

JP JOURNAL OF PARAPSYCHOLOGY

Volume 79 / Number 2 Fall 2015

PARAPSYCHOLOGICAL ASSOCIATION

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We would like to thank the following persons for their work in translating abstracts for this issue of the Journal: Eberhard Bauer (German), Etzel Cardeña (Spanish) and Renaud Evrard (French)

ABSTRACTS OF PRESENTED PAPERS FROM THE 58TH ANNUAL
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LONDON, UNITED KINGDOM, JULY 16–19, 2015

[*Editor's Note*: Abstracts of papers accepted for publication in the *Journal of Parapsychology* are excluded. Abstracts are slightly edited, mostly to conform to *Journal* style.]

UFO PHENOMENON AND PSYCHOPATHOLOGY: A CASE STUDY [PA]

Jean-Michel Abrassart

The Psychosocial Model explains UFO phenomenon with the following mechanisms: simple mistakes, elaborate mistakes, hallucinations, false memories and hoaxes. This article will specifically focus on the topic of hallucinations in relation to UFO sightings. If illusions are perceptive distortions of an objective stimulus, hallucinations are by definition perceptions without any stimulus. Those cases are probably rare, but they do exist. Research in psychology has shown that the prevalence of psychopathologies is not bigger amongst UFO witnesses than the general population. Nevertheless, we also know today that people can have hallucinations, including visual hallucinations, without suffering from a psychopathology. We'll present a case study after a brief review of the literature.

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FROM JOTT TO A BASIC LAW NORMALISING THE PARANORMAL [SPR]

Mary Rose Barrington

All psychical phenomena are a challenge to realism, and jott, implicating the de-materialisation and restoration of existing articles, goes further than the materialising of a substance (or something) that returns to its source. Such phenomena demand a model tending to idealism, while not necessarily excluding the actuality of a material world.

In the model proposed here the subconscious minds of all creatures are in an oceanic network, a concept familiar to psychical researchers. The dedicated purpose of our “telepathic circuits” is to receive a constant stream of quasi-hypnotic instructions emanating from a cosmic control mechanism telling us how to promote and maintain a materialised environment, i.e., how to constitute matter in its particle state so far as it is necessary for our common purposes.

The cosmic control is an autonomic function of the oceanic mind, and its principal directive to us is to ensure the observance of strict mechanistic causality and thus safeguard moment to moment sequential consistency. This causal stability is the default mode. It can however fail, or be modified or overridden by unconscious human intention, which may or may not reflect conscious volition. The most obvious causal breakdowns occur when there is willful defaulting on environmental maintenance duties. Willful default

may entail sending and receiving private telepathic messages or, more dramatically, when we try to disrupt stability by encouraging the phenomena of physical mediumship.

We may have no desire or intention to disrupt causality and may fail in our maintenance duties because of simple fatigue or inattention; if we then happen to want something that has lapsed into potential vibrational form we shall experience jolt, i.e., find that the neglected item is not there, where it was. We may also be motivated unconsciously to “lose” an article for our own good (though it may not feel like that). When things joltle we receive urgent hypnotic commands to restore the joltled item, and if we are skillful we get a comeback, less skillful, we get a walkabout, and if quite ineffective, a flyaway.

As between normal (causal) events and extra-causal (paranormal) events, are we dealing with a difference in kind or degree? It is contended that causal and extra-causal are in fact different ends of a continuous spectrum, causal events lying under or near the apex of a probability curve while the extracausal variants are at the extremity. Lying between the two are incidents of varying probability where human volition bends the course of events mostly within the constraints of default causality.

While default causality is the mode enjoined by the cosmic control, it is a directive rather than a law. There is just one basic and unbreakable law of nature, that of probability, the most probable event always complying with default causality and therefore appearing to be invariable and inevitable; but it is neither, and paranormal events at the most improbable end of the spectrum also lie within the boundaries of probability. One effect of this law is that a period when very many incidents of extreme improbability occur, whether spontaneous, explorative, or experimental, it will be balanced out by a period of relentless default causality.

Though this model amounts to a normalisation of the paranormal, it assumes a cosmos in which the processes of mind—thought, observation, desire, volition, intention, command—control the course of material events.

The concept of mind over matter raises the usual problems of how the forces of supposedly immaterial mind impinge on the material forces that supposedly have no mind. In the proposed model the cosmos is composed of and inhabited by mindstuff, which may exist in a mind state or a matter state, like water and ice, the same substance in interchangeable states. The water, one continuous body, flows freely, while the ice, in effect, does as it is told.

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CAN RESULTS IN “EXPERIMENTAL PARAPSYCHOLOGY” BE ACCOUNTED FOR BY “QUESTIONABLE RESEARCH PRACTICES”? [PA]

Dick J. Bierman¹, James P. Spottiswoode², & Aron Bijl¹

Meta-analytic results are often cited as strong evidence of a paranormal anomaly with p -values in the range between 10^{-6} and 10^{-16} . We ran computer simulations to see if these experimental results could be explained by six applicable Questionable Research Practices (QRPs). Simulations ran in sets of the number of studies in the experimental meta-analytic database, with the sample sizes of actual experiments. Experimental results of the meta-analytic database are represented by four metrics. Two describe the dependent variable trial and mean experiment hit rates of around 31%, where 25% is expected by chance, one describes the correlation between sample size and hit rate and one describing the p -value distribution of the database. Employing a genetic algorithm (GA) to optimize the parameters describing the QRPs, the best fit was determined using a fitness function F , defined as sum of z^2 -scores for the four metrics. A good fit with the empirical database values was found using “QRP’s only.” However the simulations for that “best case” indicate an unreasonably high number of over one studies going into the file drawer for each published study and 1.47 subjects being removed in a biased way in *each* study. Also for each published study in this “best” simulation, slightly less than one study was broken off prematurely, and disappeared because the results were below chance.

We therefore restricted the parameter space to more reasonable intervals based on values QRP parameters measured in QRP studies. Using these “reasonable” regions in the QRP parameter space, an unsatisfactory best fit ($F = 10.2$, $p < .05$) was obtained where about 55% of the anomalous extra chance scoring reported in the meta-analysis could be “explained” away by the use of QRPs. Because the simulated data did still *significantly* differ from the empirical data we allowed for a “true telepathic effect” free parameter in the interval from 25% to 31%. With a true psi hit rate of 27% the fitness became $F = 1.8$ ($p = .47$), where $F = 0$ is a perfect fit and simulation and experimental data were in very good agreement.

It is concluded that meta-analytic databases may be strongly polluted by the effects of QRPs and that simulations of these QRPs in sets of experiments corresponding to the meta-analysis and having the outcomes fit to the empirical results by use of GAs may give a handle to quantitatively correct for the biases introduced by QRPs. This methodology of simulating the influence of QRPs on meta-analytic results has wide applicability outside the domain of experimental parapsychology.

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AN EXPERIMENTAL STUDY OF PHYSIOLOGICAL CONNECTEDNESS AMONG TWINS IN RELATION TO ATTACHMENT [PA]

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Parapsychological research into distant interactions between individuals seems to indicate that the bond between sender and receiver is important. The present study was designed to investigate the ostensible relationship between telepathy and attachment between twins. By applying the concept of attachment from developmental psychology, this becomes the first study in parapsychology to explore the degree of attachment between twins as a potential dependent variable relating to their apparent telepathic connection. At the current stage of evaluating a new methodology, we report the design and findings of the pilot study. From an initial pool of thirty pairs of twins, four pairs of identical twins were selected on the basis of their responses to the Exceptional Experiences Questionnaire and on the basis of the availability of both twins to take part in the study. The test procedure required each of them to alternate in the role of sender in which they were exposed to a shock or surprise stimuli and in the role of receiver in which they were physiologically monitored for their electrodermal responses (EDR). Senders were presented with altogether five stimuli, one stimulus during each of the five trials per twin session. For each trial, the stimulus was presented during a 30-second period randomly chosen from eight possible such epochs composing in total four minutes. With a further 30 seconds added to establish baselines before and after each session, this meant each session would last 5 minutes. Graphs from 19 of the useable sessions belonging to three pairs of twins were analyzed by the lead researcher (GB), who was blind to the time epochs in which the stimuli had been presented by the researcher working with the senders (AP). An independent evaluation of the EDRs from the EDR, in this study used for the receiver was carried out by the designer of the equipment. The task here was to identify a peak of the graph in the receiver's reaction which might approximately correspond to the midpoint in the period the stimulus had been presented to the sender. In four sessions out of the 19, these identifications corresponded to the actual exposure period for the shock or surprise stimulus constituting so-called “hits,” compared to the MCE = 2.375. Although this fails to reach significance, three out of these four correct placements were contributed by just one of the twins. The attachment data that twins contributed via the EEQ questionnaire indicated that all the twins in the current study seemed to experience similar high levels of attachment. This consistency in strong and close relationships meant of course there was a lack of variance as concerns the hypothesis that attachment would predict the scores. The results of the Experiences in Close Relationships-Revised (ECR) indicated that all the twins had very low scores on attachment-related anxiety and avoidance in their relationships. The profiles of twins having many hits in the telepathy exper-

iment as regards any aspects of dysfunctional attachment (anxiety and avoidance) were not significantly different from those of the others. The data provide justification for a major study using this methodology with selected pairs of twins. Some major improvements in the design were suggested. One of these involves the synchronous monitoring of the electrodermal activity for the sender as well as the receiver in order to give a precise record of the timing and the effect of the shock stimuli.

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ERNESTO DE MARTINO'S CONTRIBUTIONS TO PARAPSYCHOLOGY [PA]

Giulio Caratelli & Maria Luisa Felici

Ernesto de Martino (Napoli, 1908–Roma, 1965) was a great ethnologist, Italian historian of religions and folklorist, without any doubt a very extraordinary personality in the Italian culture life and the social sciences of the past 20th century, and a scholar marked by a wide range of cognitive interests, in particular also for the field of parapsychology, of which he had a wide knowledge.

His starting privileged source of information in this field, anyway, was the figure of the Italian scholar Ernesto Bozzano, with which furthermore de Martino had entertained at the beginning of the 1940s a short and very interesting correspondence.

In this research, therefore, it is presented shortly the parapsychological interests, rather constant, in de Martino's life, which, among other things, pointed out the great spreading of reliable paranormal phenomena, both "psychic" and physical, among the peoples of ethno-anthropological interest, with much emphasis on the perspective to study exactly in those human frames not only beliefs and mythical and rituals systems but also the possible objectivity of certain extraordinary manifestations studied scientifically by parapsychology.

In such perspective, de Martino disapproved of those aspects dominated by the ethnology which appeared to him still with a clear and old "Tylor orientation," that is belonging to a discipline privileging only the legitimate ideological aspects and tendentially denying the reality of the paranormal, without considering the importance to verify objectively, systematically and rigorously the phenomena—presumably extraordinary—that may present to its observation.

Interesting in such cognitive perspective and research are his proposal and contributions to the specific discipline he called "ethnometapsychics," considered as a science of observation and experimentation able to open new and interesting perspectives with the investigation of parapsychological phenomenology among the so called "primitive peoples."

Certainly very remarkable is his precise and personal ethno-anthropological "field research" in Southern Italy in 1957, promoted by the Parapsychology Foundation with a special and qualified interdisciplinary research group and based fundamentally on some numerous particular practices of healing and on the system of the traditional beliefs that are in connection with them, an investigation which, among others, has favourably allowed us to observe and record in detail also some clear uncommon physical effects placed in the phenomenological complex of the *poltergeist*, and more, prophetic and telepathic dreams, episodes of clairvoyance, and so on.

In this paper six sectors of de Martino's parapsychological interests are pointed out: (a) "the magic world," (b) "early interests," (c) "Ernesto de Martino and Ernesto Bozzano," (d) "further contributions," (e) the "field study," (f) "the dispute with Mircea Eliade."

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PSYCHOLOGICAL HEALTH, TRAUMA, DISSOCIATION, ABSORPTION,
AND FANTASY PRONENESS AMONG DANISH SPIRITUAL PRACTITIONERS [PA]

Etzel Cardeña¹, Sophie Reijman¹, Cathrine Lawaetz Wimmelmann², & Christian Gaden Jensen²

Groups of spiritual practitioners (P) ($n = 38$), long-term residents in a center offering spiritual courses (R) ($n = 8$), and matched control groups from a general, population sample for P (CP) ($n = 45$) and for R (CR) ($n = 14$) were compared. P had high levels of education and tended to be in a committed relationship and belong to the Danish National Church, whereas R had a lower level of education and were unlikely to be in a committed relationship or belong to the Church, suggesting social marginality. All groups completed the Brief Symptom Inventory-53 (BSI-53), a measure of psychological distress. P did not differ from the control groups on the Global Severity scale (GSI) or the other subscales of the BSI-53 except for scoring lower on the phobic anxiety subscale. In contrast, R scored higher on the GSI and most BSI-53 subscales than P and the control groups, and published norms for Danish and US populations. P and R did not differ on the subscales of somatization or interpersonal sensitivity. These two groups also filled out measures of dissociation, general and severe trauma, absorption, and fantasy proneness. R scored higher than P on dissociation, severe trauma, and absorption. The GSI correlated with dissociation, a history of serious trauma and (weakly) with absorption, but not with general trauma or fantasy-proneness. Overall, the results do not support the view that most spiritual practitioners have higher psychological distress or are socially marginal, although there is a subset of more troubled individuals.

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COMPARATIVE STUDY ON PHENOMENOLOGICAL ASPECTS IN RECURRENT AND SHARED
APPARITIONAL EXPERIENCES [PA]

Marcelo Eremián

Experiences of encounters with ghosts and other apparitions have sparked interest in almost every culture since ancient times, persisting to this day along with related beliefs, myths, and diverse theories. These experiences have created or extended both cognitive and emotional questions in the percipients, as well as eliciting many different reactions in their social environments. Since the late 19th century, the scientific study of anomalous experiences has been based solely on the investigation of spontaneous cases. In contrast, the particular emphasis of this paper is on the analysis of several cases of "collective and recurrent" apparitional experiences in a public context. This is completely different from the most frequently reported studies, and it is based on the model and approach proposed by Irwin (1994), who explored the phenomenology of apparitional experiences in terms of form, frequency, duration, the qualities of the apparitional figures, the circumstances of occurrence, and emotional reactions to the apparitions. The first two cases discussed here developed at a Health Centre located in Buenos Aires, Argentina, where medical staff and residents pointed out diverse experiences of an anomalous nature. Two other reports came from the Buenos Aires National Library, where librarians and employees claimed to have witnessed apparitions and other unusual events. In all four cases, we find well-educated individuals who, according to their own statements, were involuntary witnesses of shared apparitional experiences.

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A MIXED METHODS EXPLORATORY STUDY OF ALLEGED TELEPATHIC INTERSPECIES
COMMUNICATION WITH DOMESTIC DOGS (*CANIS LUPUS FAMILIARIS*) [SPR]

Deborah L. Erickson

This research explored the proposition that alleged telepathic interspecies communication, or human telepathic connection to animals, may be possible by learning simple contemplative/meditative techniques to quiet the mind and shift consciousness. Telepathy is a controversial topic not accepted by mainstream science, despite multiple research efforts over many years that have shown positive effects. This research is based on the hypothesis that the process to shift cognition into a pattern similar to daydreaming, or to the hypnagogic and hypnopompic states on the edge of sleep, may allow for a consciousness alteration that may enable telepathy.

The research used a mixed-methods approach and measured, via a quantitative rating scale and qualitative comments, the accuracy of the information received during the telepathic animal communication session as judged by the guardian. The research explored the following questions: When a telepathic animal communication session was conducted with a domestic dog (*Canis lupis familiaris*), was accurate information received by the researcher for quantitative questions as judged by the human guardian on Likert Scale of 1 (entirely inaccurate) to 6 (entirely accurate). What qualitative comments did the human guardian have for other information received by the researcher related to the questions posed by the guardian? What was the overall accuracy rating as judged by the human guardians? And finally, what common issues were raised by the guardians' questions and comments?

The research completed 50 alleged telepathic animal communication sessions conducted by the researcher over the telephone with a human guardian and a domestic canine. All guardians and their canines were physically located in another city or state from the researcher. Five standard questions were asked of the animal, three of which were quantitative and rated by the guardian; the remainder of the session was devoted to the guardian's questions for their animal. The five standard questions were: (a) How many humans do you live with? (b) Have you lived with your current guardian since you were young? (c) What is your favorite food or treat(s) you get now? (d) What do you like most about your life? and (e) What would you like to change about your life?

Participants were recruited via email from the networks of the researcher. Recipients of the recruiting email were encouraged to forward to other canine guardians whom they thought might have an interest. This forwarding resulted in an overwhelming response to the researcher; the research was originally planned for 20 sessions but expanded to 50 sessions when more than 130 responses were received to the recruitment email, which indicated an extremely high level of interest in this type of research.

Human guardians were required to be of legal age, to speak and read English, have an email account/access to the Internet, and be able to send an electronic photo via email. Each animal participant was a domestic canine at least one year old that had lived with the guardian for at least one year. They were an almost even gender split with 26 male and 24 female canines. The canine ages ranged from 1.5 to 14 years old, with an average age of 7.6 years old. The average number of years with the guardian was 6.1 years. There were 27 pure breed canines and 23 were mixes of one or more breeds. (For purposes of this research, a pure breed is defined as identified by the guardian with only one breed description, rather than multiple breeds or "mix" in the description.) There were a total of 35 breeds or mixed breeds represented in the canine participant pool.

Fifty sessions were conducted between May 3, 2013, and June 22, 2013. Of the 50 sessions, 49 were conducted with female guardians and only one male guardian. The researcher was located in Kalama, WA, USA—all guardians were in a different city/state from the researcher and represented 36 different cities. The total time for all sessions was 26.5 hours as recorded by the conference call service. This did not include researcher's preparation time of a minimum of 15 minutes before each session, which represents another 12.5 hours, resulting in 39 total hours for the research. The shortest session was 16 minutes, and the longest was 60 minutes, with an overall average of 32 minutes for all sessions.

All sessions were recorded via a conference call service and the recording was available to the guardian after the session. The researcher transferred all questions asked and responses allegedly received telepathically from the animal during the session to an online survey form. The guardian judged the accuracy of the information received by the researcher on the survey form after the communication session was completed, independent of further contact with the researcher. The average overall accuracy rating for all 50 sessions was 5.12, indicating a possibility that accurate information was received by a human from a canine via a telepathic human-canine connection. In a summary breakdown of ratings, 48 sessions (96%) were rated by the guardian as a 4 (moderately accurate) to 6 (entirely accurate) and more than a third of the sessions (41, or 82%) received a rating of 5 or 6. An analysis of the qualitative data indicated several common canine issues, such as:

- canines reactive to other dogs in public
- canines reactive to strangers entering their home
- conflicts between canines in a multi-dog household
- affection between canines in a multi-dog household
- physical health issues, and
- emotional/spiritual support issues.

The results of this study contribute to the body of research into animal cognition and consciousness. The findings further contribute to inter-animal empathy studies as well as the wealth of literature that supports the human-animal bond. Further research is needed to explore additional nuances of this category of parapsychology research.

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THE PARADIGMATIC BREAKDOWN: A MODEL TO DEFINE THE DYNAMICS OF EXCEPTIONAL EXPERIENCES [PA]

Renaud Evrard

This article is another attempt to define exceptional experiences (ExE) and the epistemological frameworks in which to categorize them. The model proposed here is not really original: it is rather at a crossroad of ideas discussed independently by many authors. Its aim is to define ExE without any reference to a “paranormal reality”—but without ruling it out—while improving the understanding of their dynamics.

A first important distinction required for this model is the one between “reality” and the “real.” Reality is *always* a model of the real. Psychiatrist John Mack spoke of “ontological shock/clash” as well as “ontological resistance” to describe common responses to ExEs. Mack referred to a constructivist approach of knowledge, derived from Kuhn’s notion of “paradigm,” for which individuals order their knowledge through “organizing psychological systems” usually called “worldviews.” The pattern identified by Mack in his study of abduction experiences can be extended to all ExEs. This is what provides the *Model of the paradigmatic breakdown* by describing what happens when an experience (*local variable*) is not or hardly inscribed in a personal worldview (*global variable*).

The concept of dissonance is also very useful to describe the dynamics of ExEs, contrary of the notion of “paranormal” which is full of implicit interpretations. As we can’t say if all ExEs overlap with what parasciences call “spontaneous cases,” they must be treated by focusing on their singularity and subjective appraisal. Rather than prematurely applying anomalistic categories, it is necessary to remember that the paranormal is not the same for everyone. In addition to various forms of intrapersonal dissonance, we have to consider that the paranormal attribution is also rarely immediately, and even more rarely permanently, applied on the experience.

The logic at work in the ExE is not the one of the *deviation from a norm*, but of the *exception to a rule*, because a norm refers to an *objective law* while a rule refers to a *subjective law*. ExE dynamics may only be felt from a certain degree of dissonance, when the deviation becomes breakage. Talking about “paradigmatic breakdown” supports the idea that what happens with ExE is a cognitive process similar to what happens in the formation of the scientific mind, proceeding by deconstruction and reconstruction thanks to a dialogue between assumptions and empirical observations.

Several convergent models have been developed independently to account for the psychological responses to a confrontation with the “paranormal.” We will briefly present three of them: first, the initial model of Rhea White, then the “hermit crab syndrome” described by the Belgian psychologist François Mathijsen, and finally the model of the French sociologist Jean-Bruno Renard.

In all cases, the ExE places the individual in a state of cognitive and emotional dissonance in which the experience shifts his/her worldview. But not all ExEs are transformative because they only have the *potential* to alter or subvert the life of an individual. White qualified ExEs as “pre-paradigmatic” as they are only transformative if the individual decides to invest meaning into it. For brevity, the multiple clinical and epistemological implications of such a model will only be sketched.

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SIX FUNCTIONS OF HETERODOXY: EXAMPLES FROM THE INTERACTION BETWEEN PSYCHOLOGY AND PARAPSYCHOLOGY [PA]

Renaud Evrard

The intersection between psychology and psychical research attracts the interest of many historians. Most of them have observed that this fertile intersection was gradually replaced by a *demarcation* between an *official orthodox scientific psychology* and a *marginal heterodox pseudoscientific parapsychology*. Unfortunately, many historians described this demarcation as an irreversible fact, a sign of scientific progress. I analyze this demarcation through a symmetrical approach of the history of parapsychology and I suggest a tentative model of six functions of heterodoxy. Three of them are said “negative” and the three other “positive,” and they all are more or less “progressive” or “regressive.” They are applied on three aspects of science: *knowledge, practices, and domains*.

