Value	Gains (% of n)
148	1	Energy	14.2	9.5×10^{-7}	
	2	Reality Critique	4.1	0.039	obs: 85.8
	3	Certainty	12.2	0.047	exp: 60.8
	4	Certainty/0	55.4	0.047	+ 25.0

Table 3: Patterns of motives that distinguish psychokinesis judged negatively (n = 171) from all the other phenomena that are judged negatively (n = 2,511)

n Σ Responder	Pattern No.	Predictor	% Responder	p-Value	Gains (% of n)
171	1	Science	5.3	0.029	obs: 94.2
	2	Reality Critique	11.7	0.0015	exp: 78.5
	3	Science/0	77.2	0.029	+ 15.7

Tables 2 and 3 demonstrate that for the two groups of phenomena receiving respectively positive and negative judgements, patterns of motives that are specific to certain phenomena turn up again. The hypothesis that supposes basic cognitive differences to exist with regard to different sets of paranormal belief applies here as well.

A close inspection of the results of these second-level analyses shows that there are distinguishing motive patterns not only for the phenomena, but also for the phenomena plus the respective positive and negative judgements. In addition to the contents of the reported phenomena, the frequencies of the calculated phenomenon-specific motives also differ. For instance when psychokinetic phenomena are rejected, (1) fewer motives are calculated, and (2) combinations of predictors which were relatively frequent in first-level analyses, no longer turn up on the second level. Predictor combinations seldom appear throughout the analyses on the second level.

As shown in figure 3, believers and non-believers generally make use of the same motives, and no single motive is used exclusively by either believers or non-believers. If this is seen in relation to the results presented in tables 2 and 3, it is obvious that both believers

and non-believers rely on the same repertoire of arguments. These arguments are however used in quite different ways as will be discussed more fully below.

Possible Explanations for the Results of the Analysis

There are several *hypotheses* that might account for the formal differences between the results. It may be that:

(1) There are more common structures in the justifications with either positive or negative judgements on specific phenomena than there are in the total number based on global "raw" statements.

(2) The formal differences are due to an artefact because second-level analyses are based on a considerably reduced pool of statements (12,291 statements form the total pool; 3,928 statements are made with positive judgements and 2,511 statements are made with negative statements).

(3) The differences between belief and non-belief in the phenomena are due to the fact that phenomena with positive judgements are described in very great detail (providing much more information and, thus, contributing to a "close-meshed cognitive net"). On the other hand phenomena that are judged negatively come with fewer, cruder, and more stereotypical descriptions. The latter statements naturally tend to reflect stronger prejudice and use a more rigid reference system. This hypothesis is closely related to the next one.

(4) The difference in the frequency with which cognitive tools are being used is based on motivation: More frequent utilisation of tools indicates that they are more important to the subject. Frequency of use of tools has been found to be correlated with more extreme judgement. This would support the hypothesis that the difference we have found is not rooted in the use of the cognitive tools, but rather in strength of motivation to use these.

So far the present study has demonstrated that cognitive processing shows differences relating specific phenomena and the judgements that are made about them. This effort to produce comparative data resulted however in a reduction of the number of categories of motive that were used as predictors. An alternative means of reducing the data is *to combine categories with similar cognate meaning* to form superior categories, or so-called ***"clusters"***. These principles for ordering motive categories were previously introduced by Schriever (1998, pp. 284-285) for describing the results of the first-level analysis. This is decidedly advantageous because the bundling of motives into clusters serves to outline the structures much more clearly. The units under consideration, i.e. the motive categories, thus are reduced from n = 36 to n = 6.

The first cluster (Cluster #1), termed ***Subjective Experiences***, subsumes all those motives that deal with a person's subjective experiences in a general sense. These include the person's own experiences, experiences of others, intended and unintended experiences, individual and social experiences, and those experiences concerning the social environment. This cluster subsumes both the presence and the absence of certain experiences.

Cluster #2, ***Inner States***, comprises all those motives that refer to experienced emotional and other inner-psychic events as well as inexplicable convictions as justifications for one's personal attitude towards anomalistic phenomena. Psychological experiences that are interpreted as psychic phenomena also form part of this cluster.

The third cluster (Cluster #3), ***Rational Motivation***, covers all kinds of rational justifications and logical arguments that lay special emphasis on "accepted knowledge."

Cluster #4, ***External Stores***, comprises categories that refer to the "external" knowledge provided, for example, by the media or experts. These external stores do not cover and should not be mistaken for explanations "given by others".

These four clusters are independent of each other. None of the motive categories belong to more than one bundle. When the 36 motive categories used as predictors (see Table A4b in the Appendix) they are found to distributed amongst the four clusters and cover (almost) all of the (significantly-used) categories of motives. There is one exception: the oDIVERS category (all additional motives of other persons) which occurs only once among the significant predictors and does not form part of one of the four clusters.

Two additional bundles of categories (Clusters #5 and #6) are recruited from those four clusters. They obey a different ordering structure: ***Social Aspects*** are selected subjective experiences as well as external stores. ***Others' Explanations*** are defined as justifications given by other people, which are referred to by a person in his/her reasoning.

Table 4: The reduction of categories of motive (that were used significantly often) to six Clusters.

Cluster No.	Cluster	Motive Categories as Predictors[12]
1	Subjective Experiences	ACINT, DEV, EX, FAMED, FR, COM, SOC, oEX, oACINT, mEX, mACINT, mPERSENV
2	Inner States	EMO, ABIL, CERT, PSY, WTH
3	Rational Motivation	DIST, E, INEX, NOK, PHIL, RAT, REALCRIT, UT, SCI, DSCI, oCOGN, mSCI
4	External Stores	EXP, MED
5	Social Aspects	FAMED, FR, COM, MED, SOC, oACINT, oEX, oCOGN, oDIVERS, mPERSENV
6	Others' Explanations	oACINT, oDIVERS, oEX, oCOGN

The distribution of the clusters of motives (significantly-used or significantly-avoided) in relation to the phenomena will show then whether the differences persist even on this advanced level, or whether the differences are eliminated by the clustering. These resulting distributions are depicted in Tables A5 to A7 (see Appendix).

These distributions reveal even at a first glance, that there are major differences between in the frequency of cluster usage. Because of the considerable differences in the pool of statements for the analyses (12,291 statements in the total pool vs. 3,928 statements with positive judgements and 2,511 statements with negative judgements), a chi^2-test has been performed. When the frequencies of all the significantly-used and the significantly-avoided clusters (taken from the four mutually independent Clusters #1 to #4) are compared to their respective total sample pools, then meaningful differences appear.

On the first level of analysis, there are significantly more used and avoided clusters than there are on the second level ($\chi_{all/pos}^2 = 38.22$, df = 1, $p<0.001$; $\chi_{all/neg}^2 = 14.65$, df = 1, $p<0.001$). However on this second level there are no meaningful differences between in the frequency of clusters between phenomena that are given positive judgements and those given negative judgements ($\chi_{pos/neg}^2 = 1.28$, df = 1, n.s.). This shows that these differences between the first and the second-level analyses are not in fact due to an artefact. The obvious difference between the frequencies of significant phenomena clusters on the second level of analysis (phenomena with positive and negative judgements) is then due to the frequencies of statements rather than to the frequencies of justifications.

[10] For an explanation of the variables' names, see Table A4b in the Appendix.

No significant difference emerge when comparing the distributions of significantly-used vs. significantly-avoided clusters, ($\chi_{all/pos}^2 = 0.19$, df = 2, n.s.; $\chi_{all/neg}^2 = 0.25$, df = 1, n.s.; and $\chi_{pos/neg}^2 = 0.76$, df = 1, n.s.). Furthermore no meaningful differences between the usage and avoidance of the clusters of motive categories could be found. Finally, the distributions of used vs. avoided clusters are not significantly different when the analysis is restricted to the single clusters (Subjective Experiences, Inner States, Rational Motivation, and Social Aspects).

When we consider Tables A5 to A7 (see Appendix), it becomes evident that even on this level that the structural differences are well-preserved. In the first-level analysis of the clusters (Table A5), which deals with the total cognitive effort, the particularly pronounced structures turn up.

When we focus then on the mutually independent, over-represented clusters 1 to 4, a triplet of the first three category clusters (Subjective Experiences, Inner States, Rational Motives) becomes conspicuous by their frequent common usage. For all pooled phenomena except two (Extraordinary Life forms, Shamanism), at least two of those three clusters are used together. Indeed, this triplet of ***"experiencing—being affected—explaining"*** can be regarded as ***the core of all motives for paranormal belief.*** External Stores are much more infrequently used significantly.

At the second-level analysis of the clusters (Tables A6 and A7), interpretable usage patterns of these clusters are also found. The difference of frequencies in the significant use of the clusters for phenomena with positive or negative judgements is seen very clearly (even though they do not reach significance). The motive structure is much simpler with *phenomena that are judged more negatively* than with those judged positively. This is apparent in several ways: (1) There are fewer clusters for each negatively judged individual phenomenon. This may be due to the smaller number of statements as is supported by the results of the Chi^2-tests mentioned above. (2) Many phenomena are frequently characterised by either the usage or the avoidance of a cluster of motives. (3) Many phenomena only differ from the pool of statements through their significant non-usage of motive categories (i.e. through their being significantly avoided). The finding rarely occurs with the phenomena that receive positive judgements.

Conclusions

By way of summary then, there are three arguments that support the hypothesis of cognitive differences underlying different paranormal belief systems:

(1) The comparison of motives used in judging different types of phenomena with those used for the total pool of phenomena uncovers patterns for paranormal belief which are related to specific phenomena.

(2) The comparison of individual phenomena receiving positive judgements with the total of all phenomena receiving positive judgements, also reveals phenomenon-specific patterns. The same is true, analogously, for phenomena that are judged negatively.

(3) Following category bundling (clustering), similar structural differences are found.

Three different levels of analyses have all shown that there not only are patterns of motives that are specific to phenomena, but also that there exist, cognitive constructions of the respective paranormal belief which are specific to the phenomena being judged. These findings offer strong support the hypothesis that there exist different cognitive structures which form the basis to different paranormal convictions.

The analyses presented in this paper only consider a small section of the entire, very extensive data analysis (for a full 800-page research report, see Schriever, 1998). The data

have been examined on a variety of different analytical levels[13]. The results of these analyses may serve as a basis for a subject-centred explanatory model for paranormal convictions.