These six functions are: (a) *Scarecrow*: Several historians already suggest that creating such a heterodoxy was a great help in enhancing the recognition and professionalization of modern psychology. Methodological pitfalls of parapsychology served as an inverted model for psychology. (b) *Control group*: For some counteradvocates, the results of parapsychologists can't be positive, therefore all the successes indicate the existence of gaps to fill. Methodological and analytical requirements always increased and allowed parapsychological controversies to advance science as a whole. (c) *Sweep vehicle*: Following examples like lucid dreams or other anomalous experiences, it seems that parapsychology retrieves the “objects” that psychology doesn't want or can't handle, until it is able to do so. Heterodoxy seems to be the marginal laboratory installed in the border areas, where it intermingles rejected and premature knowledge. (d) *Subversion*: Among its positive functions, the heterodoxy would be there to challenge individuals, to test the supposed acquired knowledge, and to destabilize the dogmas in order to encourage scientific progress. Many parapsychological issues are now hot topics in psychology and science as a whole, like decline or experimenters effects. (e) *Touchstone*: Research in heterodox areas is relevant to test the strengths and shortcomings of available scientific methods from other orthodox fields. At a personal level too, to be confronted with heterodoxy would be an “excellent training,” a touchstone, for the formation of scientific thought. (f) *Pathfinder*: The most progressive function of heterodoxy would not situate parapsychology as a field of knowledge as such, but as the front line of the orthodox domain, as the scientific study of all anomalies.

Few of these functions were already addressed by historians, so we also have to illustrate them by contemporary examples from the current interactions of psychology and parapsychology. These contemporary illustrations suggest that these processes of “boundary-work” are still at work, implying a contradiction with the idea of an indisputable and permanent epistemological separation between these two disciplines.

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YOGA: SPIRITUAL EVOLUTION AND EXTRAORDINARY POWERS [PA]

Maria Luisa Felici & Giulio Caratelli

With the Sanskrit word “yoga,” in the first Indian religions, it was indicated the ascetic and meditative practice. The word “yoga” means union. This term appears for the first time in the Katha Upanishad which goes back to about the 5th century before Christ. Through the constant practice of yoga it is possible to obtain the domain on all spiritual forces, for the achievement of several aims like interior peace, supreme knowledge, the liberation from the chains of the world and of the matter and the union to the Supreme Being.

The yoga doctrine represents one of the six systems of the Hindu religious philosophy and each one is the result of the elaboration of a wide philosophical literature. One of these inspires to the classic yoga system presented by Patanjali in the Yoga Sutras.

The yoga defined by Patanjali is also called the yoga of the eight steps, necessary to achieve realization and truth, and a yogi or yogin is the disciple following such discipline. The yoga philosophy puts as background above all the knowledge of the nadis and chakras. The former are very subtle channels present in the whole human body. Inside the nadis an energy, the prana, flows, but generally it is not consciously perceived. The point in which two or more nadis join generates a centre of cosmic energy called a chakra.

In the human body there are 7 main chakras, 21 middle chakras and 117 minor chakras. The seven main chakras are aligned along an axis, from the coccyx to the head and are situated in correspondence of important organs or plexus. The main chakras are, from bottom to the top: muladhara, swadhistana, manipura, anahata, vishudda, ajna or trikuti, sahasrara. The middle and minor chakras are situated in correspondence of points of the human body of minor importance as articulations, glands, and so on.

The purification from feelings of rage, and hate, related to the material world promotes the opening of the chakras and favors the development of such positive characteristics, as humility, sincerity, empathy, and others, and in some cases, of the siddhis. So the yogi may achieve one or more siddhis, as, among others: a very light or very heavy body; a little or great body; control of the passions and the emotions; clairvoyance; control of the mind; uplift in the air (levitation); absence of hunger or thirst.

It must be remarked, anyway, that the gurus, yogis and yoga disciples do not assign any particular material and spiritual value to the siddhis, which, on the contrary, are considered the greatest obstacles towards the realization and quest for God. Besides, the siddhis have never to be used for egoistic aims and to damage other human beings.

Since the 1960s, parapsychological research has taken into consideration the possibility to study the effect of the meditation practice, which seems to be the way leading to siddhis, to do a comparison with some paranormal phenomena.

The researchers who have carried out investigations in such directions basically took the task to verify if those claims about psychic awareness could be verified in controlled laboratory conditions, examining with proper experimental designs the possible increase of psi performance correlated to increased levels of meditation practice.

What we have acquired so far on the whole in parapsychological research justifies, without a doubt, the great relevance of the topic of meditation and justifies the need for more in depth research and studies in such a promising field.

The obtained results indicate that age and years of practice of meditation correlate significantly with the psi scores (ESP and PK), giving therefore a reliable support to the Yogic and also Buddhist teachings that state that such abilities may arise as a result of meditation practice.

As far as Italy is concerned, true experimental research in this field has not been carried out; however, some reflections about yoga have put its great relevance constantly in evidence, in particular that its supernormal “powers” are means for better exploration and comprehension of the human personality and therefore that the cultural heritage represented by yoga may bring new knowledge both for psychology and parapsychology.

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INDIVIDUAL DIFFERENCES IN PSYCHOSOCIAL AND NEUROLOGICAL PREDICTORS OF SURVEILLANCE DETECTION VIA EXTRASENSORY MEANS [PA]

Ross Friday & David Luke

Many people have turned to see someone behind them due to a “sense” they were being watched. Others have “inexplicably” become aware of a conversation involving them, despite it being inaudible. There are many theoretical explanations for these events, one of which is that extrasensory awareness is evolutionarily advantageous, and therefore may have developed during an era in which danger was ever-present with survival depending on such capabilities. Evidence supporting the existence of extrasensory surveillance detection would have implications beyond purely scientific interest, yet the phenomena remains under-researched and may benefit from a fresh approach. A new study being conducted at the University of Greenwich is examining not only the possible existence of “psychic” detection—but also which psychosocial and neurological factors may predict this ability, as well as the belief in such phenomena.

The ability to detect attention has previously been restricted to the psychic staring effect, also known as *scopaesthesia*—a phenomenon in which people respond via nonconventional means to being the subject of another person’s gaze (Sheldrake, 2003). However this new investigation will further the research by incorporating the sense of being *heard* as well as seen, which we call *acoustasthesia*. The existence of these abilities will be gauged by the accuracy of participants’ reports of being watched and/or listened to, differences in their behaviour during surveillance, and physiological reactions determined by electrodermal activity (EDA) which measures the electrical conductance of the participant’s skin to indicate arousal. All participants will have the opportunity to detect being watched and/or listened to via all of these methods in a randomly assigned order.

During the experiment, participants are to be subjected to varying re-occurring conditions (a) not under any surveillance, (b) being watched, (c) being listened to, and (d) being watched and listened to. Participants will not be (conventionally) made aware that all of these conditions will occur, when they will happen, and if all the variations will take place. However they will be asked to report when they “feel” they are being watched and/or listened to so that these reports can be compared against actual periods of surveillance to determine reporting accuracy. Results will also be analysed to examine whether participants exhibit a physiological response to surveillance, and if any behavioural differences coincide with being watched and/or listened to.

Psychosocial and neurological factors which may be related to surveillance detection will also be investigated, and so participants’ paranormal belief, temporal lobe lability, and levels of schizotypy will be measured as both predictors of extrasensory ability and as possible explanations for reported anomalous experiences. This original and unique fusion of parapsychological, anomalistic, neuroscientific, and social factors represents an essential and progressive step in understanding possible extrasensory ability, as well as its psychosocial and neurological relationships. This paper presents planned research which will begin soon at the University of Greenwich.

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METHODS USED IN STUDYING THE PHYSICAL MEDIUMSHIP OF INDRIDI INDRIDASON—
QUANTITATIVE ANALYSIS OF HIS PHENOMENA AND HOW THEY DIFFERED
FROM THOSE OF D. D. HOME AND RUDI SCHNEIDER [SPR]

Erlendur Haraldsson

The Experimental Society was founded by academics in Reykjavik to investigate the phenomena around Indridi Indridason. He (1883–1912) became a medium in 1904 when he accidentally joined the first sitter group in the country. The table started moving violently, he became afraid and wanted to leave. Automatic writing and trance phenomena followed. Detailed records were kept of Indridi's séances and the phenomena that were observed, such as levitations of objects and their movements in midair, some of them being musical instruments that were played upon at the same time by invisible forces. Sometimes the medium levitated, voices were frequently heard round Indridi who often sang, sometimes two together. Light phenomena of various forms and colors were seen. Sometimes a human figure was seen in a "pillar" of nebulous light, near as well away from the medium.

The Experimental Society made a contract with Indridi that his séances were only held for the Society. They were held in darkness or near-darkness and Indridi accepted any controls and precautions the Society requested. During violent poltergeist attacks many phenomena occurred in full light such as man-high levitations when he floated horizontal in midair.

At the séances one or two sitters held his hands and controlled his feet. In 1908 the highly skeptical Dr. Gudmundur Hannesson attended the sittings for several months. He imposed stricter controls, a tightly knit net separated Indridi and his "watchman" from the sitters. The net was fastened to the walls, roof and floor, with only a small slit allowing Hannesson and his assistant to slip through. The phenomena continued outside the net. Then he held sittings in his home, where Indridi had never been, where no music played and only with a few sitters he selected. Indridi had to undress and put on clothes belonging to Hannesson. The phenomena continued.

Protocols were kept of each sitting of the Experimental Society, and 58 of them still exist in two books along with various notes, totaling 300 handwritten pages. These protocols are comparable to those written by William Crookes and the Earl of Dunraven on D. D. Home's sittings. In 47 of Indridi's ordinary sittings 456 phenomena are mentioned, some described as occurring frequently. This amounts to at least 10 phenomena happening per sitting, sometimes over 40 were recorded. Voices of deceased or unknown persons were recorded in 77% of the ordinary sittings. A few spoke in a language not known to the medium: French, Norwegian, Danish, and Dutch. Next in frequency were inexplicable movements of objects occurring at 55% of the sittings. Raps or knocks were common (in 38% of the sittings), some of them made on demand. Also frequent was the experience of being touched or pulled as if by an invisible hand (36%). Light phenomena were common (28%) and came in different colors and shapes.

Analysis of the frequencies of the various phenomena among Indridi, D.D. Home and Rudi Schneider—about whom we have excellent detailed records—reveals a considerable difference.

There were also other differences, below a few of those between Indridi and Home:

Control personalities played important role in Indridi's mediumship, but little if any with Home.

Indridi's séances were held in darkness or near-darkness but phenomena also occurred spontaneously in full light. Home's sittings were conducted in normal light. In this respect Home was unique among mediums.

Indridi was in trance during his sittings and it usually took him a long time to wake up to normal consciousness. Home was sometimes in trance but often not, or in a very light trance.

Communications with deceased persons/spirits were much easier with Indridi, and mostly through trance speech, direct voice, or direct or automatic writing. With Home, communications were primarily

through alphabet (planchette) or raps, seldom through trance speech and rarely through direct voice phenomena.

With Home, communications or messages were short and telegram-style. They were generally much longer with Indridi and played a greater role. Failed séances, when nothing happened, were seldom with Indridi and more common with Home.

There was a period of violent poltergeist assaults with Indridi, but none with Home although undesirable influences are mentioned.

There were several cases of speaking in foreign languages with Indridi, but not with Home to our knowledge.

Indridi's mediumship lasted for five years (1904–1909), Home's for 25 (1851–1876). Indridi died 28 years old and Home reached the age of 53.

Contemporary reports about Indridi were published in Icelandic and Danish and reports on him presented at the first international conferences on psychical research held in Copenhagen and Warsaw.

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DISCUSSION ON THE METHODOLOGY OF WATER CRYSTAL FORMATION AS A DETECTION SYSTEM FOR PSI [PA]

Hideyuki Kokubo¹, Yasuyuki Nemoto², & Kimiko Kawano¹

[Introduction] Liquid water is an important matter for all creatures on the earth. Practitioners such as qigong masters and healers often claim that liquid water can react against psi or ki (qi). One such claim is that the form of a water crystal can be changed by human intent. However, there are few scientific studies that have tested this claim. In the present study, the authors have improved the methodology of earlier experiments and tried to construct a new experimental system that has less ambiguity than previous systems. **[Issue]** The authors considered that the methodology should be improved regarding the following points: the viewpoint of judgment is changed from an aesthetic factor to a morphological factor, the task of the experiment is adjusted to judgment, equalization of the conditions of crystal formation by use of paired experimental and control samples, the estimation of the extent of crystal formation by blank tests, and the complete survey of all photographs. **[Hypothesis]** If an operator gives his/her intent to an experimental sample of water, aiming to form hexagon crystals, the extent of hexagonal crystals formed will be different between experimental and control water samples. **[Methods]** The operator was S017 (a 47-year-old female) who was an expert healer but did not have any experience in water crystal formation tests. Bottled purified water (distilled water, 500 mL) was used for the experimental and control samples and two pairs were prepared; each pair used two plastic bottles. Moreover, a blank test (without the operator) was done one day before each main test. Fifty photographs were taken of the water samples prepared from each one bottle. So for each main test and each blank test, a total of 200 photos were taken for the samples prepared from the four bottles (two pairs of experimental and control sample bottles). The photographs were rated from a morphological viewpoint regarding the presence of water crystals by 18 to 20 students. The present study was done by a double-blind method. **[Results]** The number of photographs that included hexagonal crystals was not significant in the blank tests, while there was a significant difference in the number for the second main test ($p = .0095$, Fisher's exact test, two tails). **[Discussion and Conclusion]** The authors constructed a new experimental system considering the extent of natural fluctuation of crystal formation, and they succeeded in obtaining data which were less ambiguous than those of the conventional method. The present study does not deny a possibility that water crystal formation can be affected by intent. However, this possibility should be reconfirmed by more experiments, and the extent of natural fluctuation of the system should be estimated with sufficient accuracy.

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THE ALIEN IN THE FOREST OR WHEN TEMPORAL CONTEXT DOMINATES PERCEPTION [PA]

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Some German huntsmen came up with pictures taken from a wildlife camera and showing a strange humanoid-like object of about 10 cm size. The huntswoman who got in touch with us reported that the regular visit of a sample of wild boars stopped immediately after the occurrence of this strange object. She further emphasized that she and her colleagues had much experience with forest wildlife and with pictures from wildlife cameras, that they had examined and discussed these pictures extensively—also with other colleagues—and that all of them agreed that this object could not be a normal animal and that they also have taken paranormal explanations into account.

After a re-examination of the pictures we found a more plausible conventional explanation.

This case study is an interesting real-world example of our general perceptual problem: The sensory information available by our senses is a priori incomplete and ambiguous. We need to weight it with information from other sources in order to construct stable and reliable percepts. We summarize them in the following:

Memory content on a very long time scale: Faces are the earliest, most frequent, and the most important objects to look at in our life.

Social context on an intermediate time scale: influence of current media coverage (e.g., the report about a 13 cm large mummy, found in the Mexican Atacama desert about 2 months before the occurrence of the strange object).

Narrative factors on a short time scale: observed changes in the behaviour of wild boar before and after the occurrence of the strange object

Spatial context: Wildlife cameras are supposed to make pictures of wild animals. The probability to collect pictures of wild animals is thus considerably larger than that of aliens.

In summary, perceptual interpretations seem to depend on (a) the quality of the available sensory information and (b) available endogenous (memory, beliefs) and exogenous (spatial) context information. A conventional animal interpretation was obviously not available to the huntsmen and therefore the factors 1–3 dominated their perceptual interpretation.

Perceptual interpretations result from weighted (Bayesian) probabilities related to sensory input and to memorized perceptual experiences. This is obvious in the current case study, but it is probably also true but most often less obvious in our everyday life. If the sensory information is ambiguous or of low quality, perceptual interpretations can get paranormal, like in the current case. In some sense we are comparable to the inhabitants of Plato's cave but our perceptual system works well enough not to notice this.

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THE CORRELATION-MATRIX METHOD (CMM)—A NEW LIGHT UPON THE REPEATABILITY PROBLEM OF PARAPSYCHOLOGY [PA]

Walter von Lucadou

On the basis of the Model of Pragmatic Information (MPI) and Generalised Quantum Theory (GQT) an experimental method (CMM) has been developed in which the well-known decline effect of parapsychological experiments and their problem of repeatability are at least partially avoided by circumventing the nontransmission axiom (NT) of GQT due to a correlationmatrix technique. With this method many psychological variables are measured simultaneously before the start of a PK experiment and afterwards they are correlated with many physical variables of a physical random process which are also measured simultaneously during the PK experiment. This is done in two different settings, namely, with feedback and without feedback (control). Only the number of (significant) correlations between psychological variables and physical variables of the PK experiment are counted and compared with controls (runs without feedback or runs without subjects). Five independent studies support the assumptions of MPI and GQT that psi is no signal but a nonlocal entanglement correlation. It is argued that the results of many previous psi experiments which started from the classical Rhinean signal-model can be understood along the outlines of CMM.

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AT THE FRONTIERS OF KNOWLEDGE: A NEW GERMAN HANDBOOK OF SCIENTIFIC ANOMALISTICS [PA]

Gerhard Mayer

The field of present-day anomalistics is dealing with a wide range of topics and specific questions that are controversial, or at least difficult to access, both due to theoretical and methodical reasons. Therefore, these topics are mostly excluded from mainstream science. They include extraordinary experiences of everyday life (e.g. near death experiences or crisis telepathy), altered states of consciousness (like ecstasy or religious trance), unexplained natural phenomena (e.g. ball lightning or mysterious Earth sounds), complex phenomena and other events of unclear or disputed origin (e.g. ghost apparitions, crop circles or UFO sightings) or even controversial cultural practices (ranging from astrology, alternative techniques of diagnosis and healing, to dowsing)—all in all phenomena and experiences at the borders of our seemingly well-grounded reality.

A new German handbook, which is published on behalf of the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP) [Institute for Frontier Areas of Psychology and Mental Health] in Freiburg, Germany and the Gesellschaft für Anomalistik e.V. [Society of Anomalistics] and edited by Gerhard Mayer, Michael Schetsche, Ina Schmied-Knittel, Dieter Vaitl (all IGPP members) is devoted to the broad research field of anomalistics. The purpose of the volume is to give a review of the research approaches, explanatory models, and methods of anomalistics, as well as a presentation of the most important fields of research with its particular issues in a concise manner. The underlying perspective of the book is based on the paradigm of *reflexive anomalistics* which can be characterized as follows: Being aware of (a) the epistemic features of the phenomena under research, (b) the methodological problems of scientific investigation related to these features as well as (c) the areas of tension between subjective evidence, scientific proof and social discourse—features which characterize this research field—and taking these factors systematically into account.

The anthology is supposed to fill the lack of a basic handbook regarding the topic of anomalistics in the German language, and to give as well an overview of the most important anomalistic fields of work; to raise thereby the public and scientific awareness for this research field in general; to point out and to discuss the methodological and theoretical problems of anomalistics in a concise manner; to set methodical standards for scientific anomalistics of future investigations.

The volume is aiming at a *broad* academic audience, and, furthermore, at lay people who are interested in the research fields and broader issues of anomalistics in general. It is divided into three parts: (a) Historical Development and Theoretical Debates (7 chapters), (b) Fields of Research (22 chapters), and (c)

Methodology and Methods (6 chapters). In addition, it includes an introductory chapter as well as a subject index.

The *Handbook* has about 500 pages. In total, 33 authors from different disciplinary areas (psychology, psychotherapy, sociology, physics, medicine, neurosciences, biology, chemistry, philosophy, theory of science, ethnology, history, science of religion) have contributed to this volume. The *Handbook* covers fields of research like altered states of consciousness, astrology, crop circles, precognitive dreams, near-death experiences, medical anomalies, experimental psi research, poltergeist experiences, UFO sightings, among others. The volume *An den Grenzen der Erkenntnis. Handbuch der Wissenschaftlichen Anomalistik* [At the Frontiers of Knowledge. Handbook of Scientific Anomalistics] is the first book of its kind published in the German language.

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PREVIEW OF THE ONLINE ENCYCLOPEDIA THAT FORMS PART OF THE BUCKMASTER PROJECT [SPR]

Robert McLuhan

I propose to take the opportunity of the July Conference to offer a preview of the online encyclopedia that we are working on as part of the Buckmaster project.

As the first stage in the planned “soft launch,” Council members will have viewed progress in late May or early June, by which time the main elements should be in place. Their feedback can be incorporated into the resource, which by July should have around 120 entries and will be sufficiently advanced for it to be introduced to the wider research community, prior to launching to the general public in October.

A 5-minute preface about the genesis of the Buckmaster project, and the aims of the encyclopedia in particular, will be followed by a 15-minute live tour, explaining the basic layout and navigation, describing the different sections (articles, case studies, lists, analysis, original reports, etc.) and showing some examples of entries. The discussion and editing section will also be explained, and the audience will be encouraged to start using it. This will leave 10 minutes for questions and general discussion.

It will be invaluable to have the opportunity to address the research community directly. Some conference visitors will have already written articles for the resource, and seeing it in action should stimulate more people to offer to contribute, and/or to get involved in the editing and improvement of existing articles. The feedback will also be helpful to provide any amendments that may prove necessary.

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METHODOLOGICAL ISSUES OF RESEARCH IN THE FIELD OF PHYSICAL MEDIUMISM — GENERAL CONSIDERATIONS TRIGGERED BY THE CASE OF KAI MUEGGE [SPR]

Peter Mulacz

The history of physical mediumism is—to an overwhelming extent—the history of fraud by cheating mediums. However, *it is not the role of the parapsychologist to explain how a medium has possibly faked phenomena*, yet the task of the parapsychologist is to study “genuine” phenomena and in order to be able to do so should undertake all possible state-of-the-art measures to secure the investigation against cheating and fraud.

To do so, it is necessary that all arrangements are in the hands of the parapsychological researcher.