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[11] In the full research report, 26 anomalous phenomena each were analysed from *six* different perspectives. The empirical results then were entered into an object-centred model for the explanation of the motives of paranormal beliefs ("Model of relative meaningfulness"). By means of a generalising abstraction of the empirical results, a three-part subject-specific model for the explanation of the motives of paranormal beliefs was developed. This "Subject-centred explanatory model for paranormal convictions" illustrates the structure of the mental process that leads to the construction of subjective theories about paranormal belief.

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Appendix

Table A1a: Descriptive Statistics of Believers and Non-believers on the nine Sub-scales of *the Paranormal Conviction Scale* (Schriever, 1998)

Sub-scales	n of items	MEAN (N = 60)	SD (N = 60)	MEAN n = 30 Believers	SD n = 30 Believers	MEAN n = 30 Non-believers	SD n = 30 Non-believers
Telepathy & Clairvoyance	5	25.3	5.69	29.4	3.08	21.2	4.61
Precognition	5	24.1	6.45	27.9	4.36	20.3	5.95
Psychokinesis	5	19.4	7.84	25.4	4.97	13.3	4.91
Magic & Witchcraft	5	20.6	7.47	26.0	4.36	15.2	5.84
Superstition	4	8.7	4.59	9.7	4.71	7.7	4.31
Extraordinary Life Forms	3	10.7	3.11	11.7	3.44	9.7	2.42
Astrology	3	11.3	4.81	13.5	4.40	9.0	4.13
Spiritualism	5	21.1	8.15	27.4	3.76	14.9	6.38
Religious Belief	4	14.0	5.88	16.3	5.73	11.6	5.07

Table A1b: Comparison of the Sub-scale Scores of Believers and Non-believers on the nine Sub-scales of the *Paranormal Conviction Scale* (Schriever, 1998)

Sub-scales	N items	t-score	df	p-Value
Telepathy & Clairvoyance	5	-8.13	50.59	< .001
Precognition	5	-5.67	58	< .001
Psychokinesis	5	-9.51	58	< .001
Magic & Witchcraft	5	-8.12	58	< .001
Superstition	4	-1.72	58	n.s.*
Extraordinary Life Forms	3	-2.56	58	< .001
Astrology	3	-4.12	58	< .001
Spiritualism	5	-9.23	46.96	< .001
Religious Belief	4	-3.41	58	= .001

* n.s. = non-significant, df = degrees of freedom; value depends on homogeneity of the variance.

Table A2: Categories of Phenomena

Coding	Phenomena
	introduced by the interviewer
A	Astrology
SUP	Superstition (mirror, black cat, unlucky number)
CRD	Fortune-telling from the Cards,Tarot
GESP	General Extrasensory Perception
T	Telepathy
CL	Clairvoyance (Second Sight)
PRE	Precognition
PK	Psychokinesis
WI	Witchcraft
M	Magic
EX	Exteriorisation
SR	Reincarnation (metempsychosis)
OBE	Out-of-Body Experiences, Astral Projection
EXLF	Extraordinary Life Forms (Nessie, Bigfoot)
PSI	Parapsychology in General (Paranormal and Anomalous Phenomena)
	introduced by the subjects
RDG	Readings (I Ching, Chiromancy, Oracle, Tea-Leaf Reading, etc.)
MA	Subjects' Magical Action
SCH	Schamanism
ESO	Esoteric Orientation
SYN	Synchronicity (Acausal but Meaningful Coincidences)
APP	Apparitions, Ghosts
CG	Communication with Ghosts and Other Spiritual Entities
ILL	Illusions
OCC	Occult Practices
COD	Communication with the Dead
OTH	Other Phenomena and Subjects

Table A3: Categories of Judgement*

Coding	Judgement	Operationalisation of Judgement
BN1	Weak Rejection	Subject expresses weak rejection ("This does not quite convince me.").
BN2	Rejection	Subject expresses clear rejection ("I don't believe this.").
BN3	Strong Rejection	Subject expresses strong rejection ("no way").
BP1	Weak Approval	Subject expresses weak approval ("perhaps;" "sort of;" "may be;" "I can imagine that").
BP2	Approval	Subject is convinced of the existence of the phenomenon ("I believe this;" "I think that's possible;" "is likely to be true;" "is credibly reported").
BP3	Strong Approval	Subject expresses strong, unrestricted approval ("I am absolutely convinced").
BS	Wavering Judgement	Subject is deliberately undecided or expresses both positive and negative judgements in a single statement.
N	No Judgement	Subject emphasises explicitly that he/she takes a value-free, neutral stance ("I just don't know.").
V	Cognitive Reservation	Subject admits cognitive reservation ("This seems a bit suspect;" "This appears implausible.").
TO	Tolerance	Subject is tolerant ("I can accept that;" "That's okay with me;" "I'm interested in this phenomenon.").
ITO	Intolerance	Subject is intolerant ("That's impossible;" "I'd rather rely on common sense;" "Nonsense!").

Coding	Judgement	Operationalisation of Judgement
U	Entertainment Value	Phenomenon cannot be taken seriously.
W	Resistance	Subject shows resistance to or refuses to confront the phenomenon.

* All categories were empirically derived from the interviewees' linguistic productions.

Table A4a: Categories of the Motives for Paranormal Convictions*

Coding	Motives	Operationalisation of Motive
ACINT	Active Interest	Subject shows an active interest in the phenomenon (e.g., has read articles or books, taken courses, etc.).
DIS	Distance	Subject replaces existing concepts through individual ones.
E	Energy	Energy concept or theory is used to explain the functioning of a phenomenon.
EMO	Emotion	Personal emotions serve as justification of conviction.
DEV	Development	Aspects of individual development are the source of conviction.
EX	Experience	Conviction is based on private experience.
EDU	Educational Aspects	All unspecified references to education as justification of conviction.
MO	Mother	Reference to mother (her attitude, experience, activities) as justification of conviction.
FA	Father	Reference to father (his attitude, experience, activities) as justification of conviction.
EXP	Expert	Reference to a person the subject considers an expert. EXP does not imply scientific recognition.
FR	Friends	Reference to friends (their attitudes, experiences, activities) as justification of conviction.
SUC	Subject's Certitude	Internalised conviction (approval or rejection) which subject can only state but not justify ("I feel certain;" "I just cannot believe.")
IR	Irony	Subject provides ironic justification.
COM	Communication	Phenomena result from communication or intense relationships.
MED	Media	Subject refers to the media (TV, books, periodicals, newspapers).
INEX	Inexplicable	Subject considers his/her conviction or the phenomena basically inexplicable.
NOK	No Knowledge	Subject has no knowledge about this phenomenon.
ORC	Object-related Certainty	Reference to certainty that can be derived directly from the object ("The clock stopped at a certain time.").
PHIL	Philosophical Conceptions	Reference to philosophical or literary conceptions, or to general ethical issues.
PSY	Psychological Processes	Psychological processes serve as justification of conviction (e.g., auto-suggestion).
RAT	Rationality	The subject's own rationality or realism causes the conviction. Justifications are constructed logically.
RED	Reduction	Reduction of a phenomenon to a partial aspect (e.g., astrology is reduced to lunar influence.)
SEN	Sensitivity	Sensitivity; a special ability to recognize or experience a phenomenon. Subject has "secret knowledge."
SOC	Socialisation	Social or traditional knowledge of a phenomenon
DELU	Delusion	Phenomenon results from sensorial delusion.
TRICK	Sleight of Hand / Fraud	Phenomenon results from sleight of hand, fraud or deceit.
UT	Utopian theory	Motive rests on an ideosyncratic utopian theory.
LOS	Loss of Sensitivity	Loss of paranormal abilities through various reasons such as cultural changes.
WTH	Wishful Thinking	Phenomenon is due to wishful thinking.
SCI	Science	Science, scientific examination, experimental investigation as bases of conviction.

Coding	Motives	Operationalisation of Motive
DSCI	Demand for Scientific Investigation	Suggestion or demand for scientific investigation
COIN	Coincidence	Phenomenon is a chance product.

* All categories were empirically derived from the interviewees' linguistic productions.

Table A4b: Partially Combined Motive Categories for Paranormal Convictions

Coding	Motive
ACINT	Active Interest
E	Energy
EMO	Emotion
DEV	Development
EX	Experience
EXP	Expert
FR	Friends
COM	Communication
MED	Media
INEX	Inexplicable
NOK	No Knowledge
PHIL	Philosophical Conceptions
PSY	Psychological Processes
RAT	Rationality
SOC	Socialisation
UT	Utopian Theory
WTH	Wishful Thinking
SCI	Science
DSCI	Demand for Scientific Investigation
REALCRIT	Reality Critique (TRICK, DELU, IR, COIN)
ABIL	Assumption of Special Abilities (SEN, LOS)
CERT	Stated, Unjustified Certainty (SUC, ORC)
DIST	Distance and Partial Acceptance (DIS, RED)
FAMED	Family and Education (MO, FA, EDU)
mACINT*	No Active Interest
mEX*	No Experiences
mPERSENV*	Not Supported by Persons in Private Environment
mMED*	No Media
mREALCRIT*	No Reality Critique
mSCI*	No Science
mDIVERS*	None of the Other Motive Categories Applies
oACINT**	Other Persons' Active Interests
oEMO**	Other Persons' Emotions
oEX**	Other Persons' Experiences
oCOGN**	Other Persons' Cognitions (oUT, oRAT)
oDIVERS**	All additional Motives of Other Persons

* m (for *minus*) preceding a predictor name signifies motives which in a given situation are considered non-applicable by the subject.