Otherwise the parapsychologist is automatically restricted to the role of a passive observer because he cannot actively impose the control conditions he considers necessary and, even worse, his investigation will be obstructed by the conditions imposed on them by the medium or the circle leader as the medium's mouthpiece. The loss of control on the side of the investigators puts an end to any approach claiming to be a scientific one. This is the core problem in a setting where all arrangements are in the hands of individuals allegedly on "the other side," which means in practice that they are dictated by the medium. Permitting friendly ties between the investigators and the medium (fraternisation) aggravates this problem: It becomes difficult to tighten the control conditions as much as necessary. Particularly attending séances at home circles has but little value; *scientific séances must occur under laboratory conditions where the investigators are in control.*

State-of-the-art is videotaping under infrared illumination permitting séances to be held in the dark. Yet this is not a regimen curing everything and there are many details to be observed.

A continuous dimmed red light illumination should be used with the emphasis on "continuous" (as opposed to Mügge, who decides when to switch the red light on and off). Schrenck-Notzing was able to have his mediums get accustomed to the red light hence there is no reason why a medium nowadays should refuse it.

Moreover, there is an abundance of ideas, hints, and instructions in the older parapsychological literature as to how to prevent mediums from cheating. A cane chair should be used, the sounds of which would give the medium away if he moves around (Grunewald). Schrenck-Notzing, in his experiments with Stanisława Popielska, used a special "séance garment," a one-piece jumpsuit with gloves sewn onto the sleeves and a mesh hood covering the head. The mesh keeps regurgitated mock ectoplasm within the hood, while genuine ectoplasm is thought to be able to penetrate the mesh and appear outside of the hood. Karl Krall invented an electrical control apparatus, which was used in Schrenck-Notzing's laboratory and is similar to the apparatus built by Amereller for Harry Price. These are only a few examples.

In case a medium does not display any sign of preparedness to cooperate and to accept strict control conditions (which in case of a fraudulent medium is only understandable from his point of view) it is necessary to abort the investigation.

Finally, one needs to distinguish between deliberate fraud that is planned well in advance on one hand and "unconscious" fraud during trance, so-called "mixed mediumship," on the other. An example of the latter is Eusapia Palladino, who clearly stated that during her trance the urge to produce the phenomena was so strong that unless her extremities were controlled by the sitters she would rather use *them* instead of the obviously more demanding production of ectoplasmatic limbs. Mügge's case is quite different from that of Palladino; like the historic case of the "flower medium" Anna Rothe, he features premeditated action undertaken prior to presenting "phenomena" later during the séance. Rothe was observed buying flowers from the market that would later "rain" from the ceiling as apports during the séance. Subsequently, she was put on trial and convicted of fraud. In Mügge's case, we have the fake cobwebs. *Where conscious and deliberate fraud occurs it is absurd to speculate whether some of the ostensible phenomena might perhaps be genuinely paranormal* (although the desire of some disappointed observers "to save what can be saved" is psychologically understandable) and it is a waste of resources—time as well as money—to continue investigations of such pseudo-mediums.

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"EXTRAORDINARY EVIDENCE" VERSUS "SIMILAR FACT EVIDENCE": PROVING THE OCCURRENCE OF PSI OUTSIDE THE LABORATORY [SPR]

Alan Murdie

Despite extensive evidence from surveys and individual reports of the occurrence of psi phenomena beyond the laboratory in the wider world, such evidence is often dismissed as anecdotal. One justification provided

for such sceptical rejection is that “extraordinary claims require extraordinary evidence” (Shermer, 1997).

Determining what may be considered “extraordinary evidence” is not a scientific exercise but a philosophical and social process, and it appears that this expression is used primarily as a skeptical sound bite in the context of psychical research and parapsychology, rather than any working principle for the analysis of data.

In legal terms, the courts in Britain, the Commonwealth and the United States do not recognise a concept of “extraordinary evidence,” which is a test which involves subjective judgment. What seems extraordinary to one person may be depressingly familiar to another more knowledgeable and experienced person and is likely to change with time (Salmon, 1974). Furthermore, merely to state that a claim or evidence is “extraordinary” does not provide a practical approach to assessing facts.

From a legal perspective, either there is sufficient evidence to prove a fact or there is not. However, the courts do recognize that the more unlikely an alleged event, the stronger the evidence has to be, expressed in terms of the probability or likelihood of an event occurring. Rather than shunning of so-called anecdotal testimony, the courts accept that collections of what may appear to be isolated facts or reports, emerging from the testimony of different witnesses, or from forensic traces, can constitute cogent proof to a standard beyond reasonable doubt.

Since 1894 across much of the English-speaking world, a principle known as similar fact evidence has been applied when proving the commission of serious crimes and offences (Makin, 1894). Similar fact evidence enables separated collections of isolated testimony to be taken together to act as cogent proof of guilt. The similar fact approach provides “a process of thought which an entirely rational, objective and fair-minded person might, depending on the facts, follow” (Glaidsdale, 1973) including when assessing disputed scientific claims.

Similar fact evidence recognises that human behaviour follows patterns. In particular, similar fact analysis often plays an important part in securing convictions in serial homicide cases where there are often no living witnesses except the killer. Without a confession there may only be a collection of separated physical objects or traces, records and some isolated observations, or records of convictions for earlier crimes.

Collections evidence—whether from individual eye witnesses or not—which repeatedly reveal such consistent patterns may be admissible as proof of guilt or to rebut a defence such as accident or error. Treated alone, circumstantial pieces of evidence or events may not amount to sufficient proof in themselves—they may all be open to reasonable doubt. However, when all are taken together they may constitute powerful proof of guilt.

In cases of serial sex offenders, a single complaint from a victim of a sexual offence, particularly if it is from a young child, may not be considered sufficiently credible to sustain a conviction. However, when there is a collection of identical or similar complaints made by a number of different victims against the same individual, this can count as very powerful evidence in law. In similar fact cases, it has long been observed that offenders may display characteristic patterns, almost a personal “signature” or “hallmark” or modus operandi which identifies, them and no other, as the guilty party to an evidential standard beyond reasonable doubt. From a wider forensic and criminal investigation standpoint, such similarities provide a basis of offender profiling, where offenders exhibit certain patterns of behaviour related to their deviant psychological states.

This paper argues that the similar fact evidence principle, derived from practical jurisprudence, is one that may be utilised with assessing the data in psychical research, with particular reference to spontaneous cases. It may be used to assess both the claims of witnesses and the cogency of the evidence as a whole, the inherent probability or improbability of a disputed event being just one factor to be considered (Hale, 2008).

In particular, reports of poltergeist activity may contain many examples of what would constitute significant similar fact evidence in law. A similar fact approach may also be applicable to other claims of physical effects arising in the operation of psi, and in the wider assessment of meaningful coincidences. Existing collections of data accumulated by psychical researchers and parapsychologists over many decades may therefore constitute cogent evidence for the existence of psi effects if analysed from a similar fact approach. In place of proving the guilt of an individual, similar fact evidence provides a potential means

for proving the existence of anomalous effects to a high standard as far as any rational and practical theory of proof is concerned.

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A STUDY OF THE DIFFERENCES AMONG VIPASSANA MEDITATORS AND NONMEDITATORS ON THE WEIRD COINCIDENCES SCALE-2 [PA]

Chetak Nangare

This study is “A Comparative Study among Vipassana Meditators and Nonmeditators on the Weird Coincidences Scale-2.” Participants (30 Vipassana meditators and 30 nonmeditators) completed the Weird Coincidences Scale-2 by Coleman and Beitman (2009). Research on the Weird Coincidences Scale-2 was aimed at determining if there existed a difference between the two groups under study, i.e., Vipassana meditators and nonmeditators. Weird Coincidences was the variable measured. The result obtained showed that there was a significant difference between the two groups. Since this author predicted such, the formulated hypotheses were supported. Hence the conclusion reached by the present study was that while weird coincidences commonly occur among the general population, there is an observable difference among the Vipassana practitioners and the nonpractitioners, an observation which also opens up the possibility that an increase in the level of sensitivity for such experiences will emerge for those who exercise Vipassana meditation in practicum.

The result was calculated with the help of IBM SPSS Statistics 21.0 version in Windows. A *t*-test was used to determine the scores. The obtained score in the *t*-test for equality of means was 0.053, thus, on .5 scale, the null hypothesis was rejected and therefore it was concluded that there is a difference between the mean score of Vipassana meditators and nonmeditators at 5% significance level. This rejection of the null hypothesis was also proved by Mann–Whitney *U* test of nonparametric statistics in results.

From the scoring about the ratings of the coincidence sensitivity level, it can be seen that the overall score in between 27–34 represents the “Average” level whereas the overall score in between 35–38 represents the “Sensitive” level. The mean score of Vipassana meditators was 36.800 and the mean score of nonmeditators was 32.733. Accordingly, it was concluded that Vipassana meditators show the “Sensitive” level while nonmeditators show the “Average” level about the Weird Coincidences. The acquired overall mean score of all the samples obtained was 34.767 which represents the Sensitive level. Thus, it proves that weird coincidences commonly occur in the general population.

The hypotheses formulated regarding the variables of Weird Coincidences were all supported. To get the summary of interviews, in the online form of WCS-2, I included the question of whether the participant believes in psychic powers or not. Twenty-eight out of 30 participants in the Vipassana meditators group reported that they believe in psychic powers while 26 out of 30 individuals in the nonmeditators group reported the same. It means that 54 out of 60 participants reported positive for this question. Thus, irrespective of meditative experiences and spiritual authority, people tend to believe in extrasensory experiences commonly.

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SYNCHRONICITY AND PSI: A CONTROLLED COMPARISON [PA]

John Palmer

The first purpose of the study was to compare scores on an ESP task and a synchronicity task presented in counterbalanced order. The second purpose was to test competing hypotheses that possibly significant

scores on the synchronicity task are better explained by the principle of synchronicity or by psi. The targets were personally meaningful messages taken from a pool used for Psyleron's SyncTXT application. For each of 40 trials in both tasks, the participant selected the target via a computer mouse click that activated a Psyleron hardware REG influenceable by psi. A computer algorithm not influenceable by psi then selected three control messages from the pool. Then, participants were shown four rectangles containing the statements and asked to select the correct target as in a standard free-response ESP test. The two tasks differed in four fundamental ways. (a) The ESP task was clearly presented to participants as a test of their ability to use psi to guess which rectangle was the target; the synchronicity task was described as a test of the principle of synchronicity. (b) In the synchronicity task, the statements were visible (black on white); in the ESP task, the messages were invisible because they were in the same white color as the background; (c) In the ESP task, the dependent variable was a "guess" of which (apparently empty) box was the target; in the synchronicity task, the dependent variable was the personal contemporary meaningfulness of the statement to the participant. (d) In the synchronicity task, the participant rated each message for personal meaningfulness.

Both prior to and following completion of the two tasks, participants were asked which task they expected to score higher on and their confidence in scoring high on that task. They also were asked how many synchronistic experiences they had in real life. They then filled out Levenson's Multidimensional Locus of Control Scale (MLCS). After debriefing, the participants received feedback of their scores on the computer screen, not in the presence of the experimenter.

In general terms, the psi interpretation of a significant mean on the synchronicity task would be favored by significant correlations between psychological correlates of an ability and scores on both tasks. The synchronicity interpretation would be favored by a significant lack of correlation between the psychological predictors and scores on the synchronicity task combined with corresponding significant correlations for the ESP task. The psychological predictors were pre-test confidence of success on the synchronicity task and the Chance subscale of the MLCS.

There was nonsignificant below chance scoring in both tasks and the difference was also nonsignificant, which means that a precondition for comparing the psi and synchronicity interpretations of the synchronicity results was not met. Tests of the predictions were nonetheless performed and none were significantly confirmed. However, there were several significant post-hoc effects that are noteworthy. For both tasks (but most clearly for the ESP task), the higher the initial confidence, and the greater the decline in confidence from the beginning to the end of the session, the lower the paranormality score. This decline in paranormality scores with declining confidence was interpreted as resulting from an increasing doubt in the capacity of the tasks to capture a paranormal effect. As for the synchronicity task, it is reasonable to expect this doubt to be especially evident in people with some "expertise" in synchronicity as a result of having many synchronicity experiences themselves. This can explain why participants who reported frequent synchronicity experiences were less confident of success on the synchronicity task at both the beginning and the end of the session, and found the messages less meaningful overall, than participants with infrequent synchronicity experiences.

Among those participants who did the synchronicity task first (SE condition), there was a negative correlation between the average meaningfulness rating of all the messages and synchronicity scores, offset by a positive correlation between these ratings and ESP scores. The negative correlation was attributed to frustration in having to choose a target from a set of messages all or most of which seemed meaningful; the ESP task, boring as it may have been, was a relief in comparison, engendering a more positive frame of mind leading to more positive scoring. This hypothesis can also explain the significant negative correlation between synchronicity and ESP scores in the SE condition.

Meaningfulness ratings correlated positively with posttest confidence on both the synchronicity and ESP tasks. This result was interpreted as a high level of meaningfulness in the messages convincing participants that "something paranormal was going on" in the study.

There was a significant positive correlation between synchronicity hits and the average difference between the hit and miss trials in how long participants waited for the "right time" to access the target message on the synchronicity task. Frustration was also offered as the explanation for this result: When the

internal signal to click the mouse to access the target did not come quickly, participants became impatient and this negative mood state caused them to miss the target.

Finally, the ESP scores correlated significantly negatively with a composite measure of external locus of control combining scores on the three MLCS subscales; participants with a strongly internal locus of control scored high on the ESP task. This result was interpreted as the mirror image of the expected (but not found) tendency for participants with an external locus of control to score positively on the synchronicity task.

It was concluded that neither the psi nor the synchronicity hypothesis was confirmed by the data. However, the significant post-hoc correlations of synchronicity scores with measures of psychological variables that one would expect to be associated with success in applying an ability or skill are more consistent with psi being the operative mechanism in the synchronicity task. Even though one of these post-hoc effects had an astronomically low *p* value, all the significant results and their interpretations should be considered tentative pending replication.

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UNCANNY COMMUNICATION, PSYCHOANALYSIS, AND THE POROUS MIND [PA]

Janine de Peyer

This paper examines the phenomenon of “uncanny” or “telepathic” communication between patient and analyst as seen through the lens of contemporary psychoanalytic theory and practice. How far have contemporary Freudian-based theories expanded their view toward accepting the possibility of “Psi?” Drawing on a sequence of “uncanny” clinical events between patient and therapist, the author will examine the interface between contemporary psychoanalytic theories of unconscious communication (informed by neuroscientific advances) and theories of “telepathic” dyadic unconscious communication within the field of parapsychology.

Beginning with scrutiny of the therapist’s unbidden “slip of the tongue” that seemingly ushered-in otherwise unknowable information about her patient, de Peyer will explore the potential opportunity that such moments of “uncanny” communication offer toward a deepening of the clinical exchange. The impact of a sequence of moments of “uncanny” dyadic exchange will be described, elaborating on how patient and therapist internalized the intimacy of these exchanges with both positive and negative outcomes. While inspiring feelings of closeness, these moments also inspired fear of a lack of boundaries between patient and therapist, in which their respective private thoughts and experiences could be potentially invaded. The author will describe how these “uncanny” exchanges, and the discussion that ensued between patient and therapist, affected the patient’s on-going treatment. While the patient longed throughout her life to be implicitly “read” by someone, de Peyer explores the paradox between their clumsy day-to-day verbal exchanges replete with misunderstandings and misattunements, and their seamlessly intimate moments of apparent “uncanny” nonverbal interconnectivity.

The importance of the impact of the therapist’s personal belief system about “psi” will be examined, focusing on the influence of whether therapist and patient “match” or “differ” in their belief systems, and how transparency or seeming neutrality on the part of the therapist will affect the patient’s experience of safety in the treatment relationship. The author advocates for the clinical importance of nurturing receptivity to the possible existence of “psi” within the field of psychoanalysis, both in order to expand psychoanalytic theorizing about forms of unconscious attunement, and to lessen the sometimes *a priori* inference of psychopathology often assumed when patients present with “exceptional experiences.”

While skepticism about “telepathy” endures, notions of unformulated, dissociated, sub-symbolic, implicit, right-brain, mirror neuron, and sensorial forms of attunement are furthering psychoanalysis’ mission to understand unconscious communication *beyond* words. In view of this interest in nonverbal attune-

ment, de Peyer invites a re-consideration of the divide between psychoanalytic theories and investigations into the paranormal and “telepathy.” Reasons for longstanding psychoanalytic resistance to the “uncanny” stem from the prevailing underlying material-based worldview purporting that “mind equals brain.” These concerns are reviewed along with common fears of the paranormal. The author suggests that clinicians’ ongoing effort to *consciously* engage with these fears will reduce the likelihood of such fears emerging in the consulting room in the form of *unconsciously* driven destructive “enactments.”

A review of psychoanalytic literature on the “uncanny” notes the prevalence of research into *nocturnal* “uncanny” transmissions (telepathic dreams), and highlights the comparative paucity of literature on “uncanny” transmission during *wakefulness*. Citations of various contemporary psychoanalysts’ work on wakeful anomalous transmission are offered, focusing predominantly on Elizabeth Lloyd Mayer’s (2007) book, *Extraordinary Knowing: Science, Skepticism, and the Inexplicable Powers of the Human Mind* in which Mayer offers an exhaustive investigation into the relevance of the “uncanny” in psychotherapy and psychoanalysis. Highlights from Mayer’s book advancing the link between psychoanalysis and physics offer examples of other respected analysts’ clinical experiences of moments of “extraordinary knowing.” In addition to introducing mind-matter studies conducted by the Princeton Engineering Anomalies Research Laboratory, Mayer focuses on a poignant example of “uncanny” interconnectedness offered by Robert Stoller in his posthumously published paper on “telepathy,” in which he describes remarkable incidences of telepathic dreams between himself and his patients, including (similar to de Peyer’s example), patients’ dreams that accurately depict incidents occurring concurrently in his own personal life.

Since the apparent “telepathic” communication illustrated in this paper takes place both *during* and *in between* sessions, de Peyer highlights the problem that “telepathy” presents to neurobiologists, since “telepathy” challenges traditionally upheld scientific boundaries of space and time by transcending recognized material physiology and the existence of *sensory* cues. The author engages these issues, questioning the boundaries of “consciousness,” the limits of “subjective experience,” and the neural basis for “meaning-making” and “self-awareness.” Neuroscientific constructs underpinning contemporary psychoanalytic theories of unconscious communication are discussed, drawing attention to limitations in the understanding of how two minds interconnect across time and geographical space.

In further explorations of the intersection between neurobiology and “telepathy,” de Peyer proposes a speculative model of the mind in which “censorship” of certain stimuli prevent mental destabilization through what might otherwise be experienced as overwhelming exposure to incoming data of other people’s thoughts, feelings, sensations, images and experiences. If the human mind is indeed considered “porous,” the material instrument of the brain would likely develop a mechanism to “filter out” these data in order to survive. The author explores the possibility that this “porousness” might be stimulated for some through heightened affective experiences such as dreams, songs, visual cues, prayer, smells, other sensory cues, including relationships involving intense emotional exchange. The view that some might be more susceptible to “leakage” through conditioning of early childhood trauma is explored, along with the potential that such “porousness” might become activated within the clinical situation itself.

De Peyer balances inconclusive hypotheses of the functioning of “telepathy” while maintaining her primary focus on the impact of anomalous experiences on the clinical exchange. By acknowledging the possibility that human minds might be more “entangled” than previously recognized, she endorses a cross-fertilization between psychoanalysis, neuroscience, quantum physics, and parapsychology. The contemporary psychoanalytic view of the analytic dyad as a variable multi-person field of inquiry is seen as a model quite compatible with Schrödinger (1935) and Radin’s (2006) theories of “entanglement.” De Peyer concludes that perhaps the metaphor of “borrowing a thought” from a unified field of shared knowledge (reminiscent of Carl Jung’s “Collective Unconscious”) is a system of thought that psychoanalysts in the coming future will more readily embrace.

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WORLD VIEW AND INTERPRETATION OF EVIDENCE FOR SURVIVAL AFTER DEATH:
TOWARD A PLURALISTIC APPROACH [SPR]

Michael Potts

From its beginnings in the late 19th century, psychical research has taken a “scientific” approach to psi phenomena and putative evidence for survival of death. In addition, such an approach is said to be “unbiased.” The fear is that theoretical bias or philosophical presuppositions may cloud the psychical researcher’s interpretation of the data. Another fear is that allowing biases to affect science detracts from the objectivity of science. However, as philosophers of science have long known, bias is inevitable in science. There are methodological biases, such as the preference for laboratory experiments over field studies in both behavioristic and cognitive psychology as well as in parapsychology. Scientists who are “sheep” regarding psi get better results than those who are “goats” (the same applies to study participants). At a higher conceptual level, philosophical presuppositions inevitably influence the interpretation of scientific data, as in the case of Copernicus’ solar mysticism influencing his development of the heliocentric view of the solar system or William Harvey’s Aristotelianism influencing his focus on the heart as the central organ of the body and his subsequent discovery of blood circulation. The highest level of bias is one’s world view, one’s fundamental metaphysical views about the nature of reality. This sets limits on what kinds of entities a person believes can exist as well as having epistemological implications for what is knowable about nature. More importantly, one’s world view determines what one takes to be the prior probability of the evidence supporting a particular hypothesis. It is important to examine this issue in detail.

The notion of prior probability is used in statistics, especially in Bayes’ Theorem:

$$\frac{P(e/h.k)}{P(h/e.k)} = P(e/k) \times P(h/k)$$

That is, the probability of a hypothesis given evidence plus one’s knowledge of the world is equal to the probability of the evidence given the hypothesis and one’s knowledge of the world divided by the probability of the evidence given one’s knowledge of the world multiplied by the probability of the hypothesis given one’s knowledge of the world. Now a key issue in applying this equation is what counts as knowledge of the world. In part, this is because what one counts as knowledge of the world is world view dependent. Therefore, a materialist may hold that the world is limited to matter and energy, and that knowledge of anything more that exists other than matter or energy is either impossible or highly unlikely. A traditional theist holds that a deity created the universe, and if the deity is considered to be “spiritual” (i.e., nonmaterial), this means that according to theism, at least one nonmaterial being exists. A Spiritist in Brazil believes that there are spirits of the dead that exist and with which mediums can communicate. Thus, the prior probability of a survivalist interpretation of apparitional evidence, for example, would be significantly higher for a Spiritist than for a materialist. A Spiritist would also be more inclined to interpret apparitions as due to the activity of discarnate entities than due to the psychokinesis of a living subject. This is also generally true of Spiritist psychical researchers, whom more traditional members of the parapsychological community have attacked for their world view bias in favor of survivalist interpretation of the empirical data. A traditional Roman Catholic might interpret some apparitions as souls from Purgatory seeking to either show believers their pain so as to avoid their, albeit temporary, fate or to complete some unfinished business. Other world views can make a difference in the interpretation of the data: Cartesian dualism, Thomistic dualism, panpsychism, Mahayana Buddhism, or Fundamentalist Christianity all play a role in a person’s interpretation of the apparitional data, even if that person is a scientist. This does not mean science is totally subjective as Paul Feyerabend claimed, but it does imply that the relationship between world view and data is part of the equation that goes into a scientist’s interpretation of the data. Similar differences in interpretation of putative evidence for survival apply to poltergeist phenomena, mediumship, and cases suggestive of reincarnation.

Some psychical researchers may claim that elimination of all world view bias should be a goal of

science. That is impossible, since the very claim that one can be unbiased regarding world view in science is not a scientific position, but a philosophical one and part of one's world view. There is also an epistemological arrogance in such a view, for it excludes any other means of knowledge other than the narrowly "scientific." That approach would dismiss out of hand religious and openly philosophical interpretations of the data, and such an approach is wrong in theory and untenable in practice.

There are instances in which world view bias leads to bad science. For example, Alfred Russell Wallace tended to dismiss all data that did not support his spiritualist position. Thus a lack of bias in the sense of honesty with the empirical evidence is essential. There is a symbiotic relationship between world view and empirical evidence, just as a scientific theory and evidence share a symbiotic relationship, with theory affecting interpretation of the data and data affecting the development of a theory. The same is the case with world view—new data can result in a person rethinking one's world view. My claim is that one does not check out one's world view at the door when doing psychical research—and that this is not a bad thing.

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ANOMALOUS EXPERIENCES, MENTAL HEALTH, CREATIVITY, AND PSI [PA]

Thomas Rabeyron^{1,2} & Olivier Charlet¹

This study explores the complex relationships between anomalous experiences, mental health, creativity and psi within a sample of 113 visual artists in three French art schools. Participants (63.6% of female; mean age: 21.46) first took part to a retro-priming task and then completed three questionnaires assessing anomalous experiences (AEI), mental health (SCL) and creativity (CCI). Results show no significant effect on the retro-priming task ($es = -.03$). Nevertheless, anomalous experiences ($r_s = .24$), and psi experiences ($r_s = .22$) were significantly correlated with retro-priming results. On the other hand, creativity as a whole did not lead to significant correlation with retro-priming and only the use of the analogies subscale ($r_s = .26$) led to a significant correlation with the psi task among the creativity subscales. Anomalous experiences as a whole were correlated negatively with mental health ($r_s = .43$) and positively with creativity ($r_s = .42$) confirming the high rate of unusual experiences in the artistic population as reported in previous studies. Finally, these findings are discussed with respect to their theoretical implications and propositions for future studies.

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BUILDING LINKS BETWEEN COMMUNITIES: ESTABLISHMENT OF A RESEARCH LABORATORY FOR THE SCIENTIFIC STUDY OF MEDIUMSHIP AT THE ARTHUR FINDLAY COLLEGE [SPR]

Chris A. Roe¹, David Bruton², Chris Connelly², David T. Saunders¹, & Rachel E. Evenden¹

Stansted Hall was gifted to the Spiritualists' National Union by J. Arthur Findlay MBE in 1954 with the intention that the buildings be used to establish a "College of Psychic Science." Stansted Hall was named The Arthur Findlay College and has established an international reputation for its educational programmes in mediumship practice and philosophy. Despite spiritualism being among the most evidence based of the major religions, these programmes have not always sought to engender a scientific approach to the

evaluation of empirical evidence gathered during mediumistic demonstrations. The President of the SNU, Minister David Bruton, has begun to address that shortcoming, initially by organizing a Science Day at the SNU's Arthur Findlay Centre in Stafford on 16th February 2013 that was intended to introduce the spiritualist community to the scientific research that has been conducted on the subject of mediumship and to suggest ways in which they might adopt a more scientific approach to their own practice and experiences. Contributors included Prof Chris Roe and Dr. Elizabeth Roxburgh of the University of Northampton and Dr. Matt Smith of New Buckinghamshire University. The event was extremely well received, with over 150 attendees providing very positive feedback. As a consequence, a Science Week was run at the Arthur Findlay College at Stansted Hall from 8–15 February 2014 that provided an opportunity for students to work with scientific methods that ranged from controlled experiments incorporating EEG measures to more qualitative but still rigorous approaches including surveys and questionnaires. A condensed workshop programme was run at the SNU's Stafford Centre on 20–22 February 2015, and plans are in place for a similar event in the Spring of 2016. The ultimate aim of these initiatives is to encourage collaboration between the spiritualist and scientific communities to further our understanding of the nature and phenomena of mediumship.

As a next step in the rapprochement between spiritualists and academics, the proposers have received permission from the SNU Executive Committee to convert space at the Arthur Findlay College into a permanent laboratory that can be used to conduct research with the cooperation of AFC Course Organisers and the International community of students who attend programmes at the College. This loft space includes two smaller adjoining rooms that may be arranged to provide additional research space, and a dedicated wet lab area that includes a sink and running water that can be used to prepare and clean physiological equipment such as EEG and EDA sensors.

Funding has been secured from sources including The SPR's Survival Fund, the SNU's Friends of Stansted Hall, and the University of Northampton to furnish and equip the space so as to allow meaningful cutting edge research to be conducted by appropriate persons. Materials have now been purchased and pilot work is underway to test equipment and associated software to ensure fitness for purpose. Permission has already been granted from tutors to recruit participants from among students attending residential courses at the AFC over the coming months.

In this presentation we will describe the collaborations that have taken place so far between the University of Northampton and the Spiritualists' National Union, including an outline of the aims and methods used to introduce spiritualists to the scientific method and to introduce researchers to the practitioner's perspective. We will provide an update on laboratory facilities and report on findings from initial pilot work.

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PERFORMANCE AT A PRECOGNITIVE REMOTE VIEWING TASK, WITH AND WITHOUT GANZFELD STIMULATION [PA]

Chris A. Roe & Laura Hickinbotham

Recent research by the lead author has sought to incorporate ganzfeld stimulation as part of a remote viewing protocol. Initial research suggested that novice participants can successfully describe a randomly selected target location while in the ganzfeld (Roe & Flint, 2007). Subsequent replications compared ganzfeld performance with performance in a waking condition in a counterbalanced repeated measures design, and found that significant above chance performance occurred in the former but not in the latter (Roe, Cooper, & Martin, 2010; Roe, Hodrien, & Kirkwood, 2012). In those studies participants completed Pekala's (1991)

Phenomenology of Consciousness Inventory (PCI) in order to gauge their responsiveness to the ganzfeld protocol, and of the 12 subdimensions ganzfeld performance correlated significantly with greater absorption in their subjective experience, lower physiological arousal and less internal dialogue (Roe et al., 2010) and Time Sense (Roe et al., 2012). Additionally, suggestive relationships were found between dissociative experiences scores and ganzfeld condition performance ($r = .238, p = .078$), and between openness to experience scores and waking condition performance ($r = .269, p = .054$), but not vice versa. The present study was an attempt to confirm those findings with a new sample of 30 participants and a new primary researcher (LH). Experimental trials consisted of two counterbalanced conditions as previously. Hit rate in the ganzfeld condition increased slightly to 43.3% (SOR z -score = 3.02, $p = .001$) whereas performance in the waking condition was at chance levels (HR = 26.7%, SOR z -score = .24, $p = .405$), confirming previous findings. However, we were unable to replicate the positive correlations between ganzfeld condition performance and PCI scores, nor previous correlations with scores on measures of openness to experience and dissociative experiences, although the association between openness to experience and waking condition performance was positive and of a similar magnitude to previous studies ($r = .203, p = .301$). In accounting for the failure to confirm a relationship between phenomenological shifts in conscious awareness while in the ganzfeld and performance at the psi task, the authors consider the possibility that success might have more to do with lab atmosphere, social interaction and excitement / expectancy rather than ASC induction itself. Future research is proposed that separates the elements of the “classic” ganzfeld protocol into relaxation and sensory habituation elements to explore their relative contribution to success.

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VARIETIES OF CHILDHOOD MALTREATMENT AS PREDICTORS OF ADULT PARANORMALITY [SPR]

Paul Rogers¹ & Emma Lowrie²

A number of studies suggest childhood trauma is associated, either directly or through an indirect (mediating) relationship with heightened fantasy proneness, with paranormal belief and alleged paranormal experiences in adulthood. In one study Irwin (1992) found global paranormal belief was associated with more intra-familial physical abuse with fantasy proneness a key mediating variable. Lawrence, Edwards, Barraclough, Church and Hetherington (1995) also found a direct relationship between childhood trauma—principally stemming from an unsettled home life but also, to a lesser extent, from intra-familial physical abuse—and adult paranormal belief. The same authors found intra-familial abuse, personal illness and loss either of a friend, of property or of loss of domestic security (from frequent house moves) all correlated with more reported paranormal experiences in adulthood. In other work, Ross and Joshi (1992) found childhood physical and sexual abuse were both triggers of alleged paranormal experiences in later life. More recently, Perkins and Allen (2006) found those reporting a history of extreme intra-familial physical punishment (e.g., punching, kicking, choking, or being tied up) had stronger global paranormal beliefs and more pronounced specific beliefs in psi, precognition, spiritualism, and witchcraft. Other studies report findings that are consistent with these trends (French & Kerman, 1996; Irwin, 1994; Rogers, Qualter, & Phelps, 2007).

The current study extends this line of work by examining the degree to which various types of childhood maltreatment—specifically neglect, sexual, physical and emotional abuse, parentification and parental threats of rejection, abandonment and physical punishment—predict adult paranormality. Mediation analysis (with bias-corrected bootstrapping) offered partial support for hypothesised relationships. As expected, child sexual abuse had a significant, direct effect on adults’ self-reported anomalous experiences. Indirect relationships between childhood neglect, both sexual and emotional abuse, and benefits of parentification also existed for four outcome measures, namely anomalous experiences, beliefs, abilities and a

general New Age orientation. These were mediated by a proneness to vivid/realistic and to a lesser extent make-believe fantasising. Contrary to expectations, childhood physical abuse, parent or sibling focused parentification and parental threats of rejection, abandonment and punishment were unrelated to all anomalous outcome measures with one exception; rejection threats were directly associated with fewer fears of anomalous phenomena. These findings are consistent Irwin's (2009) Psychodynamic Functions Hypothesis; the notion that adult paranormality offers an adaptive, needs-serving mechanism for coping with an often trauma-induced sense of diminished control. Methodological issues and ideas for future research are also discussed.

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"MOST PEOPLE THINK YOU'RE A FRUIT LOOP": AN EXPLORATORY STUDY OF CLIENTS' EXPERIENCES OF SEEKING SUPPORT FOR ANOMALOUS EXPERIENCES [SPR]

Elizabeth C. Roxburgh & Rachel E. Evenden

Anomalous experiences (AEs) are those that "depart from our own familiar personal experiences or from the more usual, ordinary, and expected experiences of a given culture and time" (Braud, 2010, p.1). White (2001) has listed over 500 different types of anomalous experiences, including meaningful coincidences, out-of-body experiences, near-death experiences, mystical or peak experiences, and extrasensory perception, to name just a few. Research has shown that a high proportion of the general population believe in or experience AEs (e.g., Haraldsson, 2011; Pechey & Halligan, 2012; Ross & Joshi, 1992) that AEs can occur after negative life events (Rabeyron & Watt, 2010), and that common reactions can include fear, anxiety and distress (e.g., Eybrechts & Gerding, 2012; Parra, 2012; Siegel, 1986). In addition, individuals may have existential questions following the experience and not know where to seek support or worry that they will be labelled mad if they do. Few studies have explored the perspectives of clients who report AEs in terms of the process of therapeutic intervention and how this is managed by mental health professionals. This seems pertinent given a recent study investigating the counselling experiences of bereaved people who sense the presence of the deceased found that the majority of participants felt their counsellors were not accepting of their experiences or neglected to explore the cultural and spiritual aspects of the experience (Taylor, 2005).

The aim of this study was to investigate the experiences of clients who report AEs in secular counselling services so we are better informed about how AEs impact on mental health and how therapists have responded to such clients (e.g., What experiences have clients found helpful or unhelpful in terms of therapeutic intervention? Did they feel listened to and understood by their therapist?) Ethical approval was obtained from the School of Social Sciences Ethics Committee and ethical guidelines of the British Association of Counselling and Psychotherapy (BACP) were adhered. Semistructured face-to-face interviews were conducted with eight clients (three males and five females aged between 21 and 52 years with a mean age of 37 years) whom had experienced at least one AE which they had discussed in counselling. A thematic analysis, as outlined by Braun and Clarke (2006), was applied to the data and produced four themes: "You have to go digging to get support," "Why are you looking at that airy fairy crap?" "It kind of shut the door," and "Having someone to normalise and say you're not crazy, you're not weird." Findings highlight the importance for clients of finding an open-minded counsellor so they can explore the meaning of the anomalous experience without being ridiculed or pathologised. Themes will be represented by participant extracts to demonstrate how they are grounded in the data and findings will be discussed in terms of their implications

for the therapeutic relationship, the accessibility of mental services to meet the needs of diverse clients, and the growing field of “clinical parapsychology.”

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THE SECRET OF MAGIC: A PSYCHO-, SOCIO-, OR PSI-SOMATIC EFFECT? [SPR]

Leo Ruickbie

Magic has, in “voodoo death,” an established phenomenon with documented cases from across different historical periods and cultures. The medical model proposed by Cannon (1942) explained the observed effects by the action of the emotion of fear on individual physiology. Additional nuancing suggests that wider social forces are also involved. However, anomalous cases exist that do not meet the specific criteria of a psychosomatic or sociosomatic response and instead invite parapsychological interpretation as evidence of distant mental influence, what is here termed psi-somatic effect. Taking “voodoo death” as a case study, this paper asks “what is the functional mechanism of magic?” Coined by Harvard physiologist Walter B. Cannon (1942), the term “voodoo death” describes the widely observed phenomenon of death by “magic,” that is, by performative ritual action. Looking beyond supernatural explanations, Cannon concluded that this worked by profoundly affecting individual beliefs, attitudes, and behaviour with fatal consequences. He suggested that “shocking emotional stress” could in extreme cases lead to “persistent excessive activity of the sympathico-adrenal system” resulting in death. Curt P. Richter (1957) later proposed “overactivity primarily of the parasympathetic system.” Drawing on new research, this paper will demonstrate that the phenomenon involves a wider set of relationships than a psychosomatic reaction, indicating additional and complementary sociosomatic or biopsychosocial (Engel, 1977) forces. Cannon, drawing on James (1905) and especially Warner (1937), recognised these additional conditions but did not explicitly account for them in his physiological model.

However, there are instances in the literature of “voodoo death” occurring when the necessary conditions outlined by Cannon were not present (e.g., Neal, 1966; St. Clair, 1971). These anomalies challenge Cannon’s interpretation and require closer analysis to determine their probable cause. A cogent rationale for considering psi effects in “voodoo death” is provided by Barry (1968) and the replication study by Tedder and Monty (1981), together with the similar experiment by Nash (1984). If all other psychological-physical mechanisms can be ruled out, then these cases may be proof of distant mental influence (psi-somatic effect); or, on the other hand, indicate a more complex, poly-somatic process involved in ritualised social interactions with profound implications.

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ESTABLISHING THE CSAPP ARCHIVES AND SURVIVAL CASE COLLECTIONS FROM THE EILEEN J. GARRETT LIBRARY [SPR]

David T. Saunders, Rachel E. Evenden, & Callum E. Cooper

In this talk we will report on two associated projects conducted by members of the Centre for the Study of Anomalous Psychological Processes (CSAPP) with funding conjointly awarded for by the Society for Psychical Research’s Survival Research Fund to whom we are greatly indebted.

The first regards a recently obtained donation of paranormal research from a combination of several private collections, acquired by David Saunders and Callum Cooper (Cooper & Saunders, 2014). This

donation predominantly comprised of several decades of material from the Association for the Scientific Study of Anomalous Phenomena (ASSAP) which Oxford University no longer wanted to house. The rest are personal collections, notes, letters, VHS tapes, and reel-to-reel and cassette audio tapes that were donated to CSAPP as a unified single donation. A considerable amount of the material mentioned is aimed at investigations of haunted properties (case files), electronic voice phenomena, psychic healing, theories of immortality and survival (predominantly from a Christian perspective) presented through psychical research organisations, plus sittings with mediums and a host of other material.

Secondly, in late 2014, the authors received a greatly appreciated invitation to visit the Eileen J. Garrett library held by the Parapsychology Foundation (PF) and contains a vast collection of rare archives comprised of books, journals, articles, case studies and media files, on a wide variety of topics of interest to any scholars of parapsychology. Saunders and Evenden intended to make use of these resources to better inform their own research through a gathering of cases which specifically focus on evidence pertaining to the survival hypothesis. For Evenden this takes the form of veridical evidence from sittings with mediums, and for Saunders veridical communication with the deceased through the medium of dreams.

In this talk we intend to present a summary of the contents of our archive and discuss the progress in documenting and converting the material into electronic formats so as to provide access for the use of SPR members and associates in their own research endeavours. A summary of our visit to the Parapsychology Foundation will be given, alongside the preliminary findings from our archival research.

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MENTAL REPRESENTATIONS OF THE SUPERNATURAL: A CLUSTER ANALYSIS OF RELIGIOUS, SPIRITUAL AND PARANORMAL BELIEF [SPR]

Malcolm Schofield

The aim of the study was to establish a new typology of belief in the supernatural; categorising people based on their levels of religious, spiritual and paranormal belief. Examining how the various beliefs are defined was a further objective. The study examined the three concepts of religious, spiritual and paranormal belief in an attempt to examine how people mentally represent the supernatural. A new taxonomy of these three beliefs was posited. How these three beliefs have been defined and measured in the past was discussed. The various dimensions of each belief were further discussed making reference for example to intrinsic and extrinsic religious belief. The reasons for people having different levels of these beliefs were discussed, highlighting theories such as “Metaphysical Chauvinism” as a possible explanation. Previous research that used various methods to measure religious, spiritual, and paranormal belief were highlighted including several studies that used cluster analysis to examine such concepts. Participants completed an online survey consisting of three questionnaires measuring religious (Revised Religious Life Inventory), spiritual (Intrinsic Spirituality Scale) and paranormal belief (Revised Paranormal Belief Scale). An opportunity sample ($n = 307$) was used to conduct the three cluster analyses. The first was a replication of Irwin’s (1997) study that examined the subscales of the Revised Paranormal Belief Scale (RPBS). The second and main analysis was on the three scales, The Intrinsic Spirituality Scale (ISS), The Revised Religious Life Inventory (RRLI) and The Revised Paranormal Belief Scale (RPBS). Finally a post hoc analysis was conducted on the ISS and the subscales for the RRLI and the RPBS. The results revealed a four-cluster solution for each analysis and each analysis was shown to have internal validity. For the main analysis the clusters were labelled as follows: cluster 1— “Believers,” cluster 2— “Sceptics,” cluster 3— “Conventional religious believers,” and cluster 4— “Questioning believers.” The four-cluster solution was discussed in relation to: firstly, the initial replication analysis and then to the *post hoc* analysis. The four-cluster solution for the main analysis was the labels applied to them were discussed. The theory of “Metaphysical Chauvinism” was supported.

However, the recommendation is that it should be renamed “Metaphysical Bias” noting that “conventional believers” may be less open to different ideas than their unorthodox counterparts. The clusters showed that four distinct groups emerged when cluster analysis was applied; however, it was acknowledged that there still appears to be a lack of consensus when defining supernatural beliefs. It is presented here that the cluster analysis approach is more effective than a simple scale that measures one area when trying to establish to *what* set of beliefs a person actually subscribes.