** o (for *others*) preceding a predictor name signifies other persons' motives referred to by the subject.

Table A4c: Motive Frequencies, their Usage among Believers and Non-believers, and Statistical Differences Between Both Groups (as measured by chi-square tests)

Motive	Coding	Total (N)	Motive Frequencies among		Sign. of Difference (p-Value)
			Non-believers	Believers	
Active Interest	ACINT	892	237	655	<.001
Energy	E	289	33	256	<.001
Emotion	EMO	1 178	343	835	<.001
Development	DEV	1 378	637	741	<.01
Experience	EX	1 892	578	1 314	<.001
Expert	EXP	121	7	114	<.001
Friends	FR	309	106	203	<.01
Communication	COM	64	23	41	n.s.
Media	MED	964	369	595	<.01
Inexplicable	INEX	128	57	71	n.s.
No Knowledge	NOK	466	226	240	<.01
Philosophical Conceptions	PHIL	958	375	583	<.05
Psychological Processes	PSY	1592	597	995	<.001
Rationality	RAT	3 398	1 481	1 917	n.s.
Socialisation	SOC	373	128	245	<.01
Utopian Theory	UT	494	51	443	<.001
Wishful Thinking	WTH	62	30	32	n.s.
Science	SCI	458	215	243	<.05
Demand for Scientific Investigation	DSCI	59	26	33	n.s.
Reality Critique	REALCRIT	418	277	141	<.001
Assumption of Special Abilities	ABIL	269	69	200	<.001
Stated, Unjustified Certainty	CERT	793	443	350	<.001
Distance and Partial Acceptance	DIST	712	324	388	n.s.
Family and Education	FAMED	635	315	320	<.001
No Active Interest	mACINT*	119	51	68	n.s.
No Experiences	mEX*	123	45	78	n.s.
Not Supported By Persons In Private Environment	mPERSENV*	107	59	48	<.01
No Media	mMED*	58	35	23	<.01
No Reality Critique	mREALCRIT*	45	9	36	<.01
No Science	mSCI*	58	27	31	n.s.
None of the Other Motive Categories Applies	mDIVERS*	38	14	24	n.s.
Other Persons' Active Interests	oACINT**	122	34	88	<.01
Other Persons' Emotions	oEMO**	50	16	34	n.s.
Other Persons' Experiences	oEX**	460	145	315	<.001
Other Persons' Cognitions	oCOGN**	61	15	46	<.01

Motive	Coding	Total (N)	Motive Frequencies among		Sign. of Difference (p-Value)
			Non-believers	Believers	
All Additional Motives of Other Persons	oDIVERS**	89	31	58	n.s.
Sum		*19 232*	*7 428*	*11 804*	

* m (for *minus*) preceding a predictor name signifies motives which in a given situation are considered non-applicable by the subject.

** o (for *others*) preceding a predictor name signifies other persons' motives referred to by the subject.

Explanation of cell markings: Grey shading marks the values of the comparative group which lie significantly above the expected values.

Table A5: Significant Phenomenon Clusters On the 1st Level of Analysis (All Statements, n=12,291)

Phenomena	Clusters											
	Subjective Experiences		Inner States		Rational Motives		Social Aspects		External Stores		Others' Explanations	
Apparitions	x	0	x		x		x	0			x	
Astrology	x	0	x	0	x	0	x				x	
Clairvoyance		0	x		x			0				
Com. w. Dead		0	x		x			0		0		
Com. w. Ghosts	x				x	0	x				x	
Esoteric Orient.	x	0	x				x		x		x	
Exteriorisation		0	x		x							
Ex. Life Forms				0	x	0						
GESP	x		x	0	x	0	x				x	
Illusions	x	0	x				x	0			x	
Magic	x		x		x	0	x					
OBE	x		x		x	0	x				x	
Occultism	x				x	0	x				x	
Other subjects	x	0	x		x		x	0	x			
Precognition	x	0	x		x	0	x		x			
Psi	x	0	x	0	x	0	x	0	x			0
Psychokinesis	x		x	0	x	0						
Readings	x						x				x	
Reincarnation	x	0	x		x				x			
S's Mag. Action	x	0			x							
Schamanism	x			0								
Superstition	x				x	0	x					
Synchronicity	x				x		x				x	
Tarot	x	0	x				x					
Telepathy	x		x		x	0	x		x		x	
Witchcraft	x	0	x		x		x	0				
Sum	22	14	18	6	21	12	18	7	6	1	11	1
Sum total	36		24		33		25		7		12	
Percentage	26%		18%		24%		18%		5%		9%	

Explanation of cell markings: x = The cluster is significantly used (additional grey shading for mutually independent clusters); 0 = The cluster is significantly avoided.

Table A6: Significant Phenomenon Clusters On the 2nd Level of Analysis (Phenomena With Positive Judgements, n=3,928)

Phenomena	Clusters											
	Subjective Experiences		Inner States		Rational Motives		Social Aspects		External Stores		Others' Explanations	
Apparitions	x				x	0	x				x	
Astrology	x	0	x	0	x			0				
Clairvoyance			x	0								
Com. w. Dead		0						0				
Com. w. Ghosts	x				x	0						
Esoteric Orient.	x		x				x		x			
Exteriorisation		0	x		x	0						
Ex. .Life Forms				0	x							
GESP	x		x	0	x							
Illusions	x											
Magic	x	0	x	0	x		x	0				0
OBE	x		x		x	0	x			0	x	
Occultism	x			0	x		x				x	
Other Subjects	x	0	x	0	x	0			x			
Precognition	x	0	x		x	0						
Psi	x					0	x		x			
Psychokinesis			x	0	x							
Readings	---											
Reincarnation		0			x	0						
S's Mag.Action	x				x							
Schamanism	---											
Superstition	x		x	0			x					
Synchronicity	x				x		x				x	
Tarot	x	0	x									
Telepathy	x		x	0		0						
Witchcraft	x		x		x							
Sum	18	8	14	10	16	9	8	3	3	1	4	1
Sum total	26		24		25		11		4		5	
Percentage	27%		25%		26%		12%		4%		5%	

Explanation of cell markings: x = The cluster is significantly used (additional grey shading for mutually independent clusters); 0 = The cluster is significantly avoided; --- = No predictor has been calculated for this phenomenon.

Table A7: Significant Phenomenon Clusters On the 2nd Level of Analysis Phenomena With Negative Judgements, n=2,511)

Phenomena	Clusters											
	Subjective Experiences		Inner States		Rational Motives		Social Aspects		External Stores		Others' Explanations	
Apparitions			x		x							
Astrology					x							
Clairvoyance						0						
Com. w. Dead						0						
Com. w. Ghosts	---											
Esoteric Orient.				0								
Ex. Life Forms		0			x			0				

Phenomena	Clusters											
	Subjective Experiences		Inner States		Rational Motives		Social Aspects		External Stores		Others' Explanations	
Exteriorisation			x									
GESP	x						x				x	
Illusions	x						x				x	
Magic			x	0								
OBE	x		x				x				x	
Occultism	x											
Other Subjects	x	0	x		x							
Precognition						0						
Psi	x				x	0	x		x			
Psychokinesis					x	0						
Readings	---											
Reincarnation			x		x							
S's Mag.Action	x				x							
Schamanism	x						x		x			
Superstition	x	0										
Synchronicity	x						x				x	
Tarot	x											
Telepathy	x							0		0		
Witchcraft		0			x			0				0
Sum	12	4	6	2	9	5	6	3	2	1	4	1
Sum total	16		8		14		9		3		5	
Percentage	29%		15%		26%		16%		5%		9%	

Explanation of cell markings: x = The cluster is significantly used (additional grey shading for mutually independent clusters); 0 = The cluster is significantly avoided; --- = No predictor has been calculated for this phenomenon.

Abstract in German

Gibt es grundlegende kognitive Unterschiede zwischen verschiedenen paranormalen Überzeugungen?

Zusammenfassung: Die Einstellung gegenüber paranormalen und anderen anomalistischen Phänomenen zeigt sich häufig in konträren Positionen. Die Phänomene erfahren also oft extreme Zustimmung oder ebenso heftige Ablehnung. Als eine mögliche Ursache für diese gegensätzlichen Positionen werden Differenzen in der kognitiven Verarbeitung angenommen. Um diese Hypothese zu überprüfen, sind in einer empirischen Studie die Begründungsmuster für paranormale Überzeugungen als Manifestationen kognitiver Strukturen erfaßt worden. Dafür ist mit 60 Erwachsenen, in bezug auf anomalistische Phänomene je zur Hälfte Gläubige und Kritiker, ein Interview durchgeführt worden. Die Ausgangsfrage dieser Untersuchung lautete: „Welche kognitiven Strukturen können für aktuell vorfindbare paranormale Überzeugungen durch die Analyse der subjektiven Theorien von Persönlichkeiten über die lebensgeschichtliche Entwicklung ihrer eigenen Übezegungen aufgedeckt werden?“ Zur Beantwortung dieser Frage sind die Probanden in einem halbstandardisierten Interview (1.) nach ihrer Einstellung gegenüber ausgewählten paranormalen und anderen anomalistischen Phänomenen (Zustimmung vs. Ablehnung) und (2.) nach den Begründungen für ihre subjektive Überzeugung befragt worden. In einer qualitativen Inhaltsanalyse sind die kategorial erfaßten Begründungsvariablen in Abhängigkeit von den Phänomenen (a) und von der jeweiligen Phänomenbewertung (b) analysiert worden. Eine Multi-Level-Analyse der Sprachproduktionen gibt Aufschluß darüber, ob sich die Begründungen für eine positive oder

negative paranormale Überzeugung gegenüber einem ausgewählten Phänomen in ihren kognitiven Strukturen unterscheiden. Die Analyse zeigt außerdem, daß zur Zustimmung und Ablehnung paranormaler Phänomene dieselben kognitiven Strukturen genutzt werden, auch wenn dies in Abhängigkeit von den Phänomenen und ihren Bewertungen in unterschiedlicher Art und Weise geschieht.

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Belief in the Paranormal and a Sense of Control over Life

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Abstract: This study explored the hypothesis that paranormal beliefs stem in part from a need for control over life events. A sample of 174 Australian adults participated in a mail survey of paranormal beliefs, three spheres of locus of control, the desirability of control over life, and efforts to exert control over the physical environment.

Canonical correlation analysis identified two pairs of canonical variates. The first pair suggested that a belief in broadly spiritual tenets tends to be endorsed by people, often women, who try to exert strict control over their physical environment but who publicly repudiate any desire for control over life events. The second pair of variates indicated that a belief in psi may be found among people, especially women, with an acknowledged desire for control and a conviction that they have the means to control events in the sociopolitical arena.

The study reinforces the appropriateness of indexing several aspects of the control domain and seeking to relate these to clusters of paranormal beliefs. Additionally, the relevance of desire for control to the intensity of psi belief is documented for the first time. On the other hand, the study did not replicate the commonly observed association between paranormal belief and an external locus of control, and thus caution must be exercised in drawing any inferences about the relative contributions of aspects of the control domain to the development of paranormal belief.

In recent years a major focus of research into the nature of paranormal belief has been the issue of the psychological functions served by these beliefs. Although the specific form of a person's paranormal beliefs may be governed by various social processes, it is generally thought that there is an underlying "need to believe" (Krippner & Winkler, 1996) involving essentially psychodynamic factors such as personality and more fundamental personal needs. Thus, there is now a rapidly growing empirical literature on the psychological origins of belief in the paranormal (for reviews of this literature see Irwin, 1993, 1999; Vyse, 1997; Zusne & Jones, 1989). The objective of the present project was to investigate the intensity of paranormal beliefs in relation to aspects of the person's control over life events.

Several authors have speculated that endorsement of paranormal beliefs may be inspired at least in part by a fundamental need to have a sense of control over one's everyday life. Alcock (1981, p. 40), Dag (1999), Frank (1977, pp. 556-557), Marks and Kammann (1980, p. 156), Schumaker (1990), Singer and Benassi (1981, p. 50), and Zusne and Jones (1982, p. 210) all advocate the significance in this context of a basic human psychological need for a sense of understanding of life events. An assurance of order and meaning in the physical and social world is thought to be essential for emotional security and psychological adjustment (Heider, 1958; Lefcourt, 1973). Traumatic events and anomalous experiences, however, pose a potential threat to a state of assurance, in essence because they can be taken to imply the world sometimes is uncertain, chaotic, and beyond the individual's understanding and mastery. By incorporating a system of paranormal beliefs, it is said that the individual has a cognitive framework for effectively structuring many events and experiences in life so that they appear comprehensible and thereby able to be "mastered", at least intellectually. Under this view paranormal belief constitutes a cognitive bias through which reality may be filtered without threatening the individual's sense of emotional security.

There is some empirical support for the view that the intensity of paranormal belief is related to aspects of control in the person's daily life. The principal line of evidence concerns the personality variable of locus of control, that is, people's inclination to perceive their fate to

be in their own hands or alternatively, to be the consequence of external factors beyond their personal control. People who regard personal outcomes largely as contingent upon their own behaviour and attributes are said to have *internal* locus of control. By contrast, those with *external* locus of control feel that most things that happen to them in life are due to other powerful individuals and social institutions, luck, chance, or fate.

Although there may be some variation across cultures (Davies & Kirkby, 1985; Groth-Marnat & Pegden, 1998; Tobacyk & Tobacyk, 1992), the general trend seems to be that paranormal belief is associated with an external locus of control. This relationship has been documented in regard to specific beliefs in ESP, precognition, psi more generally, witchcraft, superstitions, spiritualism, reincarnation, and extraordinary life forms (Alprin & Lester, 1995; Dag, 1999; Davies & Kirkby, 1985; Groth-Marnat & Pegden, 1998; Irwin, 1986; Polzella, Popp, & Hinsman, 1975; Thalbourne, Dunbar, & Delin, 1995; Tobacyk & Milford, 1983; Tobacyk, Nagot, & Miller, 1988; Tobacyk & Tobacyk, 1992). People with various sorts of paranormal belief therefore seem to be inclined to maintain they are especially vulnerable to external forces beyond their control.

At the same time, it should be appreciated that locus of control is not a unidimensional trait; that is, people may differentiate the behavioural spheres over which they perceive themselves to have control (Palenzuela, 1984; Paulhus, 1983). Thus, Davies and Kirkby (1985) report that an external locus of control in relation to sociopolitical events was the strongest predictor of belief in traditional religious tenets, spiritualism, and superstition, whereas a belief in witchcraft and psi was related to an *internal* locus of control in personal and interpersonal activities. By contrast, Thalbourne et al. (1995) observed that sociopolitical and interpersonal locus of control did not correlate with the intensity of any paranormal belief, and *external* control in the personal arena predicted the level of belief in psi, superstition, spiritualism, and precognition. These seemingly contradictory data call for further investigation of the possibility that the relationship between paranormal belief and locus of control varies in subtle ways across subsets of belief and domains of control. Further, it may be too simplistic to propose that the endorsement of paranormal beliefs as a whole is a function of a perceived lack of control over one's everyday life. Additional aspects of this "sense of control" call for consideration.

One such construct is the so-called "illusion of control" (Langer, 1975; Presson & Benassi, 1996), that is, people's tendency to behave as if they had control over an event that in reality is not open to their control. Blackmore and Troscianko (1985) found that subjects who believed in ESP felt they exercised greater control over the outcome of a random coin-tossing task than did non-believers, yet the two types of participant did not perform any differently on the coin-tossing task itself. Similar results are reported by Ayeroff and Abelson (1976) and Benassi, Sweeney, and Drevno (1979).

At first glance these findings might seem inconsistent with the relationship between paranormal belief and an external locus of control. If endorsement of paranormal beliefs creates an illusion of control over events that are not really controllable, why do believers still see themselves as having little control over life events? It must be remembered, however, that the illusion of control is a transitory and situation-specific phenomenon (Sweeney, Benassi, & Drevno, 1980). The "illusion of control" experiments therefore need not imply that paranormal believers function under a habitual delusion that they are in control of all facets of their life; rather, believers may simply be susceptible to situations in which an illusion of control may be elicited. In this regard it is particularly noteworthy that Burger and Cooper (1982) have demonstrated that an illusion for control is found only among people with a high *desire* for control. It is possible, therefore, that (at least some types of) paranormal believers feel they have little control over life events and are susceptible to the illusion of control because they additionally have a strong desire for control. The motivational factor of desirability of control does not seem to have been taken into account in previous studies of paranormal belief.

Presumably related to the desirability of control is the behavioural characteristic of endeavouring to exert control in one's life. Irwin (1992) found that whereas paranormal believers did not depict themselves as being controlling in their interactions with other people, independent observers judged the believers to be more controlling in this respect than were non-believers. It is not known whether paranormal believers behave in a controlling fashion unconsciously or on the other hand, they feel it would be socially undesirable to admit to such behaviour. In any event, there is some evidence that paranormal belief is associated with efforts to exert control over the interpersonal domain. An objective of the present study was to investigate if a similar relationship pertains in the case of attempts to exert control over the physical environment.

Previous research has not adopted a comprehensive approach to the study of the relationship between paranormal belief and aspects of control over one's life. Each study typically has focused on only one aspect of control, and some aspects of control have not even been investigated in this context. Further, the control measure in past studies has usually been correlated with each separate factorial dimension of paranormal belief rather than seeking clusters of paranormal beliefs that relate in discriminable ways to the control domain. The present study sought to redress these shortcomings by adopting a multivariate approach. Specifically, the study sought to identify subsets of paranormal beliefs that relate differentially to aspects of the control domain, namely, locus of control, desirability of control, and attempts to exert control over the physical environment.

Method

Participants

The study was undertaken as a postal questionnaire survey of adults enrolled in an off-campus Introductory Psychology course taught through the University of New England, Australia. Students in this course generally are of mature age; most are in paid employment, some are homemakers. Survey forms were completed by 174 students. The sample comprised 35 men and 139 women, ranging in age from 18 to 61 years (mean = 33.1, median = 32.5, s = 9.85).

Survey Materials

The survey inventory contained five questionnaires in the following order. One was a brief form surveying basic demographic variables; three other questionnaires related to the control domain; and the final scale indexed paranormal belief. Each of these will be described in turn.

The first questionnaire asked respondents for their gender and age. These items were included not only to ascertain basic sample characteristics, but also because there are reports that at least some paranormal beliefs may vary with gender and age (Irwin, 1993).

There then followed self-report measures of three facets of control. The first of these was Paulhus's (1983) Spheres of Control (SOC) scale. The SOC relates to the concept of locus of control; specifically, high scores on this measure denote internal locus of control, the perception that life events are largely contingent on the individual's own behaviour and attributes. The SOC addresses perceived control in three factorially-determined, primary behavioural spheres. Thus, one scale of the SOC, the Personal Efficacy scale, taps the level of perceived personal achievement; the Interpersonal Control scale concerns control in social relationships; and the Sociopolitical Control scale relates to control over sociopolitical events that impact on the life of the individual. Each of the three scales of the SOC comprises 10

items, and responses are made on a 7-point Likert scale. Psychometric characteristics of the SOC are reported to be sound (Paulhus, 1983).

A more motivational facet of the control domain involves the desirability of controlling the events in one's life. That is, irrespective of the degree to which people perceive they have control over life events, individuals may differ in the extent to which they would like to have such control. The latter dimension was indexed by the Desirability of Control (DC) scale (Burger & Cooper, 1979), a 20-item scale with a 7-point Likert response scale. High scores on the DC scale signify a strong desire for control. The DC scale has been widely used in research into many different issues and it has well-established reliability and validity (Burger & Cooper, 1979).

A third facet of control concerns the extent to which a person actually tries to exercise control over their life. Recent research reviewed by Gibbs (1996) suggests that obsessive-compulsive behaviours fundamentally represent an attempt to exert control over the environment. On these grounds a measure of obsessive-compulsive tendencies was included in the survey inventory. The Orderliness factor of the Four-Dimensional Personality Test (4DPT; van Kampen, 1997) was selected for this purpose. The 4DPT Orderliness scale comprises 16 dichotomous (True/False) items; high scores on this measure may be taken as an index of the extent to which the respondent endeavours to exert control over the physical environment. Preliminary data reported by van Kampen (1997) suggest that the scale has satisfactory psychometric qualities.

Paranormal beliefs were studied using Tobacyk's (1988) *Revised Paranormal Belief Scale* '(PBS), an amended version of the scale originally developed by Tobacyk and Milford (1983). The PBS incorporates an extremely broad view of the scope of "the paranormal". Its 26 items are distributed over 7 subscales relating to belief in traditional religion, psi, witchcraft, superstition, spiritualism, extraordinary life forms (e.g., the Loch Ness monster), and precognition. The response to each item is made on a 7-point Likert scale, with a higher rating signifying stronger endorsement. Scores on individual subscales are computed as the average rating recorded on the component items and thus have a range of 1 to 7. There has been considerable debate over the construct validity and the factorial structure of the PBS (cf., Lawrence, 1995; Tobacyk & Thomas, 1997), but despite its shortcomings, the PBS arguably remains the best available, and certainly the most widely used, multidimensional measure of belief in the paranormal as the latter is broadly conceived.