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AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS EXPLORING SYNESTHESIA AS AN EXCEPTIONAL EXPERIENCE: A CASE STUDY [PA]

Christine A. Simmonds-Moore

Synesthetic experiences occur when there is an additional involuntary sensory or conceptual response (or responses) to an inducing stimulus. By convention, such experiences are described in terms of the relationship between an inducing stimulus (the inducer) and an additional response (the concurrent) (Grossenbacher & Lovelace, 2001). Previous research has indicated a relationship between synesthesia and a range of exceptional experiences (ExE), including experiences which have been labeled as paranormal. Some have proposed that synesthesia may actually underpin or play an integral role in these experiences (Alvarado, 1994; Irwin, 1999; Marwaha & May, 2015; Williams, 1997). Case studies have also demonstrated an association between synesthesia and other cognitive and perceptual advantages. This paper is a phenomenological case study exploring what it is like to experience the world synesthetically, and how synesthesia can inform our understanding of ExEs and abilities. This approach was adopted in order to generate a deep understanding of the experiential world of one person who reports experiencing synesthesia and ExE and abilities. The approach is neutral regarding the ontological status of these experiences. The participant is a 27 year old caucasian American male (participant A). A reports several synesthesias which have color as a concurrent. Grapheme-color synesthesia is characterized by letters being experienced as uniquely colored. A experiences colors for both individual letters and words. A also experiences several forms of sequence-color synesthesia, including time-color synesthesia whereby each day and month in the year have a unique color and music-color synesthesia where individual keys and notes have different colors. He also reports other higher level synesthesias whereby mathematical concepts and functions, songs and genres of music each have different colors. Finally, he experiences colors for the emotions of other people (akin to an aura experience). A also reports having an exceptional memory ability, a mathematical ability and has experienced both lucid dreams and precognitive dreams. A semistructured interview concerning his experiences with synesthesia and ExEs was carried out in a quiet room on the campus of the University of West Georgia. The interview lasted approximately one hour. The interview was recorded using a digital voice recorder and later transcribed for its semantic content (Smith & Osborn, 2008). Interpretative Phenomenological Analysis (IPA) was used to analyze the transcript. The transcript was read through several times prior to analysis to become deeply familiar with A's experiences with a view to capturing meaning and implied meaning. The IPA resulted in the identification of five main themes, which can be summarized as: (a) relationship with synesthesia, (b) complexity/kaleidoscope of representations, (c) access to meaning, (d) control of synesthesia and manipulation of representations and (e) exceptional abilities. In summary, A lives with multiple synesthesias which influence his conscious experiences, his dream life, his creative life, and his interactions with social others. A's social experiences include experiences of color in musical improvisation, colors (auras) for the emotions of social others (experienced around their bodies) and precognitive dreams, which reflect the experiences of important social others. Such experiences have been part of his experiential world since he was a child and appear to be complex and interconnected. The synesthesias bestow an ability to represent (and access meanings associated with) subtle and abstract aspects of his lived experience. Although this research

is neutral in terms of the ontological status of A's ExEs, it is of note that they are experienced in a similar way to some of A's other exceptional abilities, and appear to be facilitated by attributes of his synesthesia; a sensitivity to nonverbal aspects of the world (which may or may not include genuine psi phenomena) and very strong, long-lasting mental representations which are both accessible and subject to some manipulation. A's relationship with his synesthesia has evolved over time, and seems to be tied to his sense of self and identity, and in particular to emotions and other nonverbal ways of being. These experiences were initially appraised negatively, and actively hidden or suppressed as he sought to *become normal*. As his relationship with his synesthesia has evolved, he has begun to experience his synesthesias and the exceptional abilities associated with them in an increasingly positive light. AM's synesthesia is now an integral and positive part of his life; he is at ease in discussing his experiences and displays excitement when he describes these aspects of himself, particularly with regard to music.

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"IT HAPPENS TOO FREQUENTLY FOR IT TO BE COINCIDENTAL": A QUALITATIVE ANALYSIS OF TELEPHONE TELEPATHY EXPERIENCES [SPR]

Lesley-Ann Smith, Callum E. Cooper, & Jonathan T. Ryan

Telephone telepathy refers to the experience of thinking of someone who soon afterwards calls unexpectedly on the telephone (Sheldrake, 2000). This particular anomalous experience of what appears to be telepathy actively occurring in the real world is commonly reported, with many people professing to have experienced this at least once in their life (Brown & Sheldrake, 2001; Sheldrake, 2000; Sheldrake, 2003a, pp. 95–109).

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TESTING THE PAGAN PRESCRIPTION: USING A RANDOMISED CONTROLLED TRIAL TO INVESTIGATE PAGAN SPELL CASTING AS A FORM OF DISTANT SPIRITUAL HEALING [SPR]

Chairmaine Sonnex, Chris A. Roe, & Elizabeth C. Roxburgh

The aim of this paper is to present ongoing research investigating the effects of Neo-Pagan healing spells as a form of distant spiritual healing. Neo-Paganism is an umbrella term for a number of different "traditions" with nature worship, magical beliefs and individualism at their core. It is a fast growing belief system in the UK with numbers of people identifying as Pagan on the UK census doubling between 2001 and 2011 from 42,262 to 80,153 (Office for National Statistics, 2012).

When defining Wicca, one of the larger traditions in Neo-Paganism, Janet and Stewart Farrar (1981) state "As a Craft, its purpose is to achieve practical ends by psychic means for good, useful and healing purposes" (p. 12). When Willin (2007) studied Wiccan spell craft he noted that healing was considered to be an important aspect and when questioning practising Wiccans he found that 50% of respondents used the word healing in answer to the question "What form does it (magic) take?" Willin also found the word healing was mentioned by many respondents in answer to other questions. In spite of this importance of healing in Neo-Paganism, no scientific studies have been conducted to look at its effects. However, previous research investigating the efficacy of spiritual healing practices has been sufficiently successful to warrant further study (Astin, Harkness, & Ernst, 2000; Byrd, 1988; Roe, Sonnex, & Roxburgh, 2015; Sicher, Targ, Moore, & Smith, 1998).

A double-blind randomised controlled study is currently being conducted to ascertain if there is evidence of healing effects as a consequence of being treated by experienced Pagan practitioners as they conduct distant healing rituals for specified persons. Various aspects of the design of the study were informed by previously conducted interviews with Neo-Pagan practitioners. The trial utilises an interrupted time series design in which participants attend sessions at the University weekly for four weeks. Participants are randomly assigned to either group A or group B, with group A receiving healing in week one, after the initial session to capture baseline measures and group B receiving healing in week two after the second session.

The experimental design was informed by an earlier interview phase of the project in which practitioners were asked about their practice with particular focus on necessary or sufficient conditions, how effective spell work manifests and limits, etc. From these interviews it emerged that practitioners required some form of representation or symbol of the “castees” as well as some indication of the issues they would like to see resolved. Thus, participants were asked to provide a picture and a personal item that was passed to the practitioner along with a “spell request” in which the participants indicated the changes they would benefit from. Practitioners indicated in the interviews that the belief of the castee can have a mediating effect on the efficacy of the spell and so in the first week participants were asked three questions to establish their level of belief.

Practitioners also explained that although spells have specific targets, holistic effects are often evident therefore the WHO Quality of Life Scale (WHOQOL) is being used as an outcome measure. The WHOQOL comprises 26 items, which measures quality of life across four broad domains: physical health, psychological health, social relationships, and environment, and is thus able to capture any holistic effects.

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THE MEANING OF ECSTASY [SPR]

Richard Squires

I would like to propose a paper for presentation at the annual conference based on my essay “The Meaning of Ecstasy.” This essay, which has been published in the UK in *Performance Magazine*, in the US in *Gnosis Magazine*, and online in *The Journal of Wild Culture*, is an account of a spontaneous out-of-body event that I experienced as an actor on stage, in the middle of a dance-theatre performance of a stage adaptation of the *Legend of Sleepy Hollow*. It is also an attempt to relate that experience to the original practices of Greek tragic theatre: to ask if it is possible that the original purpose of this ritual theatre in honor of the god Dionysus was to produce by design the out-of-body experience then known as ecstasy.

The witch doctor’s dance in which my OBE occurred had been added to Washington Irving’s story to suggest the primitive and barbaric surroundings of the early colonial settlers and the fragility of their hold on civilization. I leaped into a circle of settlers grouped in prayer around a fire, dancing wildly, hypnotizing them one by one with my rhythmic and guttural shouts, delivered to the ominous beat of an Indian drum. The actors resisted the assault for as long as they could, but in the end they all succumbed to my frenzy, and the finale of the scene had us whirling about the stage in a kind of mad, leotard-clad, St. Vitus Dance.

I was in the midst of one such assault when suddenly, without warning, I found myself in the steel rafters at the top of the room. I saw the girders loom up through the shadows, and I was startled to see that my vision had changed when I looked at the spectacle down below. I could see everything in the room—every hair on every head it seemed—simultaneously. I absorbed it all in a single omnipresent glance—hundreds of heads arranged in wavering rows of portable chairs, a half dozen babies sleeping in laps, hair of different colors, reflecting the light on stage. Then my attention shifted to the stage, and there we were in our colored leotards, whirling about in our dance, and there I was—there I was—face to face with the actor Gary Carkin.

I was in two places at the same time. I understood it in a moment, and felt a rush of panic. And then an instant later I was staring into Carkin's eyes again, and felt my feet pounding the floor, my voice shouting, my lungs straining. Until he finally gave in and the scene was over.

One day years later I chanced upon a book at the Library of Congress that established a connection between my experience on stage and the ritual ceremonies of Dionysus, god of theater in ancient Greece. The book was *Psyche*, Erwin Rohde's great study of primitive Greek religion. Reading his chapter on the "Origins of the Belief in Immortality: The Thracian Worship of Dionysus," I came to a passage describing the worship of the Maenads ("wild ones") of Dionysus, and discovered something utterly different from everything I'd known about Greek religion:

"The worshippers ... burst the physical barriers of their soul. A magic power takes hold of them; they feel themselves raised high above the level of their everyday existence; they seem to become those spiritual beings who wildly dance in the train of the god.... The whole might be called a religious drama. These extraordinary phenomena transcending all normal experience were explained by saying that the soul of a person thus 'possessed' was no longer 'at home' but 'abroad', having left its body behind. This was the literal and primitive meaning understood by the Greek when he spoke of the 'ekstasis' of the soul in such orgiastic conditions of excitement."

Was it possible that the first tragic actors simply followed the lead of the Maenads in cultivating circumstances that would lead them into states of enthusiasm and ecstasy? Were the religious ceremonies that we now call theater, originally dedicated to the mad god Dionysus, Lord of the Underworld, founded in part so that actors could be granted the glimpses of the immortality that it was his province to bestow? Although it isn't widely known, the original Greek tragedies were fierce exultant spectacles that made strenuous physical demands on the actors; closer to dance-opera or dance-oratorio than to what we now call drama. Practically every word in them was sung, and every note had a dance step to accompany it.

The state of emotional exhilaration from the sense of a divine infusion of energy is still one of the most powerful attractions of the theater for an actor, even if the words used to describe the experience are no longer the same. When actors talk of a magnetic performance, a charged audience or an electric house, the words they use are literally true. Many an actor's life has been transformed by the concentration of the psychic and electrostatic energy of the audience upon his person.

Imagine an actor playing Oedipus the King, standing in the orchestra of a Greek theater, a chorus of a dozen men dancing around him in a frenzy to the pounding music, to evoke the unspeakable suffering that he's endured. A spellbound audience of fifteen thousand people watch as Oedipus himself, reeling, dancing, in the center, rips his eyes out with his hands and wails:

"O! O! O! They will all come, they will all come out clearly!"

In the intensity of such a cry, and its effect upon the shivering nerves of the audience, one can begin to imagine the enthousiasmos of Dionysus, the Lord of Souls. And that this enthousiasmos would be followed from time to time by ecstasy seems reasonable enough to me.

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THE EFFECT OF SUPERSTITIOUS THINKING ON PSYCHOSOCIAL STRESS RESPONSES AND PERCEIVED TASK PERFORMANCE [PA]

Wan Yee Teo¹ & Nicola Lasikiewicz²

Paranormal belief is defined as belief in phenomena, which are scientifically unsubstantiated (Irwin, 2009). Superstitious thinking refers to a subset of paranormal belief, which refer to the belief that there is a causal link between action and outcome when no such causation exists (Matute et al., 2011; Thalbourne, 1997). Previous research suggests that people tend to invoke luck-related superstitions in stressful situations as an attempt to gain an illusion of control over outcomes. Based on this, it has been suggested that superstitious thinking may become more common in times of challenge, stress and uncertainty (Burger & Lynn, 2005;

Keinan, 1994, 2002). Although previous research suggests that stress may influence the propensity for superstitious belief and that this belief may lead to enhanced performance, gaps in our knowledge remain. Specifically, (and to the authors' knowledge) no study has explored the influence of superstitious thinking on responses to an acute psychosocial stressor and further, whether exposure to stress would subsequently increase belief. The current study, therefore, aimed to explore whether belief in a 'lucky' pen would influence the psychological response to stress in the form of the Trier Social Stress Test (TSST) and whether endorsement of belief would increase following stress exposure. Further, the impact of superstitious belief on perceived task performance was explored. Participants ($N = 114$) aged between 17 and 59 years ($M = 22.98$, $SD = 4.57$) from James Cook University Singapore, were recruited and randomly assigned to one of four conditions: (a) no-stress with no "lucky" pen; (b) no-stress with a "lucky" pen; (c) stress with no "lucky" pen; (d) stress with a "lucky" pen. The results revealed that participants provided with a "lucky" pen to complete the task reported lower state anxiety throughout the experimental session and more so after speech preparation, regardless of whether they were exposed to stress or no stress control. Further, those exposed to stress and in the nonsuperstition activation condition reported significantly higher state anxiety than those who were exposed to stress and told that the pen they could use was "lucky." In terms of performance, participants exposed to stress and given a "lucky" pen perceived their performance to be significantly better than participants exposed to stress without the "lucky" pen, specifically in the speech preparation phase and interview phase but not during the mental arithmetic phase. A trend for superstitious thinking to increase post stress exposure was also observed and more so in those given the "lucky" pen but this observation just missed significance. The findings suggest that use of the "lucky" pen may have evoked superstitious thinking and altered the psychological appraisal of stress. The results corroborate existing research that belief in transferable luck may help an individual to psychologically cope with a stressor via illusory control. Hence, luck-related superstition is a unique coping strategy that could be beneficial in enhancing personal appraisal of task performance.

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DIGITIZING THE JOURNAL OF PARAPSYCHOLOGY [PA]

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Until now, only a few back issues of the *Journal of Parapsychology* (*JP*), continuously published since 1937, have been available to the members of the Parapsychological Association (PA) and the members of the Rhine Research Center (RRC) in digital format. Other digital sources provide access to more back issues, but the product suffers from poor contrast, limited page views per month, and/or limited navigation functionality. The aim of the project described here is to digitize all missing back volumes of the *JP* and provide them to the PA and the RRC in good quality, intended for distribution without page viewing restrictions. The digitization is being done on a voluntary basis.

The vast majority of the back volumes were transported from the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP) [Institute for Frontier Areas of Psychology and Mental Health], Freiburg, Germany, where a complete set of *JP* volumes is kept in its library, to a volunteer at the Justus Liebig University (JLU) Giessen, Germany, and returned to the Institute either in person or, for practical reasons, via interlibrary loan. All volumes were scanned on a photocopier at the Bender Institute of Neuroimaging (BION), JLU Giessen. To obtain consistent quality, fixed exposure and resolution settings (300 ppi) were used. Grayscale images of the scanned two-page spreads were saved as a multi-page TIFF file and converted to individual PNG files, using ImageMagick 6.9, for processing with lossless compression, that is, compression allowing perfect reconstruction of the original data.

In Adobe Photoshop 13, the rectangular marquee tool was set to a fixed size for each volume—corresponding to the spread size—to obtain images of the same size, using a width in pixels that is divisible by two. Using batch processing for the most part, the spreads were then selected and the images cropped. Care was taken that the binding edge ended up close to the center of the image to avoid accidentally trimming page content in the next step. The files were then duplicated and the image size clipped to half width, alternately starting on the right and left side of the image, using batch processing to obtain images of single pages. Suffixes were then added to the filenames using a batch renaming tool, after which the files containing left and right pages were merged.

The digital image of markings, library stamps, coarse dirt and dust was erased by hand. Using batch processing, the intensity levels of the images' highlights and shadows were adjusted using fixed values, so that the text was made black and the background white while preserving much of the dynamic range. Figures and multi-color elements (i.e., elements with multiple gray tones) were selected separately and their intensity levels of highlights and shadows were adjusted using values that slightly lessened the reduction of the dynamic range.

Images with text only were saved as indexed color PNG files with eight colors, using Photoshop's perceptual color reduction algorithm, to obtain an optimal compromise between tonal range and file size. Images with figures and/or multi-color elements were saved as indexed color PNG files with eight colors or more to limit the reduction of the tonal range.

Tweaking tools, such as DeflOpt, defluff, PNGOUT, pngwolf, TruePNG, and ZopfliPNG, were applied to reduce file size by removing optional data chunks, implementing optimization processes such as applying optimal filters for compression, and increasing lossless compression. Optimal settings were selected and a large number of optimization iterations were processed, which resulted in an optimization run time of about two minutes per file on what is currently a high-end desktop computer. The PNG meta-data section relating to physical pixel dimensions (*pHYs* chunk) was retained so that Adobe Acrobat would produce pages of the correct size.

Using Adobe Acrobat 10.1, the PNG files were combined into one PDF file per volume. Compression was set to ZIP format, which is lossless, to preserve the quality of the already compressed files. Optical character recognition (OCR) was applied to the PDF files to make the text searchable and so that it can be copied. The primary OCR language was set to "English (US)." To retain the original images with no loss in quality, the PDF output style was set to "Searchable Image (Exact)." The recognized text, added as a hidden layer, was not corrected for recognition errors.

In the Callas pdfToolbox 7.6, all the *.notdef* glyphs, which are inserted by OCR, were removed to ensure compatibility with PDF/A format. In Acrobat, a bookmark was added manually to the first page of each journal section and the zoom level of each bookmark was set to "inherit" when a jump to a bookmark destination occurs to facilitate document navigation. So that the PDF files would be in a format that is suited for long-term digital archiving, they were saved in PDF/A-2b format using the sRGB color profile. In Fsum Frontend 1.5.5, a secure hash algorithm (SHA-2) checksum was calculated for each PDF file to enable the detection of eventual data corruption.

The digitization of the *JP* provides a cost-effective and high-quality model for future digitization projects. The use of a wider tonal range than usual results in improved legibility and better OCR results. Yet the size of the PDF files remains relatively small (about 100 MB per volume) because the size of the image files was optimized. The images show no compression artifacts because PNG files were used. Importantly, the scans are preserved in PDF files to demonstrate to the user that it is safe to quote the digital *JP*; such images are not present in some other digitized anomalistic or transpersonal journals. Although only a few digital journals now use PDF/A format, this format seems to be a good choice for long-term digital preservation.

Digital journals are today essential for the dissemination of scientific thought. Unfortunately, there are still several parapsychological journals that are unavailable in digital format, either in whole or in part. Furthermore, accessibility to what is available is in some cases very restricted. It is hoped that this description of the *JP* digitization project might serve as a model for similar projects.

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PSIHUB—A USER-FRIENDLY BIBLIOGRAPHIC DATABASE OF PARAPSYCHOLOGICAL
PERIODICALS WITH BUILT-IN SEARCH ENGINE AND RUSSIAN/ENGLISH INTERFACE [PA]

Sergii Vakal & Igor Bombushkar

Background. The availability of comprehensive bibliographic databases and comfortable search engines is one of the most important factors determining information turnover within a field of study. For example, an implementation of Pubmed/Medline system manifold accelerated exchange of information and knowledge-ability of investigations of other researchers within the biomedical field. Currently there are no exhaustive publication databases indexing all known journals in the field of psi studies. The best among available databases are Lexscien and Scopus, but even they are not customized for parapsychology (although Lexscien deals with exploratory science). Moreover, none of available databases contain articles of journals printed in Russian, so Western researchers can hardly read classic and modern investigations performed on post-Soviet territory. Furthermore, non-English speaking researchers from Eastern Europe can not access a huge amount of data accumulated by Western parapsychologists. Here we describe our recent step towards the solution of above mentioned problems.

Purpose. To develop simple and user-friendly, but comprehensive and versatile bibliographic database of parapsychological periodicals with built-in search engine and bilingual (Russian-English) interface.

Methods. First of all, a list of professional parapsychological journals to be indexed was taken from a recent review of nonconventional periodicals written by Malakhov (2013). A list of additional relevant articles was formed on the basis of Hövelmann's (2009–2014) bibliographic summaries. In parallel, the electronic library with more than 5,000 articles in the field of psychic studies was constructed and archived at the Ukrainian Center for Parapsychological Research. Russian articles were manually translated into English by the staff of our Center. Development of the site framework was performed on the basis of modified CMS WordPress during January–March 2015. Search builder (advanced search option) was created manually by basic PHP programming.

Results. A bilingual bibliographic database entitled *Psihub* was developed and put online at <http://psihub.org/en/>. As of the end of March 2015, 357 abstracts were manually uploaded totally. The first version of the site contains abstracts to selected articles from *Parapsychology and Psychophysics*, the *Australian Journal of Parapsychological Research*, the *Journal of Parapsychology* and the *Journal of Scientific Exploration*. According to indexation plan, more than 1,000 abstracts will be uploaded until the 1st of July 2015, and the whole library of the Center will be uploaded over the next two years.

The main menu of the site contains links to a brief description of the database and developers, a list and short description of parapsychological journals subjected to indexation, short articles meant for familiarizing users with basic parapsychological concepts, and a few help pages containing a detailed glossary, English-Russian and Russian-English dictionaries and a FAQ. Each journal can be screened separately. In the right panel, one can find a list of recommended articles as well as a search history (available for registered users). There are two types of search—simple and advanced; the latter allows users to search target words in specific fields (title, journal, keywords, etc.) and even construct search queries with logical operators. A page with search results consists of abstracts with bibliographic data. Feedback and “Ask a question” forms, as well as links to useful resources are also present and easily accessible.

Scheduled updates. A prominent increase of total number of indexed articles; an extension of the electronic library through an indexation of the WISE World Resource Center Digital Library; improvement and bug fixing of the search engine; large-scale translation of English abstracts into Russian and vice versa; implementation of deeper rubrication and user-accessible adjustments of the results page; transfer of the site to faster hosting, which will allow it to handle multiple queries in parallel.

Conclusions. A simple and user-friendly bilingual database *Psihub*, containing abstracts from parapsychological journals and a built-in search engine was developed and put online. Next steps regarding improvement and enlargement of the database were scheduled.

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KANT AS A SPIRIT-SEERS DEFENDER: A DIFFERENT APPROACH [SPR]

Alma López Vale

In 1766 the well-known philosopher Immanuel Kant wrote a less—or almost not—known essay entitled “Dreams of a Spirit-Seer.” In this text Kant was based on the Swedish mystic Emanuel Swedenborg. In some moments of the text, Kant was very critic with Swedenborg, but there are also other parts that are more complex. Traditional readers of Kant deny this open-minded possibility and try to eliminate this interesting essay of the panorama. But, after all, *Dreams* is still here. This early text is being full studied known in an attempt to understand some points of Kant morals that are doubtful. But it is also the necessity of doing an integrated study of this important author and the amount of text about him that are in the background of this different type of study.

In this paper I will show—or even try to do it—how this “different” Kant could be understood. For this purpose I will examine the essay, especially some controversial parts of it that contradict the traditional point of view. In my opinion, Kant was almost respectful of ghost-seers, although his theoretical construction has to deny the knowledge of spirits. However, he is near to affirm that spirits actually exist and that they should be trusted. Even only near—of course, because of his own philosophical system—his treatment of the whole thing take more risks than anyone could imagine before reading the full text. Kant left space for the possibility of a broader study and, definitively, why did he work hard in reading the voluminous Swedenborg’s books? But also, why did he write the essay? And, moreover, why did he publish it?