Procedure

A "plain language" statement was attached to the front of the survey inventory mailed to potential participants. This sheet explained the objective of the study and stressed that participation was voluntary and confidential. An appeal was made to participants to respond as spontaneously and openly as possible.

Participants returned their completed questionnaires in a stamped envelope supplied by the researcher.

Results

Descriptive statistics (mean and standard deviation) for all research measures are given in Table 1.

Table 1 *Descriptive Statistics on All Research Measures (N = 174)*

	M	SD
PBS		
Traditional Religious Belief	4.60	1.68
Psi Belief	4.25	1.69
Witchcraft	3.96	1.72
Superstition	1.81	1.21
Spiritualism	4.12	1.77
Extraordinary Life Forms	3.53	1.19
Precognition	3.80	1.48
SOC		
Personal efficacy	52.85	6.74
Interpersonal	49.24	9.62
Sociopolitical	41.13	9.95
DC scale	101.24	13.40
4DPT Orderliness	10.91	3.27

Using SPSS software (SPSS, 1995) scores on the PBS scales were correlated with those on the five indices of control. The Pearson correlation matrix is given in Table 2. These data are presented principally for completeness of information. Although in some respects the correlations might be considered to be suggestive of relationships between paranormal belief and control, these data are an unreliable basis for deciding whether or not all aspects of the control domain are relevant to all dimensions of paranormal belief, for two reasons: first, there may be intercorrelations between the various facets of control and between the dimensions of paranormal belief, and second, the zero-order correlations do not take due account of possible artifactual effects of age and gender.

Table 2
Pearson Correlations between Paranormal Belief (PBS) and Predictors (SOC, DC, 4DPT) (N = 174)

PBS	SOC Personal	SOC In terpersonal	SOC Sociopolitical	DC	4DPT Orderliness
Traditional Religious Belief	-.08	-.11	.03	-.20**	.16*
Psi Belief	.00		.17*	.13	.05
Witchcraft		.13	.19*	.15*	-.03
Superstition	-.12	-.08	-.05	-.05	.03
Spiritualism	.00	-.04	.15*	.05	.08
Extraordinary Life Forms	-.16*	-.05	.02	.03	-.04
Precognition	-.05	-.02	.09	.06	.11

Significance levels (uncorrected): *$p < .05$; **$p < .01$

Canonical correlation is a more suitable technique for this context. Canonical correlation analyses the relationship between two sets of variables (Tabachnick & Fidell, 1996). In this instance, one set of variables (conceptualised as the dependent variables) comprised the seven dimensions of paranormal belief as indexed by the PBS. The other set of variables, the

predictors, comprised the five facets of control (three SOC scales, DC, and 4DPT Orderliness), gender, and age. Analysis was conducted using SPSS MANOVA software.

Seven canonical correlations were identified (Wilks' lambda = .597, $p < .001$). The first canonical correlation was .44 (20% overlapping variance), and the second was .38 (18% overlapping variance). "Peel off" significance tests for canonical variate pairs (Tabachnick & Fidell, 1996) showed the remaining five canonical correlations (ranging from .33 down to .02), did not add significantly in accounting for the relationships between the two sets of variables ($p = .273$). In other words, the first two pairs of canonical variates accounted for the significant relationships between the set of paranormal beliefs and the predictor set. Data on the first two pairs of canonical variates are given in Table 3.

Table 3

Correlations, Standardised Canonical Coefficients, Canonical Correlation, Proportion of Variance, and Redundancies between Paranormal Belief (PBS) and Predictors (SOC, DC, 4DPT, gender, age) for their Corresponding Canonical Variates (N = 174)

	First Canonical Variate		Second Canonical Variate	
	Correlation	Coefficient	Correlation	Coefficient
PBS set				
Traditional Religious Belief	.60	.68	-.12	-.40
Psi Belief	.08	-.31	.64	.72
Witchcraft	-.12	-.67	.52	.31
Superstition	.06	-.14	-.25	-.41
Spiritualism	.38	.64	.45	-.01
Extraordinary Life Forms	-.24	-.40	-.18	-.58
Precognition	.35	.58	.41	.31
Portion of Variance	.10		.16	Total = .27
Redundancy	.02		.02	Total = .04
Predictor set				
SOC Personal	.09	.34	.35	.06
SOC Interpersonal	-.40	-.35	.57	.29
SOC Sociopolitical	-.01	.13	.52	.41
DC scale	-.48	-.44	.64	.50
4DPT Orderliness	.53	.42	.02	-.06
Gender (M)	-.63	-.60	-.48	-.61
Age	-.14	-.22	.01	-.03
Portion of Variance	.16		.19	Total = .35
Redundancy	.03		.03	Total = .06
Canonical correlation	.44		.38	

This table shows correlations between the variables and their canonical variates, standardised canonical variate coefficients, within-set variance accounted for by the canonical variates (percentage of variance), redundancies, and canonical correlations. Total percentage of variance and total redundancy data indicate that relationship between canonical variates was at best moderate in both instances.

Using the standardised canonical variate coefficients as a guide, the principal aspects of paranormal belief that composed the first canonical variate were Traditional Religious Belief and Spiritualism, together with Precognition and a lack of endorsement of both Witchcraft and Extraordinary Life Forms. For convenience of further discussion this variate will be denoted as "spirituality", because the associated pattern of belief emphasises fundamental religious concepts without the more occult and anomalous elements of the paranormal; an anonymous referee of this paper, on the other hand, prefers to dub this variate "conventional, or highly socialised, spirituality". Among the set of predictor variables, Orderliness, a low Desire for Control, and female gender correlated with the first canonical variate. Taken as a pair, these variates suggest that people with a conventionally spiritual outlook are often

women who show a tendency to control their physical environment, yet at the same time they report a low desire for control.

The second canonical variate in the paranormal belief set primarily comprised belief in Psi, with a repudiation of Extraordinary Life Forms, Superstitions, and Traditional Religious tenets. This variate henceforth will be referred to simply as "psi belief", but the variate does emphasise belief in psi processes at the exclusion of less strictly parapsychological concepts; again, a referee has represented this variate as "unconventional or unsocialised" paranormal belief. The predictor variables that correlated with the second canonical variate were Desire for Control, internality on the SOC Sociopolitical scale, and female gender. The second pair of canonical variates therefore may indicate that endorsement of psi belief might often be found in people, particularly women, with an acknowledged desire for control and a conviction that they have the power to control events in the sociopolitical arena.

Discussion

Although the results of the canonical correlation analysis provide the primary findings of the study, brief comment may be made on the zero-order correlations (Table 2) in light of the previous literature on locus of control. Broadly speaking, the correlations with the personal and interpersonal facets of locus of control are consistent with but slightly weaker than those reported by Davies and Kirkby (1985). The data for the sociopolitical scale of the SOC, however, differ markedly between the two studies. Whereas Davies and Kirby found most paranormal beliefs to be associated with *external* sociopolitical locus of control, the present study found associations with *internal* sociopolitical control. One can but speculate on the basis of this disparity. Given that the study by Davies and Kirkby was undertaken in England and the author's study was conducted in Australia, cultural factors may be important to consider. Although the two countries adopt the Westminster system of government, radicalism and political responsiveness to public protest may differ between England and Australia. This factor might have played some role in generating the different pattern of correlations between the two studies. At the same time it must be acknowledged that Thalbourne et al. (1995), also using an Australian (if substantially younger) sample, failed to find any association between paranormal beliefs and sociopolitical locus of control. The nature of these differences across studies is somewhat elusive and does warrant further investigation. In the present context it is as well to keep in mind that the findings may to some degree be specific to some idiosyncratic characteristic of the sample used in this survey.

Two pairs of canonical variates were identified in the canonical correlation analysis. The first pair suggests that a belief in broadly spiritual tenets tends to be endorsed by people, often women, who try to exert strict control over their physical environment but who publicly repudiate any desire for control over life events. The denial of the desirability of control supports Irwin's (1992) observation that although others may see paranormal believers as controlling individuals, the believers themselves tend not to concede this. The findings for the first pair of canonical variates is reminiscent also of reports of an association between religiosity and obsessive-compulsiveness, rigidity or dogmatism (Alcock, 1981; Kaldestad, 1996; Maltby, 1998; Raphael, Rani, Bale, & Drummond, 1996). Thus, obsessive-compulsive tendencies, or a relatively inflexible insistence that the world should operate in conformance with one's own views, may psychologically predispose some people to endorse broadly spiritual beliefs; these tenets can then be taken as an authoritative rationale for the person's own dogmatism. Thus, under a narrowly religious outlook, a person can exert efforts to control life events, yet deny personal involvement in such efforts: a higher authority is said to demand that life should happen in a particular way. This is not to dismiss all religious beliefs

as a product of obsessive-compulsiveness, but merely to reaffirm the observation by Raphael et al. (1996) that many people with this psychology are attracted to religious beliefs.

At the same time people with different psychodynamics may be attracted to other, non-religious paranormal beliefs. The second pair of canonical variates suggests that a belief in psi may tend to be found among people, especially women, with an acknowledged desire for control and a conviction that they have the means to control events in the sociopolitical arena. As noted above, the indication here for psi belief to be associated with an internal sociopolitical locus of control is not consistent with the general trend of previous studies and could perhaps be an idiosyncrasy of the sample. That is, there may have been a common perception in this sample that radical protest can influence governmental decisions, and such preparedness to speak against the received view may be associated with a tendency to acknowledge an (unorthodox) belief in psi. The predictive value of the desirability of control, on the other hand, is specially noteworthy in light of the fact that this variable has not been utilised in previous research on paranormal beliefs. A strong desire for control among psi believers might well account for these believers' reported susceptibility to a transitory illusion of control (Blackmore & Troscianko, 1985). Additionally, at least in respect to a belief in psi, this finding might be said to offer a measure of support for the hypothesis that paranormal belief may be inspired in part by a fundamental need to have a sense of control over one's everyday life.

The latter interpretation nevertheless is not fully satisfactory, for a number of reasons. First, the effect size (multivariate canonical $\underline{R} = .38$) does little to encourage the view that the control domain is the principal determinant of paranormal belief, as has been implied by some commentators (e.g., Schumaker, 1990). Second, the generality of the hypothesis can perhaps be queried in terms of the rather different pattern of findings for spiritual beliefs and psi belief; the control domain appears to be implicated in different ways for the two types of paranormal belief identified by the canonical correlation analysis.

Third, and most important, is the fact that although the psi believers in this sample evidently do desire control over life events, they also perceive themselves already to have some sociopolitical control, and to the extent that neither personal nor interpersonal control is a negative predictor, psi believers do not present themselves as lacking in the remaining arenas of control. That is, psi belief might not be inspired by a perceived *lack* of control, as implied by earlier writers, but more fundamentally by the perception that it is important to have control over life events. This is not to dismiss other researchers' observations of a correlation between psi belief and an external locus of control, but that relationship might well prove to be secondary when the desirability of control is taken into account. Thus, psi believers' depiction of themselves as at the mercy of powerful others or fate may be less a statement of perceived locus of control than of the desire to have greater control than they actually do.

The findings of the present study should not, however, be overstated. The study arguably is instructive in that it reinforces the appropriateness of indexing several aspects of the control domain and seeking to relate these to clusters of paranormal belief. There is a clear indication here that spiritual belief and psi belief may relate in different ways to the control domain. The study nevertheless is inconclusive in that for its sample of participants the usual associations between paranormal beliefs and an external locus of control largely were not evident, and thus it would be inadvisable to draw any strong inference from the present data about the relative roles of perceived need for control, desirability of control, and exerted control in the development of paranormal belief. Further, the adequacy of obsessive-compulsive behaviours as an index of exerted control rests on the validity of Gibbs' (1996) view that obsessive-compulsive behaviours do constitute an attempt to exert control over the environment. Finally, the data are purely correlational, and any inference of causal processes must therefore be tenuous. An anonymous referee has suggested, for example, that strong

paranormal beliefs might lead to feelings of loss of control, rather than vice versa. For these reasons constructive replication of the study is called for.

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Research into Psychotic Symptoms: Are There Implications for Parapsychologists?

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Abstract: Parapsychology and psychopathology are usually thought of as separate diciplines which have little relevance to each other. In this paper, I will suggest reasons why the two disciplines would profit from exchanging ideas and information. Both parapsychology and psychopathology deal with anomalous experiences. Moreover statistical associations have been reported between paranormal experiences and psychological symptoms. I review research into delusions and hallucinations which suggest that information processing and reasoning biases play a role in both symptoms. Biases in information processing and reasoning have also been found to discriminate between those who believe in paranormal phenomena and those who do not. These findings do not establish the non-veracity of some paranormal experiences as this can only be determined by empirical research.

Introduction

It is easy to assume that the disciplines of psychopathology and parapsychology address different facets of the universe. After all, textbooks on psychiatry and abnormal psychology nowadays rarely include mention of parapsychological phenomena, and treatises on parapsychology rarely discuss stress or mental illness, except perhaps in passing. Nonetheless, there are reasons for believing that both disciplines would profit from a consideration of the other.

Most obviously, although the descriptive languages employed by the two disciplines differ radically, both focus on anomalous experiences. Psychopathologists tend to describe such experiences as belonging to various types of mental illness such as 'schizophrenia' and 'manic depression'. However, these concepts are misleading because they disguise the value laden nature of the attribution of mental illness (Bentall, 1992a; Szasz, 1960), and also because categorical systems of diagnosis such as those found in the fourth edition of the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV; American Psychiatric Association, 1994) and the tenth edition of the World Health Organization's International Classification of Diseases (ICD-10; World Health Organization, 1992) lack proven scientific validity (Bentall, 1992b; Clark, Watson, & Reynolds, 1995). In fact, it is the peculiar experiences and behaviours which patients and their families complain about which must form the focus of inquiry in psychopathology - for example, hearing voices when no one else is present, or feeling persecuted without good cause. These types of experiences and behaviours

are usually singled out as 'pathological' precisely because they seem to be inexplicable within the conceptual framework of ordinary folk psychology (Horowitz, 1983).

Similarly, parapsychologists tend to discuss their subject matter in terms of different hypothetical processes such as ESP, telekinesis or precognition. However, the raw phenomena which allow the inference of these processes - for example, the apprehending of novel information without any immediate source, the perception that objects move at will, uncannily accurate convictions about future events - are anomalous experiences which appear to defy explanation within a conventional conceptual framework, in these cases the framework of folk physics.

This connection between the subject matters of psychopathology and parapsychology extends beyond mere formal similarity. Some studies indicate that people who report paranormal experiences have higher than normal levels of psychological symptoms (McCreery & Claridge, 1995) whereas others indicate that individuals suffering from mental illness report unusually strong convictions about the reality of supernatural forces (Eckblad & Chapman, 1983; Thalbourne, 1994a; Thalbourne, 1994b). Statistical associations of this sort cannot be used to dismiss parapsychological phenomena as non-veridical, as such questions can only be resolved by experiment. (Bem & Honorton's (1994) analysis of the ganzfeldt experiments should caution zealous psychopathologists against dismissing all parapsychological phenomena as evidence of unstable minds). Nonetheless, they do indicate that psychopathologists and parapsychologists would do well to get to grips with each others' findings.

In this paper, I will discuss psychological research on delusions and hallucinations, two types of psychopathological phenomena which should be of particular interest to parapsychologists. I will show that each of these types of anomalous experience can be explained in terms of biases or deficits in information processing. After discussing these phenomena, I will conclude by pointing to some similarities between the relevant research findings and the results of research into beliefs about the paranormal.

Delusions

The term 'delusion' is used to describe the apparently bizarre beliefs avowed by many patients who suffer from psychotic disorders (disorders in which the individual is said to have 'lost touch with reality' in some way). The most common delusions reported by patients are persecutory (eg. "there is a conspiracy to kill me which is being organized by the Director General of the BBC") or grandiose (eg. "I am God incarnate"), but other less common delusional themes include delusions of reference (in which apparently innocuous events are believed to have extraordinary significance for the self), erotomanic delusions (eg. "Madonna is secretly in love with me") and delusional misidentifications (eg. "My partner has been replaced by an alien robot who looks exactly like her"). DSM-IV defines such beliefs in terms of the patient's unusually high level of conviction, the fact that the delusion is resistant to counter argument, and the lack of congruence between the belief and the beliefs commonly held by the individual's subculture (American Psychiatric Association, 1994). This last criterion should alert us to some real difficulty in determining whether a belief can be said to be delusional or not. Jaspers (1912/1963) argued that an additional feature of delusions is their inherent 'ununderstandability' (ie. the fact that they cannot be seen as meaningful within the context of the individual's personality or history). However, Sims (1988) has pointed out that the 'ununderstandability' criterion is, in itself, quite subjective. This difficulty of precisely determining whether or not a belief is delusional undoubtedly reflects the fact that delusions lie along a continuum with normal beliefs (Kendler, Glazer, & Morgenstern, 1983; Strauss, 1969). Recent findings of systematic psychological differences between deluded and nondeluded patients suggest that we may be confident, at least to a degree, that the concept of delusion is not entirely socially constructed.

Until recently, a view of delusions that was commonly accepted by psychologists was to see them as rational interpretations of abnormal perceptual experiences (the paradigm case being the patient who hears a hallucinatory voice and the believes that the police have planted a radio-receiver in his head). This account was particularly advocated by Maher (1974, 1992) who pointed to case studies of patients whose delusions seem to have arisen this way, and who went so far as to deny that nonperceptual cognitive abnormalities were implicated at all. Maher's anomalous perception model undoubtedly works for some patients - for example, patients who suffer from delusional misidentifications, who appear to have difficulty processing information about faces (Ellis & Young, 1990). However, the findings from a research programme which we have been conducting in Liverpool over the past decade point to at least two kinds of cognitive abnormality which we seem to be important in the origin and maintenance of some delusional beliefs.

In a number of studies, we have shown that patients suffering from persecutory delusions have abnormal information processing biases. For example, using the 'emotional Stroop' paradigm in which subjects are asked to ignore the meaning of a word and simply report the ink colour in which it is written, we showed that paranoid patients are slow at colour-naming words relating to personal threat (Bentall & Kaney, 1989), presumably because these kinds of words 'grab' their attention. This result has been replicated by other researchers (Fear, Sharp, & Healy, 1996; Kinderman, 1994; Leafhead, Young, & Szulecka, 1996). Not surprisingly, paranoid patients also preferentially recall information relating to their delusions (Bentall, Kaney, & Bowen-Jones, 1995; Kaney, Wolfenden, Dewey, & Bentall, 1992).

A second type of cognitive abnormality which may be even more significant in the origin and maintenance of delusions is attributional. Human beings readily seek explanations for the events which impact on them - Zullow, Oettingen, Peterson, & Seligman (1988) have estimated that a causal statement can usually be found for every hundred words or so of spoken or written text. Abramson, Seligman, & Teasdale (1978) suggested that a particular kind of attributional style - a tendency to attribute negative events to causes which are internal (caused by self), global (likely to affect all areas of life) and stable (unlikely to change) - predisposes individuals to depression. Using measures developed by Seligman and his group, we found that patients suffering from persecutory delusions attribute negative events to causes which are external (other blaming), global and stable (Kaney & Bentall, 1989). This finding has now been replicated in several further studies (Candido & Romney, 1990; Fear, et al., 1996; Kinderman & Bentall, 1996; Lee & Won, 1998; Lyon, Kaney, & Bentall, 1994) and using different methodologies (Kaney & Bentall, 1992). It appears that paranoid patients specifically make external-personal attributions, in which blame for a negative event is attributed to the deliberate intentions of others, rather than the external-situational attributions (eg. "I'm sorry I'm late but the traffic was dreadful") often made by ordinary people (Kinderman & Bentall, 1997).

Although it is easy to see why persistently blaming others for one's own failures might lead to paranoid delusions, it is not so easy to see how this style of reasoning could develop. In our latest work, we have explored the possibility that the paranoid attributional style reflects the interaction of two separate processes (Bentall & Kinderman, 1998).