This questions in conjunction with a nontraditional, but open-minded reading of Kant’s essays are signs of the interest that the spiritual world woke up on Kant, but there are quite more evidence that supports my point of view. In this presentation my goal is show in what sense the sentence “Kant defended the existence of spirits” was fully true as how this approach can modify the following history of spiritualism—or, at least, our reconstruction of that history. I am not saying that Kant thought about the possibility of having actual knowledge about ghost or spirits, because as is commonly known we are limited as human beings. But there are two mixed things: on the one hand, the world of things that we can know scientifically and rationally; and, on the other, the group of things that can only be felt or sensed.

The world of spirits gives humans hope in the way of life and, in doing so, they are functioning as moral guides, so we can believe in them. I would say more according with Kant—almost with my own interpretation of him: We should do it.

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PRECOGNITIVE DREAMING: A REPLICATION STUDY USING AN INNOVATIVE AND EFFICIENT DIARY CHECKLIST METHOD [SPR]

Caroline Watt, Milan Valášek, & Emma Mark Donald

Several researchers have used dream diary methods to test the hypothesis that people's dreams can predict future events. For example, Besterman (1933) had 43 percipients document their dreams upon awakening and mail a copy to the SPR. The percipients were asked to notify the experimenter if they subsequently noticed any events occurring that corresponded to their dreams, and 45 such events were reported. Out of 430 submitted dreams, Besterman judged just two to represent a "good case" in support of a paranormal interpretation.

Diary studies have the advantage that participants sleep in their home environment rather than in a costly sleep laboratory (e.g., Watt, Wiseman, & Vuillaume, in press). However, as Besterman noted, diary studies are inevitably hampered by the difficulty of evaluating the likelihood of a match between submitted dreams and subsequent events. Essentially, the degree to which there is a match is a subjective judgement.

In 1967, Jackson proposed a new and more objective method for testing precognition in dreams. In Jackson's method, two groups would use dream diaries. Group A would be exposed to a special waking experience after one week, whereas Group B would have no special waking experience. Group B's dreams would therefore provide a comparison or base-rate, controlling for the effects of the special waking experience. Jackson also recommended that emotional material would be more likely to have a strong effect on dreams.

In 2010, Schredl, Götz, and Ehrhardt-Knutsen published in the *JSPR* a pilot study using an innovative variation upon Jackson's method. In Schredl's experiment, all participants were asked to dream about a forthcoming target experience (a short film) and to keep a dream diary over the preceding week. At the end of the week, participants were randomly allocated to Group A or Group B, and each group viewed a different film. The film shown to Group A was labelled Film A; and Group B's film was labelled Film B.

Unusually, Schredl used a quantitative method to record the dream contents and to score the similarity between dreams and the target films. The films had been chosen to have contrasting but intense emotional themes. One film depicted emotionally negative themes of death, the other positively toned film referred to Buddhism and mountains. Before the study commenced, Schredl prepared an adjective checklist depicting the thematic contents of each film. For example, the "death" film was characterised by adjectives such as "murder," "anxiety," "being trapped," and negative emotions; the "mountains" film was depicted by adjectives including "feeling free," "nature," "snow," and positive emotions. Participants were given response sheets with all of these adjectives randomly ordered. Therefore, rather than give a narrative description of their dreams in their diaries, participants were asked to depict the nature of their dreams by ticking whichever adjectives applied. Schredl predicted that if participants' dreams were influenced by the future target experience, Group A would check more content related to Film A than to Film B, and Group B would report more content consistent with Film B than to Film A. The results provided statistically significant support for the hypothesis of dream precognition.

Schredl, Götz, and Ehrhardt-Knutsen's (2010) pilot study method has several efficient features. First, many participants can be tested at the same time. Second, the checklist method allows quick recording of dream contents and quantitative scoring of the degree of similarity between dreams and the target and decoy films. Third, each group can act as the other's control, so the control is empirical rather than against mean chance expectation. We therefore decided to conduct an experiment at the University of Edinburgh using the same methodology, to see whether we could replicate these positive results.

Participants: As with Schredl and colleagues' study, the participants were undergraduate psychology students ($N = 26$, 20 female). Their average age was 19.8 years.

Target materials: Two contrasting films (approximately 20 mins duration) were chosen as target material. One film "Beastie" was a tongue-in-cheek boisterous music video by the Beastie Boys. The other film "2081" depicted a dystopian future in which able-bodied people had their capabilities artificially hampered. CW and EM created adjective checklists to reflect the contrasting themes of each film.

Procedure, hypotheses, and analyses: Participants were asked to complete the adjective checklist to describe their dreams each morning for one week. They were told that their goal was to dream about the film that they would view at the end of the week. They were not aware that there were two possible films. Participants were allocated to groups, and after EM had collected all the checklists, she then randomly

selected which film each group would be shown. We hypothesised that Group A would check a greater number of content variables associated with Film A, compared to Film B; and that Group B would check more content variables associated with Film B, compared to Film A. Logistic random-effects models (to account for statistical dependence since each subject contributed several data points to the analysis) were used to test these hypotheses.

Results: Data collection has been completed and the results of this replication study will be presented for the first time at the conference. We will submit a full report for publication in the *JSPR*.

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CONNECTING WITH THE DEAD: ASSESSING THE PERSONALITY CHARACTERISTICS OF SPIRITUALIST MENTAL MEDIUMS [PA]

Lauren Wellbourne & Ciarán O’Keeffe

The current literature for the personality characteristics of Spiritualist mental mediums is limited, and so, the differences in measures of personality between Spiritualist mental mediums, Spiritualists, and members of the general public were investigated as a partial replication of Roxburgh and Roe’s (2011) research. The current study aimed to explore whether Spiritualist mental mediums, Spiritualists, and members of the General Public would differ on measures of personality: extraversion, neuroticism, openness to experience, conscientiousness, agreeableness, creativity, fantasy proneness, and paranormal belief. Scores of these measures were calculated using the NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992), the Creative Behaviour Inventory (CBI; Dollinger, 2003), the Creative Experiences Scale (CEQ; Merckelbach, Horselenberg & Muris, 2001) and the Revised Paranormal Belief Scale (RPBS; Tobacyk, 1988). Participants were obtained using selective sampling (mediums) and opportunity sampling (spiritualists and general public); consisting of 81 Spiritualist mental mediums, 82 Spiritualists and 78 members of the general public. A one-way MANOVA found a statistically significant difference between the three groups on the combined dependent variables, $F(5, 234) = 11.33, p = .000, \eta^2_p = .19$: neuroticism, extraversion, openness to experience, conscientiousness, and agreeableness. Similarly, a Kruskal-Wallis Test found a statistically significant difference between the three groups on scores of creativity, $\chi^2(2, n = 241) = 24.40, p = .000$. Whilst, an additional Kruskal-Wallis Test found a statistically significant difference between the three groups on the scores of fantasy proneness, $\chi^2(2, n = 241) = 12.18, p = .002$. Lastly, a one-way ANOVA found a statistically significant difference on scores of paranormal belief, $F(2, 238) = 232.39, p = .000$; therefore the hypothesis was accepted. Post-hoc analyses using a standard multiple regression found that “age” and “belief in spiritualism” predicted 63.3% of the variance of paranormal belief.

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ARE THEY REALLY TALKING TO YOU? INDIVIDUAL DIFFERENCES IN EVP EXPERIENTS [SPR]

Ann R. Winsper, Paul Rogers, & John E. Fisk

This report contains the results from the first two studies of a PhD looking at Electronic Voice Phenomena (EVP). The purpose of these first two studies is to define an EVP experiencer, then to create a profile of an EVP experiencer compared to a nonexperiencer.

Study 1: The Paranormal Investigation Experience Questionnaire (PIEQ) was devised to evaluate experiences of EVP and devise a measure of “EVPness” —a measure of people’s belief in, and experience

of, EVP. Participants were also asked to complete two measures of paranormal belief, a personality scale, an afterdeath belief scale, and basic demographic details. It was predicted that EVP believers (EVPers) would score more highly than non-EVPers on the measures of paranormal belief, life after death, and the Openness personality factor.

Four questions were identified from the PIEQ that related directly to the participant's belief in EVP as a paranormal phenomenon that facilitates communication with the spirit world. Respondents were categorised as non-EVPers, low-EVPers and high-EVPers.

As hypothesised, EVPers scored significantly higher on measures of Traditional Religious Belief and specific beliefs in Psi, Spiritualism, Precognition, Witchcraft and Extraordinary Life Forms (cf. Tobacyk, 2004) as well as Anomalous/Paranormal experiences, beliefs, and claimed abilities (cf. Gallagher et al., 1994) than did non-EVPers.

By comparison, low-EVPers showed most fear of anomalous/paranormal phenomena (cf. Gallagher et al., 1994) with non-EVPers showing the least. This suggests that fear decreases with experience of EVP within EVP experiencers.

Finally, EVPers were significantly more likely to endorse specific beliefs that the afterlife incorporated disembodied spirit (i.e., consciousness continues after death but identity and body do not survive), spiritual embodiment (i.e., identity and consciousness survive death but the body does not), reincarnation, bodily resurrection and belief/behaviour efficacy (i.e., actions and beliefs affect what happens after death), and less likely to accept that total annihilation followed death than were non-EVPers.

Factor Analysis: An exploratory factor analysis of the PIEQ questionnaire was carried out with four factors extracted. These were interpreted as Interaction (i.e. EVPs responding to EVPer); Important Messages; Pleasantness; and Knowledge of Source. High-EVPers found EVPs significantly more pleasant than low-EVPers, which may correspond to the higher Fear of the Paranormal scores displayed by low-EVPers.

Study 2: Study 2 was designed to assess the extent to which EVPers are prone to various forms of psychopathology, namely, reality testing, dissociative experiences, fantasy proneness, hallucinations, schizotypal traits, death anxiety, and narcissistic personality.

High-EVPers scored significantly higher than low-EVPers on the agreeableness personality factor. All EVPers scored higher than non-EVPers on the fantasy proneness scale and the hallucinations scale (specifically the auditory hallucinations and sleep related hallucinations subscales). Low-EVPers scored significantly lower than non-EVPers on the exploitativeness subscale of the Narcissistic Personality Inventory scale (Raskin & Terry, 1988).

There were no significant findings for schizotypy, reality testing, dissociative experiences, or death anxiety.

Scores on a number of the scales increased with increasing EVPness, which suggested that the higher the EVPness of a participant, the more likely they are to display traits that have been described as typical of high paranormal belief. However there were some important exceptions, particularly the measure of positive "happy" schizotypy—this has been described as higher in paranormal believers; however, in common with a previous study looking at EVPers (Winsper, 2010), the current study showed no significant differences between high-, low- and non-EVPers. The findings from these studies will be discussed in detail and relevant findings and implications will be discussed.

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PANEL: ROADS TAKEN—SOME CAREER PATHS IN PARAPSYCHOLOGY [PA]

Chair: James C. Carpenter¹

Panelists: Eberhard Bauer², Stanley Krippner³, Deborah Delanoy⁴, Mario P. Varvoglis⁵

A young scholar or scientist considering parapsychology in a serious way might find the prospect daunting. There are hardly clear-cut career paths available. Yet some examples from others may help. Here a small group of parapsychological elders tell of the paths they have found in pursuing their work.

I DID IT MY WAY—AUF DEUTSCH

Eberhard Bauer

I had the chance (or the good luck) to start to work at an already established institution, the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP for short) [Institute for Border Areas of Psychology and Mental Hygiene] which was founded 1950 in Freiburg i. Br. (Germany) by Hans Bender (1907–1991), at that time professor of psychology (including border areas of psychology) at Freiburg University, who became my academic teacher. When I started in 1970, Hans Bender was the most prominent representative of academic parapsychology in (West-)Germany. As a young psychologist I was introduced to a broad spectrum of parapsychological issues which had to do with research, counseling, and information. Among my academic duties was to teach introductory parapsychological seminars for psychology students. What I've learnt during my career was that parapsychology is no place where one can find easy answers or is a field that offers easy chances for an academic career (if one has this in mind). A basic requirement is a regular education in one of the conventional sciences. Given the still very controversial nature of parapsychology and the acrimonious quality of the ongoing debates connected with this field, I think an outspoken tolerance for "cognitive dissonance" is an absolute prerequisite. After the IGPP was funded in 1992 by the Holler Foundation in Munich (the credit for that goes entirely to Bender), I was fortunate enough to help to expand the interdisciplinary activities of the IGPP and to realize some of the original goals connected with the founding of the IGPP. But I frankly confess that such a development is indeed a very rare event in the history of parapsychology, at least in Europe, perhaps containing the flavour of paranormality itself.

TWO BRANCHES OF THE ROAD TAKEN

Stanley Krippner

The first branch occurred at the University of Wisconsin when I chaired the Student Union Forum Committee and we decided to invited J. B. Rhine as part of our lecture series. This led to an invitation to visit the Duke University Parapsychology Laboratory and the rest is part of my personal history. The second branch occurred at Northwestern University when a group of graduate students requested an informal seminar with Gardner Murphy following his lecture to the psychology department. When Murphy heard that I planned to be in Hawaii that summer, he invited me to be his graduate assistant at the social psychology courses he planned to teach at the University of Hawaii. Again, the sequel led to my direction of the Maimonides Medical Center Dream Research Laboratory.

A PARAPSYCHOLOGICAL CAREER—A LUCKY HAPPENSTANCE?

Deborah Delanoy

While not part of a career path per se, two factors that influenced my later pursuit of parapsychology included experiences that lead to a "natural," unquestioning acceptance of psi, and potentially related phenomena, from a very young age. Other related experiences came from being an adolescent/young adult in the San Francisco Bay Area in the 1960s.

I worked in San Francisco after my first degree and, after having established a business career, I took time out to do a PhD focused upon parapsychology as a mature student at the University of Edinburgh. Fortunately, post-PhD, I was offered jobs at the newly founded Koestler Chair by Bob Morris and at PRL by Chuck Honorton; I chose the former.

I then spent 13 years as a Research Fellow with the Koestler Parapsychology Unit (KPU), including job-sharing with Bob the role of Visiting Professor at the IGPP in the mid-late 1990s. Since a career as a university researcher is a difficult role to sustain, I left Edinburgh to take up the post of Professor of Psychology at the University of Northampton (then Northampton University College). There I worked my way up the academic ladder having roles that included being a research leader for a subject area (psychology), then for a small school, then for a much larger school, then became Associate Dean for the School of Social Sciences, in charge of all research and postgraduate education among too many other things. I retired in 2010 as an Emeritus Professor at Northampton. Also, I had a short period as a “Visiting Professor” at Edinburgh University when I moved back to Scotland.

PARAPSYCHOLOGIST, PRINCETON TO PARIS

Mario P. Varvoglis

I'll be talking about the four key phases of my life in parapsychology :

1. student volunteer at the Maimonides Hospital Dream Laboratory, where Chuck Honorton and associates launched the early Ganzfeld work;
2. research associate at Princeton's Psychophysical Research Labs, working on the auto-ganzfeld, microPK and theoretical issues;
3. independent researcher in France, developing and testing game-like psi tests and a general public educational CD-ROM named *Psi Explorer*;
4. President of the Institut Métapsychique, the principle parapsychological center in France.

CHASING A QUESTION

James C. Carpenter

I became immersed in parapsychology in the early '60's at Duke University at the Parapsychology Lab. I had gone to Duke to learn about it and I did, and got to know Rhine and Pratt and the others in that remarkable place. I had many formative experiences there, the strongest being the tight bonds I formed with a small group of others about my age that Rhine was also grooming as his heirs: Honorton, Morris, Stanford, and Rogers. Ed Kelly, Kanthamani, and John Palmer joined the band a little later. We became very tight and shared lots of ideas and friendship and kept up our ties after we left Rhine's lab. I was uncertain about parapsychology as a career and went to another love, clinical psychology, but have kept up parapsychology as a secondary pursuit ever since. First mainstream teaching and research and then clinical work have paid the bills while I persisted in research part-time. I will talk about chapters of work at UNC where I taught for several years, then at FRNM and the Rhine Center, and then my own research and theoretical writing and activities with the PA.

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PANEL: THE EMERGING FIELD OF PARANTHROPOLOGY [PA]

Chair: Serena M. Roney-Dougal¹Panelists: Jack Hunter², Stanley Krippner³, David Luke⁴

A BRIEF HISTORY OF PARANTHROPOLOGY

Jack Hunter

Initially a brief overview of the fields of transpersonal anthropology, the anthropology of consciousness and, the most recent development in this lineage, paranthropology will be presented. It will outline the contributions of these fields to the development of a new approach to the investigation of so-called non-ordinary realities which emphasises the need for ethnographers to participate in the transpersonal practices and experiences of their fieldwork informants. In the words of Edith Turner, the anthropologist must learn to “see as the Native sees” in order to truly grasp the experiential foundations of religious and spiritual belief, and escape from the hegemonic dismissal of alternative ontologies. This talk will explore the limitations of traditional anthropological approaches to the study of religion, which often fall short of providing a satisfactory account of the richness and complexity of ethnographic reality and will offer suggestions for ways to overcome such problems.

EXPLORING THE APPARENTLY PSI-CONDUCTIVE BUT METHODOLOGICALLY ELUSIVE
NATURE OF RITUAL PSYCHEDELIC USE

David Luke

Field reports from explorers, anthropologists, and ethnobotanists have long since attested to the apparent psi-inducing properties of shamanic plant psychedelics, such as the Amazonian *decoction ayahuasca* and the mescaline-containing cacti San Pedro and peyote. After reviewing the literature an initial experimental precognition protocol was developed for use in field research and piloted in Brazil and Ecuador with participants who were taking part in ayahuasca rituals. The preliminary findings did not provide evidence for precognition under the influence of ayahuasca; nevertheless, a number of methodological issues became apparent from conducting the study that may account for the findings. Taking into consideration problems identified with the test protocol a new experimental design was developed and was planned for use with participants under the influence of San Pedro cactus in a ritual context; however, the implementation of the second protocol was hampered by cultural rather than internal design factors, and an alternative solution was sought by testing the protocol in principle using just one participant, with encouraging findings. The process of, and problems associated with, conducting and developing experimental field research with participants utilizing plant psychedelics in a ritual context are discussed and proposals for future research are put forward.

METHODOLOGY OF DOING PSI RESEARCH IN OTHER CULTURES
AND THE EFFECT OF CULTURAL BELIEFS

Serena M. Roney-Dougal

Taking a parapsychology experimental procedure and adapting it to the culture in which one is working is tricky and takes time. The experimenter needs to live for a sufficiently long period of time with the participants in order to begin to appreciate their perspective and gain their confidence. The experimental methodological rigour needs to be maintained whilst one works within the participants' cultural experience. In my research in India with Yogis and Tibetans it took 2 years to create a procedure with which the participants

were comfortable. An example from the yogic research: in the first year the students scored in the psi-missing direction. Discussions with them revealed that compliance is very important for students with a teacher. They knew that the hypothesis was that the swamis would score better and so they had unconsciously attempted to comply with this. Bringing this unconscious factor into the open resulted in chance scoring by the students in the following year—an improvement on the psi-missing.

With the Tibetans, the methodology was similar to their practice of mirror Mo divination. However the targets had to be specially prepared for them as appropriate for their life experience which was without radio and television. Therefore static targets of Tibet were prepared and in the second year changed to pictures of Tibet and India, as pictures of Tibet were too uniform. However, even though the Tibetans were now living in India, some of the targets were outside of their life experience. For example, one monk during the session saw a flower filled meadow. When he was viewing the four pictures one was of a rock pool. He had never seen the sea. We explained that these were underwater flowers, for example, sea anemones, and he immediately identified this as the target, since it was the closest to his meadow!

TWO MORE SESSIONS WITH AMYR AMIDEN, A BRAZILIAN CLAIMANT MEDIUM

Stanley Krippner

In 1994, I was a member of an interdisciplinary team that spent 8 days studying Amyr Amiden, a Brazilian claimant medium. During 20 sessions, 97 possible anomalous events were observed, 91 of which were rated “apparent anomalies” on the basis of a 5-point rating scale filled out by three members of the team. When the mean ratings per event were correlated with physiological and geomagnetic readings, 2 of the 10 correlations were statistically significant: elevated diastolic blood pressure and elevated geomagnetic activity (using the geomagnetic index for the Southern hemisphere). My follow-up visit the following year was marked by additional apparent anomalies as was an additional visit in 2014. One of the most unusual apparent anomalies was the sudden appearance of a pair of linked metal rings. Brazilian culture in general and Amiden’s family background in particular were felt to be conducive to his behavior.

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PANEL: PRACTICAL APPLICATIONS OF PSI [PA]

Cochairs: Patrizio E. Tressoldi¹, Julia Mossbridge², Thomas Rabeyron³

Panelists: Anabela C. Ventura⁴, Flavio Burgarella⁵, EvanLab Team⁶

THE MANY ADVANTAGES OF PRACTICAL APPLICATIONS FOR PARAPSYCHOLOGY

Julia Mossbridge, Thomas Rabeyron, & Patrizio E. Tressoldi

In their recent paper “Future directions in precognition research: more research can bridge the gap between skeptics and proponents,” Franklin, Baumgart and Schooler (2014) stated: “The most convincing demonstration would be to show tangible effects applied in real-world settings. If a paradigm can make accurate predictions about events that people consider important and are incapable of predicting using standard means, then the significance of the paradigm becomes self-evident.” In this panel we will address this point by presenting different practical applications across multiple fields.

BUILDING A SMARTPHONE APP FOR PRESENTIMENT EXPERIMENTS: RESULTS THUS FAR AND LESSONS LEARNED

Julia Mossbridge

Data from human presentiment experiments show a consistent pre-stimulus physiological difference between two upcoming stimulus types (e.g., arousing versus neutral) in a random sequence of stimuli. While this predictive anticipatory activity or PAA could potentially be produced by lingering responses to previous stimuli or an expectation bias effect, analyses designed to rule out such an explanation have not supported this idea. Nonetheless, the possible influence of previous trials and/or expectation about future trials makes presentiment or PAA less palatable to mainstream scientific audiences, reducing the funding available for this important line of research.