First, the tendency to avoid attributing the responsibility for negative events to the self seems to be an exaggeration of a normal strategy for regulating self-esteem (Bentall, Kinderman, & Kaney, 1994). Consistent with this account, we have found that paranoid patients avow a positive view of themselves when tested using direct measures (Kinderman & Bentall, 1996), whereas they show evidence of low self-esteem when tested using indirect measures (Bentall & Kaney, 1996; Kinderman, 1994; Lyon, et al., 1994). We believe that this high level of defensiveness is probably the product of dysfunctional family relationships. Consistent with this hypothesis, we have recently found that recovered paranoid patients report

unsatisfactory relationships with their parents that date back to early childhood (Rankin, Bentall, Hill, & Kinderman, subm.)

Second, we have argued that the tendency to make external-personal rather than situational attributions reflects an inability to infer the mental states of others (a skill sometimes misleadingly described as having a 'theory of mind' or ToM; Baron-Cohen, 1995). This type of inference is often required when we discount the negative actions of other people (eg. "He was probably rude to me because he was feeling very stressed) by attributing them to circumstances. Consistent with this argument, other researchers have observed that paranoid patients perform poorly on ToM tasks (eg. questions that can only be answered by correctly inferring false beliefs in others) (Corcoran, Cahill, & Frith, 1997; Corcoran, Frith, & Mercer, 1995) although this finding has not always been replicated (Drury, Robinson, & Birchwood, 1998). In our own work, we have found that normal individuals who perform relatively poorly on ToM tasks tend to make excessive external-personal attributions as our theory predicts they should (Kinderman, Dunbar, & Bentall, 1998). Our ongoing studies are examining relationships between more general cognitive deficits, ToM and attributions in clinical samples.

Hallucinations

Whereas research on delusions has pointed to the role of motivated reasoning biases in the genesis of abnormal beliefs, research on hallucinations has pointed to the role of beliefs in determining unusual perceptual experiences.

It is customary within psychiatry to regard hallucinations as evidence of mental illness. Auditory hallucinations (hearing voices) were regarded as first-rank symptoms of schizophrenia by the famous psychopathologist Kurt Schneider (1959), and more recent studies have consistently shown that hallucinations, especially in the auditory modality, are experienced by the majority of patients diagnosed as suffering from schizophrenia (Sartorius, Jablensky, Korten, Ernberg, Anker, Cooper, et al., 1986; Sartorius, Shapiro, & Jablensky, 1974). However, a surprising number of normal individuals, when questioned, report a history of hallucinatory experiences (Bentall & Slade, 1985a; Posey & Losch, 1983; Tien, 1991). Moreover, there is evidence of quite substantial cultural variations in the disposition to have hallucinatory experiences (Al-Issa, 1977, 1995).

Three observations have allowed researchers to understand the cognitive processes involved in auditory hallucinations. First, there is evidence that hallucinatory experiences occur more frequently under periods of stress or when the individual is exposed to an environment which is either lacking in stimuli or noisy (Slade & Bentall, 1988). Second, auditory hallucinations are accompanied by small activations of the speech muscles (Gould, 1948; Green & Kinsbourne, 1990; Inouye & Shimizu, 1970; McGuigan, 1966) and by activations of speech areas in the left hemisphere of the brain (McGuire, Shah, & Murray, 1993). Third, auditory hallucinations can sometimes be inhibited by the individual carrying out some kind of concurrent verbal task such as naming objects or reading (Erickson & Gustafson, 1968; Gallagher, Dinin, & Baker, 1994; James, 1983; Margo, Hemsley, & Slade, 1981). Many investigators have concluded that these observations can be accounted for by supposing that auditory hallucinations are misattributed inner speech (Bentall, 1990; Frith, 1992; Hoffman, 1986). That is, the people who hear voices seem to be talking to themselves in a relatively normal way but, somewhat abnormally, believe that their inner voice is coming from someone else.

The reasons why some people should have a predisposition to mistake the source of their inner speech are not entirely understood. Attempts to assess the ability of hallucinating patients to monitor the source of their experiences has yielded some evidence of a general deficit in this area (Bentall, Baker, & Havers, 1991; Bentall & Slade, 1985b; Johns & McGuire,

1999). Interestingly, this deficit appears to be especially evident when patients attempt to monitor the source of emotionally salient stimuli (Baker & Morrison, 1998; Morrison & Haddock, 1997).

However, deficits in source monitoring seem to be only one of the factors involved in auditory hallucinations. The cross cultural evidence referred to earlier suggests that individual's beliefs about reality may help to determine whether or not they believe that particular experiences are generated by themselves or by other individuals (Al-Issa, 1977, 1995). Consistent with this account, studies of hallucinating patients and normal subjects who have a history of hallucinations indicate that their perceptual judgements can be highly influenced by suggestions (Haddock, Slade, & Bentall, 1995; Mintz & Alpert, 1972; Young, Bentall, Slade, & Dewey, 1987).

These findings have fairly obvious implications for clinical practice. Patients who hold strong beliefs about the omnipotence and omniscience of their voices seem especially distressed by them. Challenging these beliefs is therefore an approach which sometimes beneficial effects (Chadwick & Birchwood, 1994).

Could Some Information-Processing Biases Influence Belief in Paranormal Phenomena?

I have so far argued that delusions and hallucinations can be understood in terms of particular information processing and reasoning biases. It is reasonable to ask whether belief in the supernatural is influenced by similar processes. Such beliefs, which are very common in all cultures, present a particular challenge to those who believe in an easy distinction between normal and abnormal beliefs. For example, Gallup and Newport (1991), in a survey of over 1000 American adults, found that about one quarter of those surveyed believed in ghosts and that about one tenth claimed to have been in the presence of a ghost. About a quarter of those surveyed said that they had telepathic experiences, and about one in seven thought that they had seen a UFO. Three quarters reported that they occasionally read their horoscope in newspapers.

Schmeidler and McConnell (1958) coined the unfortunate terms 'sheep' and 'goats' to describe believers and nonbelievers in paranormal phenomena respectively and, despite the apparently pejorative nature of these terms, they have been widely used by parapsychologists ever since. In a review of the psychological literature comparing 'sheep' with 'goats' (much of which has used questionnaire measures of belief in the paranormal such as the Belief in the Paranormal Scale (Jones & Russell, 1980), French (1992) found considerable evidence that 'sheep' exhibit biases in reasoning and information processing which tend to reinforce their beliefs. For example, some studies have found that 'sheep' are more likely than 'goats' to believe that they have control over random events (Brugger, Regard, & Landis, 1991), and that belief in paranormal phenomena is associated with high levels of perceived performance on parapsychological tasks (for example, tests of psychokinesis) regardless of actual performance (Benassi, Sweeney, & Drevno, 1979). Blackmore and Troscianko (1985) observed that 'sheep' performed worse than 'goats' on questions designed to measure their ability to reason about probabilities, and that they also tended to underestimate the level of performance on parapsychology tests which would be expected by chance, with the consequence that their own performance seemed to them to be much better than chance. Russell and Jones (1980) gave 'sheep' and 'goats' fictitious journal articles reporting successful and unsuccessful ESP experiments; although both groups reacted emotionally to evidence that appeared to contradict their views the 'goats' tended to remember both types of information equally well, whereas the 'sheep' recalled more accurately the information which was consistent with their beliefs.

Religious convictions form another category of beliefs which, to the non-committed, may seem nonsensical, and which may be spared from inclusion as delusions only because of

their apparent cultural congruence. Roberts (1991) administered two questionnaire measures of perceived purpose and meaning in life (Crumbaugh's (1968) Purpose in Life Test and Battista and Almond's (1973) Life Regard Index) to a group of actively deluded psychiatric patients, a group of recovered deluded patients, a group of Anglican ordinands (trainee priests), and a 'normal' group of psychiatric nurses. The Anglican ordinands scored highly on both questionnaires, as did the actively deluded patients, whereas the recovered deluded patients and 'normal' controls scored lower. Fourteen out of 16 of the actively deluded patients reported that their lives had improved following the development of their belief systems, for example because they had established a new sense of identity or a clearer sense of duty and responsibility, or because they felt emotionally more positive.

Conclusions

The idea that the disciplines of psychopathology and parapsychology might learn from each other is not a new one; in the early years of the 20th century, psychologists such as Fredrick Myers and William McDougall explicitly included paranormal phenomena within the subject matter of abnormal psychology (Parker, 2000). After nearly a century in which the two disciplines have gone their separate ways, it is now possible see once again the common ground that they share.

The available evidence points to the possibility that supernatural beliefs can be influenced by psychological processes which, although more benign, in some sense parallel those observed in deluded and hallucinated psychiatric patients. However, as Roberts (1991) has observed, it is important not to overstate these similarities or to conclude too much from them. Some of the cognitive peculiarities observed in psychotic patients, for example theory of mind deficits, have never been observed in ordinary people who believe in the paranormal, and perhaps never will be. Other similarities between people who experience the paranormal and psychotic patients might reflect the impact of paranormal experiences on mental health (Parker, 2000). Like Roberts, we can perhaps agree with Jaspers (1912/1963) who argued that, "Religious experience remains what it is whether it occurs in Saint or psychotic, or whether the person in whom it occurs is both at once".

Nonetheless, it would be wrong to ignore entirely evidence of similarities between psychiatric patients and particular groups of ordinary people for fear of offending ordinary people. Indeed, the findings reviewed in this paper add to the mounting evidence that psychiatric disorders exist on continua with normal functioning, making any clear division between the 'them' who are mentally ill and the 'us' who are untroubled difficult and in many ways unhelpful.

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Book Review:

The Nature of Mind: Parapsychology and the Role of Consciousness in the Physical World

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The Nature of Mind: Parapsychology and the Role of Consciousness in the Physical World *by Douglas Stokes*. 1997. Jefferson. NC. McFarland and Co. §39. ISBN 0-7864-0344-6. Hardback.

The growth of courses in parapsychology at European universities taught at undergraduate and graduate levels has created a need for serious up-to-date textbooks on the subject. Previously, I have limited my own selection to Broughton's *Parapsychology*, Irwin's *Introduction to Parapsychology*, and to a chapter in Hayes's *Foundations of Psychology*. (Larger reference sources such as the Wolman *Handbook of Parapsychology* are unfortunately grossly aged.) Since many of these courses teach parapsychology in the context of consciousness studies, there is an obvious vacuum in this area, which the present book most suitably fills.