One solution is to present a large group of participants with only one stimulus each, while recording the physiological variable before, during, and after the presentation of this single stimulus, as has been suggested by several researchers. The drawback of this approach is that it is difficult to obtain participants who are willing to go into the lab for a very brief experiment.

To address this problem, I have built an Android app that uses the built-in camera to detect interbeat intervals (IBIs) in much the same way an oximeter works—by tracking the changes in red color in the user's finger. Around this physiology engine, I have built single-trial software that presents a countdown and a potential monetary reward at the end of the countdown.

Pilot results from a preregistered exploratory experiment in 150 male and 150 female adults suggest that the gender difference previously shown in skin conductance measures obtained in the laboratory for single-trial data (Mossbridge et al., 2012, Figure 6) is replicated in interbeat intervals, such that there is a significant gender interaction between the change in IBI preceding a win-versus-loss for women and that preceding a win-versus-loss for men.

I will discuss these data as well as the lessons learned for the process of building smartphone/smartwatch/smartband physiology apps that can take advantage of presentiment or PAA to help users predict upcoming events of importance.

PSI APPLICATIONS: CAN WE TAKE CONTROL OF PSI?

Thomas Rabeyron

Even though several meta-analyses have produced significant effect size of psi in controlled conditions (Bem & Honorton 1994; Storm, Tressoldi, & Risio, 2010; Mossbridge, Tressoldi, & Utts, 2012), we still don't understand precisely its ontological nature and psi remains an elusive phenomenon (Kennedy, 2003). Consequently, mainstream psychology does not consider the existence of psi as being proven (Wagenmakers, Wetzels, Borsboom, & Van der Maas, 2011) and significant progress does not seem possible as long as a scientific theory of psi won't be proposed. Such a theory would need to improve the reliability of psi effect and help to understand its biological and physical underlying processes. But several epistemological and empirical obstacles have prevented so far such an aim.

One of these obstacles is the influence of the experimenter: as soon as we suppose the existence of psi, there are no clear boundaries between the experimenter and his object of study. Consequently, we can hardly know if the results we obtain are a reliable characteristic of psi phenomena or a psi influence from the experimenter beliefs and expectations (Schlitz, Wiseman, Watt, & Radin, 2006). Thus, even if some results seem plausible [e.g. sheep-goat effect (Lawrence, 1993), noise reduction model (Storm et al., 2010), etc.], the psi experimenter "breach" prevents solid progress as in other scientific fields. A second obstacle concerns the ontological nature of psi phenomena. Psi is a complex problem that probably needs, in order to be solved in details, to first work out other complicated problems, like, for example, the relationship between the mind and the brain. Billions of dollars have been expensed in this domain without a clear

success and psi researchers, with few resources, will probably have difficulties to put a real input in this domain. Consequently, they won't be able to solve the psi mystery as long as clear progress in other fields of research won't be achieved. A third obstacle is a more sociological one: Science usually needs social implications in order to be integrated and developed in a social environment. As long as psi only proposes strange anomalies without clear implications, funding and progress will continue to be scarce.

One way to avoid in part these obstacles could be to focus research on psi applications and especially financial ones. Even if only small effect size can be achieved on a regular basis, they should be sufficient enough to develop reliable financial applications. In this regard, we will present several past attempts of financial applications using Associate Remote Viewing with selected participants (Bierman & Rabeyron, 2012). We will also show how new scientific and technological tools can help us to develop original psi applications (Franklin, Baumgart, & Schooner, 2014). We will expose several propositions in this direction: how to work on-line with large populations, the use of algorithm, coupling with relevant financial systems, and theory-based applications. This new approach could allow going from a "passive" experimental approach of psi to an "active" approach that could improve our control of psi thanks to a close articulation with applications.

INTENTION AND BRAIN-TO-BRAIN COMMUNICATION WITH NONINVASIVE TECHNIQUES

Anabela C. Ventura

Brain-to-brain communication has increasingly become a topic of interest in neuroscience. Previous studies have shown synchronization of neural activity between pairs of participants when intentionality is involved, even at a distance. This study, funded by Bial Foundation, investigates how distant focused intention (Reiki), either alone or enhanced by neurofeedback, influences executive-function performance (memory and problem solving). We also aim to determine whether or not there is any expansion of consciousness as a result of distant focused intention. Quantitative electroencephalography records, while a neurofeedback system attempts to enhance, the simultaneous brain activity of pairs engaged in Reiki. The intention sender is electrically isolated in a Faraday cage 2 km from receivers. Data analysis focuses on brain coherence between participants and sLORETA analysis focused on brain area activation.

HEART-BODY-MIND CONNECTION AT A DISTANCE AS A POTENTIAL NEW FORM OF COMMUNICATION

Flavio Burgarella & Patrizio E. Tressoldi

The feasibility of a potential new form of communication at a distance exploiting the evidence supporting the possibility of mental interactions with living systems (Roe, Sonnex, & Roxburgh, 2014) will be introduced. A special technique devised by the first author, utilizes a mind-heart intention directed towards distant human body parts e.g. neck and foot of a partner isolated from the transmitter to prevent any classical communication. The results of the first exploratory investigation on the correct identification of two body parts, the neck and the foot following a random sequence, will be presented.

CARDIO-ALERT AND MIND-SWITCH, TWO PRACTICAL APPLICATIONS OF PRESENTIMENT AND PK PHENOMENA

Patrizio Tressoldi & EvanLab Team

Cardio-Alert and Mind-Switch are two applications devised to exploit presentiment and micro-pk phenomena for practical purposes.

Cardio-Alert is a portable apparatus that uses the heart rate (HR) measured 10 seconds before the

presentation of two random events of different emotional content to help a participant choose a good option or avoid a bad one. After the definition of the HR baseline, a threshold is set above and below it. When the HR before the presentation of an event exceeds the threshold, an acoustic signal informs the participant that a potential dangerous or advantageous event is going to be presented, allowing the participant to change his or her choice. The results of a first confirmatory study will be presented.

In contrast, Mind-Switch is a practical application developed with the EvanLab Team, aimed at exploiting micro-pk effects. It consists of software accessible via the Internet, which monitors when the randomness of digits produced by a REG is violated to a predefined threshold by a mental interaction at a distance. When this threshold is achieved, the software sends a signal to an Arduino microcontroller that can trigger an electronic switch to activate or de-activate any connected apparatus.

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WORKSHOP: HISTORICAL COLLECTIONS INCLUDING DIGITALIZATION PROJECTS AT PARAPSYCHOLOGICAL ORGANIZATIONS IN EUROPE [PA]

Chair: Eberhard Bauer¹

Panelists: Renaud Evrard², Gerd Hövelmann³, Wim Kramer⁴, Michael Tremmel⁵, Sergii Vakal⁶

The importance of preserving historical collections including special libraries and archives for the social and cultural history of early psychical research and parapsychology—the “cultural memory” of the paranormal so to speak—is a widely acknowledged fact within the international parapsychological community. It is also a well-known fact how difficult it is to establish and to guarantee a stable and permanent organizational structure for preserving and making publicly available such “unorthodox” materials usually rejected by mainstream institutions. The purpose of the workshop is to give a short overview on different projects in several European countries dealing with the preservation of a variety of archival holdings and historical collections including its digitization endeavours.

LIBRARY AND HISTORICAL COLLECTIONS AT THE IGPP FREIBURG, GERMANY

Eberhard Bauer

The IGPP, founded in 1950, has a long tradition in building up and maintaining an international library on psychical research, parapsychology and border areas of psychology including archival and other collections dealing with the history of German psychical and anomalistic research. Its holdings, comprising more than 60,000 volumes, belong to the University Library of Freiburg. In collaboration with the University Library, the IGPP has started to digitalize selected German journals relevant for the history of early psychical research and parapsychology in order to make them available via Internet.

THE SCIENTIFIC IMAGINARY: FRENCH PERSPECTIVE ON A HERITAGE IN DANGER [PA]

Renaud Evrard

Concentrating on French material, this talk is dealing with public digitalizations (Gallica), private digitalizations (LexScien), and the Agence Martienne, a photolibrary specialized on the scientific imaginary and which is in contract with the Institut Métapsychique International (IMI), Paris.

TWO PRIVATE ESTATES, IMPORTANT TESTIMONIA OF
THE HISTORY OF PARAPSYCHOLOGY IN EUROPE

Gerd Hövelmann

The bequest of the Dutch skeptic and very nontypical CSICOP representative Piet Hein Hoebens (1948–1984) and the scientific estate of the not-quite-so-skeptical believer in spirits, the spiritualist Emil Prince zu Sayn-Wittgenstein-Berleburg (1824-1878), could hardly be more different. And different these holdings are in many ways, beginning with the sad (Hoebens) or the unexpected and ludicrous (Wittgenstein) ways that both holdings got into my custody and care. However, there is one respect in which both “collections” are similar: Preserving these important materials for future generations is posing the very same problems in both cases; these are mainly due to lacking funds for professional archiving and digitization. Both collections currently are in satisfactory physical condition, but their future and their competent scientific appraisal are not sufficiently secured. This short paper will show relevant examples from both collections—such as Hoebens’s substantial correspondence with Eric J. Dingwall or Wittgenstein’s detailed protocols of spiritistic sessions with Florence Cook (“Katie King”) and other mediums—and emphasize their worthiness of protection and security.

PRESERVING THE HISTORY OF DUTCH PARAPSYCHOLOGY AS INTEGRAL
PART OF THE HISTORY OF THE SCIENCES IN THE NETHERLANDS

Wim Kramer

In 2007 a large-scale project was started to preserve the history of Dutch parapsychology as a 20th century scientific endeavor. This project included the preservation of the history of Dutch spiritualism and psychic healing. These topics are closely related to parapsychological research at Dutch universities in the 20th century. The aim of the project is to hand over these archives, including books and journals, to professional archival institutions and university libraries in the Netherlands. By doing so we make sure that the materials will be secured under Dutch archival law. The advantage is that the archival materials, books, and journals will be maintained professionally, kept forever, and will be publicly available to anyone.

Over the years we managed to obtain a substantial amount of archives. After indexing the materials we have already handed over a large—over 130 boxes—archive on the history of Dutch Spiritualism to the Utrecht Archive and archives dealing with psychic healing to the Gelders Archive in Arnhem. Thousands of books and journals have already been handed over to, amongst others, The National Royal Library of the Netherlands, the libraries of the University of Groningen and Erasmus University in Rotterdam, and the Library of the IGPP/University of Freiburg, in Germany. A collection of videotapes of TV programs of the 1980s was handed over to the National museum “Sound and Vision” in Hilversum in 2010.

Currently we are processing archives of the Dutch SPR and other parapsychological societies in Holland, the former Parapsychology Laboratory of Utrecht University and the very large collection of the Dutch psychic and healer Gerard Croiset. This archive also includes a substantial amount of international correspondence of missing person cases and chair tests. Next to this we have about a dozen smaller archival collections that need to be indexed. In March of this year we handed over a significant archival collection

on parapsychology in general including a substantial amount of books and journals and three artifacts to the ADNG, a scientific collection on the history of the social sciences supported by several Dutch universities and professional societies. In June 2014 we organized and hosted the international conference Preserving “Historical Collections of Parapsychology” (PHCP) in Utrecht, the Netherlands (see: www.hetjohanborgmanfonds.nl).

In this workshop we will discuss our progress and the challenges we encounter in digitizing and how to deal with photographic materials, film (16mm), audio tapes, videotapes, and the unique artifacts dealing with the paranormal we have obtained over the years. We also like to emphasize that preserving the history of parapsychology is not something to do “on the side.” To make it a success it needs constant serious attention of all parties involved and adequate funding.

DIGITIZING THE *JOURNAL OF PARAPSYCHOLOGY*

Michael Tremmel

This is a report on the current status of a project aimed at the digitization of *Journal of Parapsychology* issues. The project, undertaken on a voluntary basis, provides a cost-effective and high-quality model for future digitization projects. The PDF files produced are intended for distribution without page viewing restrictions and have the scans preserved to demonstrate to the user that it is safe to quote the digital journal version.

PSIHUB—A PARAPSYCHOLOGICAL DATABASE

Sergii Vakal

PSIHUB is a free search engine and bibliographic database of references and abstracts on parapsychological topics. It is the first parapsychological database with both English and Russian interfaces, thus allowing non-English speakers from post-Soviet countries to search abstracts of English periodicals and vice versa. The intended purpose of PSIHUB system is to strengthen and intensify information-sharing between Russian- and English-speaking psi researchers.

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PA INVITED ADDRESSES

FOR THE 2013 OUTSTANDING CAREER AWARD:
A VIEW FROM THE “MAGIC HILL”

Eberhard Bauer

The topic of my talk is dealing with my long association with the Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP) [Institute for Border Areas of Psychology and Mental Health] which was founded in Freiburg i. Br. (Germany) in 1950 by Hans Bender (1907–1991), professor of psychology including border areas of psychology at Freiburg University and the Doyen of academic parapsychology in Germany after the WW II. In 1967 I started as a student collaborator and later, after I had finished my psychology study at Freiburg University, as Bender's scientific assistant at the IGPP which was located at that time at the address "Eichhalde 12" in Freiburg—therefore called "Eichhalde Institute." In a sense, this institution was Bender's most personal creation. For decades it represented in the Federal Republic of Germany an unrivalled center for parapsychological research, information, and advice, inspired by the tireless efforts of its founder. Quite a number of active parapsychological workers in Germany and abroad in the 1950s, 1960s, 1970s and 1980s got their first impressions of serious psi research by visiting Hans Bender's Freiburg Institute. An endless stream of visitors from all over the world was full of praise for the hospitality of its director and the beautiful location of the Institute overlooking the Rhine valley (I mean the river Rhein, of course). Bender used to speak of the place where he had erected his Institute as the "Magical Hill" ("*magischer Hügel*"). Among the visitors whom I've met in the years to come were mediums and magicians, astrologers and ufologists, dowzers and numerologists, witches and healers, gurus and charlatans, spiritualists and hostile sceptics, psychotics and serious scientists; classes of students, TV teams and hard-nosed journalists—they all came to Freiburg to see and to talk to the famous professor and to learn more about the "border areas" of science. Since its foundation, the IGPP has provided the public with an information and counseling service covering the whole spectrum of parapsychology, fringe sciences and anomalistic phenomena, summarized under the neutral term "exceptional experiences" (ExE). This includes information and material about the distribution and phenomenology of psychic experiences together with expert knowledge regarding the state of the art of interdisciplinary research related to border areas of psychology and anomalous phenomena. A special counseling program of the IGPP is designed to meet the individual needs of individuals who have to cope with "occult," supernatural or paranormal experiences causing them and others emotional distress ("mental hygiene"). In the early nineties, with the decisive help of new funding means coming from the private Munich "Holler Foundation," for which Hans Bender was responsible, the IGPP could expand and restructure its scope of activities considerably. In the years to follow the Institute became one of the biggest research and funding organizations in the field of parapsychology and anomalistics. It has maintained close collaborations and ties with major parapsychological research centers in the world. In 1996 the IGPP has left the old building at « Eichhalde 12 » and moved to new and modern premises in the center of Freiburg at « Wilhelmstrasse 3 A. » The actual mission of the IGPP can be described as systematic and interdisciplinary research concerning insufficiently understood phenomena and anomalies at the frontiers of current scientific knowledge. These include altered states of consciousness, exceptional human experiences, mind-matter relations, and their social, cultural and historical contexts from the perspectives of the humanities, social sciences and natural sciences. About twenty scientific staff members are currently active at the IGPP. The Institute runs also a special library comprising more than 60,000 volumes which form part of the main library of the University of Freiburg. The library subscribes approximately 260 journals, magazines and newsletters from all over the world. In addition, there is an archive focussing on all those materials (pictures, slides, films, tapes, manuscripts, letters, personal files) which may be of importance for cultural and historical aspects of both the reception of German parapsychology and of the Institute itself. In my talk I'll give an overview on the recent developments and projects done at the Institute.

Further details and references to my work can be found in my biographical chapter "On the Magic Hill," published in Rosemarie Pilkington, Ed., *Men and Women of Parapsychology, Personal Reflections. ESPRIT Volume 2* (pp. 29–59). San Antonio/New York: Anomalist Books, 2013.

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FOR THE 2014 OUTSTANDING CAREER AWARD:
ROBERT L. MORRIS AND THE KOESTLER CHAIR

Deborah Delanoy

This talk will highlight the approach Bob Morris took to advancing parapsychology during the years that he held the Koestler Chair of Parapsychology in the Psychology Department at the University of Edinburgh (1985–2004). As such, it's primarily aimed at the younger generation of parapsychologists, who may not have known Bob or be familiar with the Chair, except by reputation. Bob's manner of interacting, both within the Psychology Department and the university at large, as well as with other universities and learned societies, will be considered. His main research interests will be briefly touched upon. But of primary concern is how he presented parapsychology to others and the strategies he adopted to advance the well-being of parapsychology. The personal attributes he brought to his role of being the pre-eminent academic representative of parapsychology within Britain, if not within Europe, and arguably the world, will be considered. Also, the way in which he used his position to "normalize" parapsychology and integrate it with other research areas so that it would be viewed as a valid domain of scientific inquiry will be discussed. It is probably too soon to judge the ultimate success of this approach. But it is hoped that this summary could assist future generations to better make this assessment, as well as perhaps providing some helpful guidelines to other parapsychologists with similar aims.

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FOR THE 2013 CHARLES HONORTON INTEGRATIVE CONTRIBUTIONS AWARD:
INTRODUCING *PARAPSYCHOLOGY: A HANDBOOK FOR THE 21ST CENTURY*

Etzel Cardeña

In 1977, Benjamin Wolman published the *Handbook of Parapsychology*, a "state of the art" overview of the field. After almost 40 years, John Palmer, David Marcusson-Clavertz and I decided that it was important to come up with a new comprehensive and authoritative account of the current status of the field as well as provide the tools necessary for a new researcher or theoretician to initiate informed work on the area. Thus, *Parapsychology*, an edited volume with contributions by many of the most important workers in the field. In this presentation I will introduce the main sections of the volume: (a) basic concepts (including terminology, history of the field since 1977, and the case for and against parapsychology), (b) research methods and statistical approaches (including basic techniques and more recent developments such as Bayesian analysis), (c) psychology and psi (including psychological theories of psi; the impact of states, traits and beliefs on psi; and meditation and psi), (d) biology and psi (including an evolutionary perspective, and drugs and psi), (e) physics and psi (including physical theories and physical correlates of psi), (f) authoritative reviews of research on anomalous cognition, perturbation, and force, (g) research on survival (including mental mediumship, reincarnation, and related phenomena), (h) research on psi in everyday life and practical applications, and (i) a summing up of the import of parapsychology to science in general and my personal reflections on the field.

*CERCAP, Lund University
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FOR THE 2014 CHARLES HONORTON INTEGRATED CONTRIBUTIONS AWARD:
HEALING THE RIFT IN PARAPSYCHOLOGY: TURNING THE NONCONSCIOUS/CONSCIOUS
GAP INTO A COLLABORATIVE HANDSHAKE

Julia Mossbridge

There is a rift in parapsychology that is shared with all investigations examining the nature of mind and physical reality. We can only know what we observe with our conscious awareness, but we do most of the observing and processing of our observations with nonconscious processes. In fact, according to two commonly held tenets of neuroscience, nonconscious processes are responsible for everything we experience and think. And it appears, based on inference, that what we experience and think sometimes do not match the physical reality in which we exist. So even as we focus on our conscious impressions to try to carefully critique, analyze, and understand them in an attempt to understand the nature of mind and physical reality, we are forced by this nonconscious/conscious gap to include only the information offered into consciousness by our nonconscious processes. Moving forward in fields examining the nature of mind and physical reality requires a paradigm shift that allows us to identify and bring into awareness more of what is presently not conscious. Doing so requires us to reconceptualize the gap between nonconscious and conscious processes as a collaborative union of different portions of ourselves that can come to alternative agreements about what information is available to consciousness at what time. We must consider letting go of what has been called by philosopher John Searle (1996) “the terror of the subjective” as we begin to carefully blend first- and third-person observational methods with a broader acceptance of the overarching power of the relationship between nonconscious and conscious processes.

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FOR THE 2014 SCHMEIDLER OUTSTANDING STUDENT AWARD:
 EXAMINING WHAT COGNITIVE MECHANISMS MAKE SPONTANEOUS
 POST-DEATH PHENOMENA THERAPEUTIC FOR THE BEREAVED

Callum E. Cooper, Chris A. Roe, & Graham Mitchell

Bereavement can be described as a universally experienced set of negative emotional stages experienced following the loss of an object we hold dear (Carr, 1975). This typically involves the loss of people through physical separation or biological death, but can occur in a variety of circumstances, including separation from childhood toys or the loss of a limb through accident and amputation (Doka, 1989). To be able to experience such a personal loss we must first have formed an attachment to *something*, or typically *someone*. A psychological attachment is “the strong, affectionate tie we have with special people in our lives that leads us to feel pleasure when we interact with them and to be comforted by their nearness during times of stress” (Berk, 2006, p. 419).

One of the most common anomalous experiences reported by the bereaved is “sensing the presence of the dead.” Many other experiences have been reported including: sounds, smells, touch, apparitions, poltergeist activity, dreams, and symbolic events (Cooper, Roe, & Mitchell, 2015). Rees (1971) highlighted the commonality of such phenomena in the *British Medical Journal*, whereupon health care professionals, bereavement counsellors, and other relevant practitioners, became more aware and sympathy toward the bereaved reporting such experiences. People began to listen, rather than dismiss. And yet, some 80 years before the publication of Rees (1971), psychical research had already given significant attention to such experiences through investigating “apparitions occurring soon after death” (Gurney & Myers, 1889).

However, following the Rees (1971) study, which was the product of a medical doctoral thesis, a respectable number of studies have followed since then regarding the nature and impact of post-death encounters on the bereaved, predominantly in the form of doctoral theses (to cite a few: Burton, 1980; Conant, 1992; Drewry, 2002; Knight, 2011; Parker, 2004). Most of the previously conducted studies have

focused on qualitative designs to investigate the nature of such experiences, their influence, and their interpretation by the bereaved. Such studies have found consistent themes of: relief, joy, forgiveness, love, healing and hope—the latter of which has been casually expressed in various ways by both participant and researcher, in their experiences and conclusions.