As such the book not only competes well with the above mentioned texts but makes an important contribution in ensuring parapsychology its rightful central place in the contemporary interdisciplinary effort to understand the nature of consciousness. Nevertheless, in terms of the pedagogical needs of students, it is to be hoped that future editions of this or other books will make use of illustrations as is now standard for American textbooks of psychology. Some years ago Eysenck and Sargent did produce such a book which used this type of format - and which became a best-seller, but this book was unfortunately marred by an uncritical and over-popularised approach.

This is definitely not the case with *The Nature of Mind,* the text of which has several distinctively attractive features. The author uses a sceptical approach in applying, above all, common sense to examine the claims of both parapsychologists and critics. In doing so, he brings to use an impressive width of knowledge and presents the reader with many of the fascinating spontaneous cases studies belonging to psychical research as well as the drier but equally challenging findings of experimental parapsychology. This much needed integration between these fields creates a sound and broad base on which to evaluate in the later part of the book the various theories of consciousness. The book does however have one serious omission. In reviewing the evidence to answer the question that he poses: "Is psi real?" Although the answer the author arrives at is a "yes", the author makes no mention at all of the Bem and Honorton (1994) review of the ganzfeld work which by virtue of its mainstream publication in the *Psychological Bulletin,* has come to be regarded as a landmark for those seeking an answer to this question. [1]

[1] This however has become a never-ending search. A subsequent article by Milton and Wiseman (1999) claimed the Bem and Honorton findings to be non-replicable. Shortly after achieving this publication Wiseman (2000) went on to maintain that the current analysis showed the replication effect to be back again.

Another appealing feature of the book is that it is replete with facts and is a ready answer to those who might claim parapsychology is an empty science consisting of successive refinements of methodology in search of non-existent phenomena. The factual answers to numerous basic questions in this diverse field are to be found in the text here. You might like to sample some of these and if you do not know the answers to the following questions then the book is worth reading for this alone: Is the out-body-experience universal to all cultures? What is the percentage of poltergeist cases that have been found to be fraudulent? Which is the most common state of consciousness associated with apparent ESP: intuitions, hallucinations, realistic dreams, or symbolic dreams? Did any of Stevenson's reincarnation cases have documentation of the childhood memories of the former life that were written before the "re-union" occurred with the former family? Is it possible for people to distinguish I-Ching readings meant for them from those meant for others? What percentage of individuals surveyed in the US and UK believe they have seen a ghost? If one individual reports seeing a ghost in the presence of others, what is the probability that these others will also report an identical experience? How often are psi-experiences reported in the context of the sudden unexpected deaths of others? How common is it for individuals with multiple personality disorder to show a shift in their handedness with a change in personality?

The strength of the book lies not only in its presentation of consensus knowledge in this area but in the author's familiarity with philosophical discussions relating to psi and consciousness. The book provides an engaging survey of both historical and ongoing debates concerning this topic and as such it evaluates the diverse contributions that have been made from Greek philosophy, Modern philosophy, Quantum physics, and of course Eastern philosophy. As well as covering some of the historical aspects, the reader is provided with a readable and yet non-popularised presentation of the thinking of many of the influential contemporary theorists who have viewpoints on the nature of consciousness. To be found here are the theories of Churchland, Penrose, Crick, Beloff, Eccles, Dawkins, Dennett, Sperry, Davies, and Sheldrake among others. Sometimes Stokes even makes an important contribution of his own. His answer to the Turing test (concerning the absence of criteria to distinguish a computer which is simulating human intelligence, from the real thing) is the best I have heard: "In the end, the real test of consciousness in automata such as robots and computers may be to wait and see if such machines spontaneously express curiosity and wonderment about their own inner experience. Presumably, a non-conscious computer would not develop a preoccupation with the machine equivalent of the mind-body problem." (p. 142)

There are a few issues where I would be more hesitant in my conclusions than the author. For instance Stokes considers that split-brain research in showing how contingent the mind is on the brain, has effectively brought the death of dualism. My reading of contemporary views of split-brain research is that the earlier findings have been re-evaluated: Rather than splitting the mind as well as the brain for good, the effect of this operation seems to be less with the passage of time so that the behaviour of split-brain patients shows more integration and apparently less split in consciousness than first believed.

Sometimes the author's usually well-motivated scepticism appears to run away with him so that his dismissal of findings (such as those relating to the nature of out-of-body experiences as being the mere product of fantasy) becomes entirely inconsistent with the research that he has just reviewed.

The research findings and the philosophical excursions in this book are presented in a personable and for the most part in an engaging way. However interesting the presentation is, it does occasionally verge on the idiosyncratic (for instance relating the author's experiences with Al Gore and George Bush). Nevertheless, this does make the book entertaining to read and some of the author's experiences such as being the room-mate of the researcher Walter J. Levy (whose fraudulent activities he helped to expose) are very informative and worth telling.

The book is a part of a never-ending story of our attempt to understand our nature and is an important contribution to philosophy, parapsychology and psychology. The conclusion, which ought to be read by every psychologist who is a believer in scientism, is that "the world can no longer be viewed as a collection of isolated atomic particles careening about in an uncoordinated and meaningless manner....It appears that conscious minds are more than just physical bodies and that conscious minds may play a fundamental role in the universe".

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Book Review:

Mindsight: Near-Death and Out-of-body Experiences in the Blind

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Mindsight: Near-Death and Out-of-body Experiences in the Blind. By Kenneth Ring and Sharon Cooper. 1999, Palto Alto: William James Center for Consciousness Studies. ISNB 0-9669630-0-8.

I decided to review this book because I believe it *just may* become one of the most important publications in contemporary parapsychological research. If the findings presented in *Mindsight* have any validity, and if the book is well read, then it should lead to further work by mainstream researchers which may well bring about a major revision in theories of perception. Such a revision would ultimately result in a realignment in which cognitive psychology moves much closer to parapsychology. Obviously, the "ifs" in this proclamation are major ones.

Some years ago Susan Blackmore in her book *Dying to Live* (Blackmore, 1993) presented her well-known reductionistic theories of near-death and out-of body experiences (NDEs and OBEs to the general public. In this book, as in many other publications, she dismissed all the claims of psi and veridical perceptions associated with these as being due to a mixture of false memories, inadequate documentation and faulty reporting. In the course of this review, Blackmore took up the claims she had come across for sight occurring in blind persons during their NDEs or OBEs. She maintained, however, that when she actually tried to trace any genuine cases of this happening, such cases, rather like the Bermuda triangle cases, proved to be quite simply, non-existent. *Mindsight* is a direct answer to Blackmore and claims to refute her argument by having found such cases.

The authors have been able to locate 31 blind persons who report having had NDEs or OBEs. About half of this group were composed of persons who apparently had been blind from birth. Overall, the number of persons who reported having some kind of visual experience during the NDE or OBE was 25 of the 31, or 80% of the sample. Amongst those who were congenitally blind, this figure became 9 out of 14, or 64%. The book is replete with case examples describing the apparent visual experiences of these persons. But before we revise all our theories of vision, can we take these findings seriously? A major dose of scepticism is clearly justified given that those adventitiously blind persons, who later in life recover their sight, do not see as we do. Seeing is a life long skill, hardly acquired during the course of a NDE or an OBE.

Certainly, what supports scepticism is that the book is marred by the very first illustrative case the authors chose to present which they freely admit is a fictive case. (This was thought up by another researcher who apparently had intended it to be a composite representative case). Unfortunately, the authors also inadvertently include as their last case, one which they, at the time of printing, were hastily forced to add a retraction to, since it was probably fabricated. The question is, are all the cases to be found lying in-between these two, equally suspect? The question is unanswerable at the moment (although to be fair this seems

hardly likely) but the book can stand as challenge to those who are open-minded enough to look further into these claims.

Given this reservation, are the authors really claiming that the blind can see again? Partly because of the above-mentioned difficulty, they, like us, are also confronted by the limitations of what is psychophysiologically possible in acquired vision and their conclusion is both a yes and a no. This apparent contradiction is best illustrated by the comments of some of their respondents:

"It was like hearing words and not being able to understand them, but knowing they were words. And before you had never head anything. But it was something new, something that you'd not been able to attach any meaning to." (p. 42)

"It's like vision but it's not vision. .. because vision is really sharp." (p. 149)

"I feel more comfortable with the word *perceive* than *see*." (p. 151)

The review of these and the many other case histories leads the authors to conclude that the type of perception involved here, can be described as a certainty of knowing, sometimes involving a detailed visual representation of a situation, and often being accompanied by multi-sensory or synesthetic elements. For this reason they prefer to call this "transcendental awareness" or "mindsight". Naturally, the authors attempt to relate their findings to the more established findings concerning "blindsight", a term in cognitive psychology used for the purpose of describing the ability of cortically blind persons to discriminate between objects. (The existence of blindsight is assumed to mean that parallel processing occurs in vision so that as well as cortical conscious representation, a duplicate visual processing occurs at a subcortical non-conscious level.). Finally, like the philosopher Henri Bergson (who I believe was the first to suggest this), they go on to speculate that the function of the sense organs may be one of screening out irrelevant impressions and focusing consciousness on the here and now.

The question however remains what evidence is there for anything of an extrasensory or a transcendental nature being involved in mindsight? Although the book is richly illustrated by case histories, which could be taken at face value to suggest this, the authors openly admit that this aspect was the weakest part of their study and it was often not possible to locate witnesses or relevant documentation. Obviously, critics such as Blackmore will readily seize upon this to dismiss the book, but I would favor taking this material seriously and using it like other qualitative data in psychology, to design further theories and research. Its findings *can* be interpreted as being consistent with the recent ones in parapsychology (Parker 2000). Indeed, it has recently been said that NDE-research has made little or no progress in the last 25 years (Cariglia, 2000). One reason is that the NDE- and OBE- research fields have become too separated from mainstream parapsychology and cognitive psychology. This book should encourage a re-integration.

It would be easy to end the review on this note but I want to make a harder suggestion: Show this book to your colleagues in cognitive psychology and handicap research, formulate some hypotheses, and apply together for funding!

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