This current study—conducted as part of a doctoral thesis—has set out to investigate what possible role hope plays within post-death encounters through the examination of bereavement and recovery. Previous studies have failed to measure and examine the presence and purpose of hope from their findings. Added to that, little if any discussion has previously been provided on how important it is to embrace hope, and that it is a valuable human trait and driving force to our daily lives and motivation (Snyder, 1994, 1996; Stotland, 1969).

A sample of individuals ($N = 100$) who were comfortable to recall a significant bereavement in their life were recruited and placed into one of two categories. An experimental group consisting of participants who had suffered a significant bereavement in their life which followed with at least one spontaneous anomalous experience ($n = 50$), and a control group consisting of participants who had suffered a significant bereavement in their life but have *never* had any form of spontaneous encounter associated with the deceased ($n = 50$). All participants were provided with a questionnaire battery containing scales on afterlife belief, paranormal belief, religious belief, death anxiety, and a scale measuring personal levels of hope before and after the event of a significant personal loss (followed by an anomalous experience or not). Findings suggest that to have a spontaneous post-death encounter helps to maintain levels of hope and ease loss through a continued bond with the dead. While those who do report such encounters during bereavement, report a significant drop in their levels of hope—which could lead to prolonged or intensified negative side-effects of grief (namely depression). This presentation will discuss such initial findings and conclusions further, and how the research plans to progress.

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PRESIDENTIAL ADDRESS:
PSI IS NOT A PSYCHOLOGICAL ANOMALY

James C. Carpenter

Is psi real? If it is, where does it fit into our mental life? Is it a rare, rogue phenomenon? What is it for? How does it work?

Dr. Carpenter will present the essential elements of a theory that he has developed, called First Sight, that he intends to go a long way toward answering these questions. He will spell out a point of view in which psi is real, and is very common, very useful, and potentially as predictable as the other elements of unconscious mental processing that are being actively studied by contemporary cognitive science. The constructs of unconscious intention, and the direction and the stability of direction of unconscious intention, are especially central to this theory. He will place special emphasis on programmatic research implicit in First Sight: the kinds of research questions that it has spawned and will encourage in the future, and the sorts of studies that will be most pertinent to it.

Based upon the greater clarity that this theory can be shown to produce in extant research, there is reason to be optimistic that it will be fruitful in developing a meaningful and predictive understanding of psi.

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J. B. RHINE BANQUET ADDRESS:
THE FACES OF GOD: TABOO AND METAPHOR IN VENTURING BEYOND PHYSICALISM

Les Lancaster

Parapsychology and transpersonal psychology meet in their respective interests in specifying psychological processes involved in experiences that many regard as being anomalous. Whilst parapsychologists lay emphasis on behavioural demonstrations of such anomalous phenomena, transpersonal psychologists focus on a subset of these phenomena associated with the journey towards enriched states of being, as originally enunciated through mystical texts and other religious writings. The two disciplines meet in their concern to understand the medium through which anomalous events may arise, and the ways in which this medium impacts on known psychological processes. In this presentation I explore the ways in which the term “transcendent” might be applied to this medium. Is it transcendent in the scientifically plausible sense of entailing dimensions beyond time and space, or is it more radically transcendent in the theistic terms that mystical traditions generally teach? How might we differentiate between the epistemologies that underlie these positions? And, crucially, what impact do these views have for the individual engaged in some kind of transpersonal journey of growth? An instructive parallel may be drawn from the 13th-century Kabbalah which adopted grandiose schemes of the “faces of God” in order to conceptualise realms beyond the immediate world of our senses. Despite lengthy descriptions of intricate features of these faces there was little conflict with the taboo on depictions of God since it was understood that insight can be conveyed only through metaphor. In our day when the “S-word”—once taboo in psychology—is practically centre-stage, might we productively revisit formulations of the “G-word” in order to advance our insight into the metaphorical roots of knowing?

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ARE DIFFERENT STANDARDS WARRANTED TO EVALUATE PSI?¹

By George Williams

ABSTRACT: Throughout the debate on psi, skeptics have almost universally insisted on different standards for evaluating the evidence, claiming that psi represents a radical departure from our current scientific understanding. Thus, there is considerable ambiguity about what standard of evaluation psi must meet. Little attention has been paid to the possible harm to the integrity of scientific investigation from this resulting inconsistency in testing standards. Some have proposed using a Bayesian framework as an improvement on this dilemma in order to more explicitly model beliefs, assumptions, and background scientific knowledge, especially when evaluating a controversial hypothesis. Recently, Kuhn's notion of paradigms, which constrains scientific research within boundaries believed to be most productive, has been incorporated into a Bayesian framework. Within this framework, I explore a likely paradigm or meta-theory used by skeptics that typically constrains research and makes it difficult for psi evidence to be accepted. It appears that such a paradigm would in many respects have difficulty accounting for consciousness, which is fundamental to an understanding of psi. I discuss why psi data are likely to play a key role in making progress in solving the problem of consciousness. Thus, applying different standards of evaluation to psi data is likely counterproductive.

Keywords: psi debate, testing standards, Bayesian, Kuhn, paradigm

Psi remains highly controversial. This umbrella term, which includes telepathy, clairvoyance, precognition, and mind-matter interaction remains a taboo subject in most quarters of academia. Nevertheless, a growing body of empirical literature, including meta-analyses in some cases, appears to support some modes of psi (Radin, 1997, 2006; Utts, 1996). These anomalous findings could be important in shedding light on the mystery of consciousness, as well as other aspects of reality. However, these results have not yet triggered substantially new inquiry or acceptance from more mainstream researchers in psychology or stirred much interest in the popular press.

Psi has been greeted with considerable skepticism, if not ridicule, throughout its history. However, evidence has continued to accumulate, perhaps shifting the debate to some (small) degree. Some skeptics have acknowledged that at least by the standards used to assess more conventional claims, evidence supports some modes of psi. But in general, psi skeptics maintain that the unconventional nature of psi requires different measures for assessment. For example, Wiseman, a well-known skeptic, has recently stated in an interview, "I agree that by the standards of any other area of science that remote viewing is proven, but begs the question: do we need higher standards of evidence when we study the paranormal? I think so" (Penman, 2008).

Perhaps relatively few see anything controversial about assessing psi evidence differently from more conventional claims. The maxim "extraordinary claims require extraordinary evidence" and Randi's million dollar challenge may have encouraged many to think that standard methods of statistical testing are insufficient to assess unconventional behavior such as psi. On the other hand, arguments that disparage using standard methods in the light of surprising or counter intuitive data could be viewed as attempts to "move the goal posts" in ways that compromise the integrity of scientific investigation.

¹An earlier version of this paper was presented at the 58th Annual Convention of the Parapsychological Association, Greenwich, England, July 16-19, 2015.

This debate raises interesting questions and problems for areas of research that are unconventional, surprising, or counter to our preconceived assumptions. Under what circumstances should we assess results differently? Given unusual or unconventional data, how should standards for assessing the evidence change? Also, in a world where scientists posit multiple parallel universes or sentient computers (with little or no evidence), what exactly do we mean by “extraordinary claims”? And what sort of “extraordinary evidence” should be required?

The focus of this paper is on whether additional standards for evaluating laboratory generated psi phenomena are warranted. I’ll begin with a brief survey of psi research, with a primary focus on telepathy. This literature includes meta-analyses across several different research methods: forced-choice card guessing, dream telepathy, and the ganzfeld method. I focus on telepathy in order to analyze the strongest data in the least space. However, I should note that many have argued that parapsychological experiments cannot separate modes of psi such as telepathy and clairvoyance. Thus, my use of the word “telepathy” reflects the term best associated with the research method I discuss rather than a strict interpretation that precludes the possibility of clairvoyance or precognition. In this discussion, I will also focus on the arguments against accepting this data, paying close attention to how current arguments offered by psi skeptics have a tendency to require that we apply a different standard than we do for more conventional research cases.

I next consider the various arguments that appear to discourage wider acceptance of psi. The common thread behind most of these arguments is that telepathy (as well as other types of psi) conflicts with the consensus set of facts obtained by scientific means. Therefore, the reasoning usually goes, different standards should apply. While many (including perhaps some psi advocates) might agree, there is very little discussion in this debate on the possible problems that arise, with the resulting ambiguity of what appropriate standard to apply. For example, one might wonder how more widespread investigation might emerge to investigate psi, even if such phenomena were real, under conditions where the standards of evaluation are ambiguous.

On the one hand, as I will discuss below, unstable standards for evaluating evidence may impair our capacity for genuine scientific inquiry. On the other hand, as Kuhn (1962) has argued, stable scientific research must to some degree be constrained from investigating anomalies excessively. Kuhn persuasively argued that as paradigms constrain investigation, they allow research to be more organized and in some ways more effective. Of course, ignoring some routes of investigation or anomalies may have its cost; however, accumulation of anomalies may ultimately lead to a shift in the paradigm that allows research that sees anomalies as necessary data. Below, I follow Henderson, Goodman, Tenenbaum, and Woodward (2010) in incorporating Kuhn’s notion of a paradigm within a Bayesian framework in order to capture this element of using different standards within the psi debate.

Within such a framework, I consider what paradigms, or what features within a paradigm, might currently constrain “normal” science away from such topics as psi. Drawing on various arguments and statements from skeptics, I attempt to articulate such a guiding principle for research that would exclude psi. I then consider how such a guiding principal or statement serves us in our inquiry into another area that remains mysterious: consciousness.

Consciousness, because of its intimate relationship with psi, is obviously important. My brief survey of the literature on consciousness suggests that it very much remains a mystery. The problem of explaining consciousness, especially what Chalmers (1995) has termed the hard problem, appears at this point formidable. A wide range of mainstream researchers concede at this time that no solution to explain subjective experience is on the horizon. Perhaps most important of all, there is nothing in the current laws of physics, chemistry, and biology that remotely hints at how consciousness emerges from collections of nonconscious particles. Given that consciousness is fundamental to any understanding of psi, I’ll discuss the implications of dismissing or using a separate set of standards to judge psi data.

History and Evidence

In the early 1930s, J. B. Rhine began to explore telepathy and other forms of psi through a forced-choice method of card guessing, where participants draw from a deck containing a fixed number of symbols

(usually five). Rhine was a pioneer, not only in conducting such experiments under laboratory conditions, but also in using statistics to test for the presence of psi. Critics attempted numerous lines of attack, which included citing statistical errors, sensory cues, recording errors, and file drawer type problems. Honorton (1975) reports that, despite the uneven nature of his test conditions, Rhine's results demonstrated an astronomically significant psi effect (p. 105). Honorton also notes that while non-Duke laboratories did not quite match the replication rate of Rhine and his colleagues at Duke, there was no statistical difference. The results were persuasive to some but ultimately failed to convince the field of psychology that psi is real. While Rhine was able to answer his critics regarding experimental design and statistical methodology, some argued that replication of Rhine's results remained a significant issue (Crumbaugh, 1969).

Nevertheless, even at this relatively early stage, psi critics acknowledged that by normal standards, Rhine's results appeared to be conclusive. Consider this statement by Hebb (1951, p. 45): "Rhine has offered enough evidence to have convinced us on almost any other issue." However, he continues:

Personally, I do not accept ESP for a moment, because it does not make sense. My external criteria, both of physics and physiology, say that ESP is not a fact despite the behavioral evidence that has been reported. I cannot see what other basis my colleagues have for rejecting it . . . Rhine may still turn out to be right, improbable as I think that is, and my own rejection of his view is—in the literal sense—prejudice.

Price (1955) also cites the impressive amount of evidence presented by Rhine:

Believers in psychic phenomena . . . appear to have won a decisive victory and virtually silenced opposition. . . . This victory is the results of careful experimentation and intelligent argumentation. . . . Dozens of experimenters have obtained positive results in ESP experiments, and the mathematical procedures have been approved by leading statisticians. . . . Against all this evidence, almost the only defense remaining to the skeptical scientist is ignorance. (p. 359)

However, Price proceeds to dismiss all this evidence as "incompatible with current scientific theory," based primarily on Hume's argument against miracles:

If, then, parapsychology and modern science are incompatible, why not reject parapsychology? . . . The choice is between believing in something "truly revolutionary" and "radically contradictory to contemporary thought" and believing in the occurrence of fraud and self-delusion. Which is more reasonable? (p. 361)

Nevertheless, a parallel investigation into telepathy was explored in dreams. From 1966 to 1972, Ullman and Krippner conducted a total of 450 dream-telepathy sessions at the Maimonides Medical Center in Brooklyn, NY. A meta-analysis conducted by Radin (1997) found an overall success rate of 63% (where chance was 50%), with odds at 1 in 75 million that the results could be attributable to chance. Sherwood and Roe (2003) examined 21 dream telepathy studies published between 1977 and 2002 and compared them with the Maimonides studies. They found significant results overall, however, with smaller effect sizes that they attributed to slightly different methods and protocols. These differences included using homes rather than a facility such as Maimonides and eschewing EEG monitoring. Overall, the authors concluded that a small or modest dream telepathy effect appears to be robust across a wide range of laboratories and variations in methods.

These results from dream telepathy, as well as other significant results associated with hypnosis (Schechter, 1984) and meditation (Braud & Braud, 1973, 1974; Dukhan & Rao, 1973) have suggested that putting participants into a sensitive state of awareness could be more conducive to anomalous transmissions. In addition, experience with forced-choice methods suggested that the repetitive nature of the experiment tired participants after a period of time, leading to declines in the hit rate. Also, it was believed that freeing

the allowable choices would result in images with greater emotional resonance, which might also lead to greater efficacy. The ganzfeld method was an attempt to employ a “noise reduction” model that suggested sensory deprivation might heighten areas of consciousness more sensitive to psi. The ganzfeld method was developed as a mild altered state by inhibiting external stimulation; ping-pong balls were placed over the eyes and soft static noise filled the ears.

The ganzfeld is also important for studying telepathy because many details of the procedure were influenced by the collaboration between Charles Honorton, a psi advocate, and Ray Hyman, a skeptic. The two debated the overall results of 28 ganzfeld studies, with Hyman (1985) arguing that all significant findings could be accounted for by flaws in the methodology, and Honorton (1985) finding strongly significant results ($p < 10^{-9}$), robust in consideration of study quality. Shortly after their exchange, Hyman and Honorton (1986) agreed to collaborate and generate a set of experimental protocols designed to alleviate the potential flaws identified in the previous collection of studies. In their joint paper, they argued:

[T]he best way to resolve the controversy between us is to await the outcome of future ganzfeld psi experiments. These experiments, ideally, will be carried out in such a way as to circumvent the file-drawer problem, problems of multiple analysis, and the various defects in randomization, statistical application, and documentation pointed out by Hyman. If a variety of parapsychologists and other investigators continue to obtain significant results under these conditions, then the existence of a genuine communications anomaly will have been demonstrated. (pp. 353–354)

A few years later Honorton and his colleagues began to conduct new ganzfeld studies based on the new protocols established in the joint communiqué. Hyman (1991) appeared to acknowledge that confirmation of psi might soon come after all:

Honorton’s experiments have produced intriguing results. If ... independent laboratories can produce similar results with the same relationships and with the same attention to rigorous methodology, then parapsychology may indeed have captured its elusive quarry. (p. 392)

Toward that end, Bem and Honorton (1994) conducted a meta-analysis of ganzfeld studies that used the new protocol and found an overall hit rate of 32.20%, significantly above the 25% expected by chance, with a p value of .002. Utts (1996) reported three other studies that replicated the results of Bem and Honorton, finding comparable hit rates. Milton and Wiseman (1999) challenged these results with a follow up meta-analysis of 30 more recent ganzfeld studies and concluded that these studies did not provide significant effects. Bem, Palmer, and Broughton (2001) then found that when 10 new studies were added to the database, the overall test results were significant, although with a lower average effect size than their original meta-analysis. Bem et al. also found that the smaller effect size could be accounted for by some ganzfeld studies deviating from the protocols stated in their original meta-analysis.

Most recently, Tressoldi, Storm, and Radin (2010) examined all the ganzfeld evidence reported in 108 publications from studies conducted during the years 1974 through 2008 by laboratories in six countries. Subsets of this evidence have been analyzed in six meta-analyses, including a meta-analysis by skeptics Milton and Wiseman (1999). Hit rates that exceeded chance with statistical significance were found in each study. The overall hit rate across all of the data was 31.50%, above the chance expectation of 25%, with a p value of 1.0×10^{-11} . Tressoldi, Storm, and Radin report that the “overall results now provide unambiguous evidence for an independently repeatable ESP effect.” Overall, the ganzfeld results appear to robustly demonstrate support for the telepathy hypothesis.

However, Hyman ceased any effort at joint collaboration. He not only backtracked from his earlier claim that the ganzfeld data was showing signs of hope but appeared to cast doubt on the value of statistical evaluation altogether: “No other science, so far as I know, would draw conclusions about the existence of phenomena solely on the basis of statistical findings” (Hyman, 1996, p. 48). This claim of course would be strongly challenged by most biologists and psychologists. More recently, Hyman (2010a) hedged on the

value of meta-analysis for psi: “meta-analysis is basically an exploratory rather than a confirmatory procedure. . . . The parapsychologists who try to justify the replicability of psi results with meta-analysis are using a retrospective notion” (p. 44).

Hyman represents an especially interesting case in the history of this debate. Apparently, the protocols that he and Honorton developed to ensure a strong footing for ganzfeld research failed to suffice for him. Obviously, one is always free to reassess one’s opinions about methodology and evidence for a large number of reasons. However, this case highlights a couple of important problems for both psi critics and advocates: (a) how can progress be made if the criteria of evaluation are ambiguous or unstable? and (b) how do psi advocates know whether tests or the standards for evaluation offered by critics are made in good faith?

Nevertheless, the overall evidence for at least telepathy appears compelling. The ganzfeld literature evolved from the earlier modes of card guessing and dream telepathy as a way to explore the conjecture of how psi might be more conducive to more sensitive, altered states. The ganzfeld research then yielded further insights, such as the importance of emotional bonds between participants. Perhaps most important, meta-analysis appears to support the existence of some modest degree of telepathy across three different modalities (forced-choice card guessing, dream telepathy, and ganzfeld) in diverse laboratories and environmental conditions.

Should Different Rules Apply?

Overall, the evidence suggests that a serious look is warranted as to what explanations could account for this anomalous phenomenon. However, it’s far from clear that this evidence has motivated many in academia to take such possibilities seriously. There is also little reporting and discussion in mass media and popular science magazines. In short, despite statistical significance in meta-analyses across a number of different methodologies, various categories of psi such as telepathy appear to be nowhere close to achieving mainstream respectability.

There is perhaps an institutional bias against this subject matter, where no matter what the evidence might be, many or most will prefer to disbelieve it. A good example of this is a quote from Professor von Helmholtz, according to Sir W. F. Barrett (1904) in an S.P.R. Presidential Address, on the question of telepathy:

Neither the testimony of all the Fellows of the Royal Society, nor even the evidence of my own senses would lead me to believe in the transmission of thought from one person to another independently of the recognized channels of sense. It is clearly impossible. (p. 323)

Discerning the degree to which those who would be willing to forgo any evidence and instead cling to their prior beliefs on this matter may be difficult, due to the inherently unscientific (albeit honest) character of such a statement.

I will instead focus here simply on various arguments presented by skeptics. Once questions of statistical bias and file drawer biases have been dealt with, some continued along the lines already noted from Price (1955) and Hansel (1966): that psi is extremely unlikely, based on our existing understanding of science. Thus, experiments confirming psi must be connected with massive cases of fraud or error. However, such arguments have been rarely accompanied by evidence of massive fraud or error. For example, while Hansel (1966) reported no evidence of error or fraud, he nevertheless argued that psi should still be dismissed because of the possibility of error and fraud. Utts (1999) notes that many skeptics would agree with the sentiment, “If there is any potential explanation other than psychic functioning, no matter how remote, it should be accepted” (p. 636). As she notes, such a criterion would eliminate the findings of most scientific endeavors.

One recurring and popular argument among skeptics is that psi is not replicable (Alcock, 2010). The persistence of such claims would appear to be at odds with the meta-analyses cited earlier. Sometimes this appears to result from questionable use of the word “replicable.” Consider for example this recent ar-

gument from Hyman (2010a): “Replicability [in the case of a meta-analysis] implies the ability to predict successfully from the results of a meta-analysis to a new set of independent data. This is where parapsychology evidence falls woefully short” (p. 44). This claim appears to ignore the evolution of ganzfeld research, where meta-analyses of autoganzfeld studies, using protocols Hyman helped establish, confirm effect sizes from the earlier studies.

Utts (1999) has argued that the debate regarding replicability has suffered from insufficient attention to statistical power. A phenomenon that is relatively weak or has a small effect size requires substantial statistical power. Braude (1979) notes that psi, if it exists, is likely to depend on a host of subtle factors such as the mood of participants and the demeanor of the experimenter. Thus, studies that use a relatively small sample size and find a nonsignificant statistical effect should not necessarily be counted as evidence against psi. Statistical power can generally be improved through meta-analysis, which combines data from numerous studies. Utts (1999) demonstrates this by comparing the ganzfeld meta-analysis with a meta-analysis for the effects of antiplatelets (such as aspirin) on vascular disease (such as heart attacks and strokes). She notes that both meta-analyses included some individual studies that were not statistically significant. However, in each case combining all the studies leads to overall statistical significance with 95% confidence.

Perhaps there has been some shift in the debate accompanying the accumulation of meta-analyses on the ganzfeld method. Honorton (1993) argues that while critics such as Hyman have not been won over, they agree that a statistically significant effect exists that cannot be explained by error. In the quote cited earlier (Penman, 2008), Wiseman acknowledges that by normal standards we would conclude a real psi effect, but he hastens to add that higher standards should apply to such a controversial effect. The authors of another evaluation of the ganzfeld evidence, including the psi critic Christopher French, conclude: “In summary, on balance the ganzfeld meta-analyses seem to support a psi effect and by extension the hypothesis that reported paranormal experiences may sometimes be veridical, rather than based on cognitive deficits” (Holt, Simmonds-Moore, Luke, & French, 2012, p. 111). In another source, however, French argues that he is not inclined to accept such results because this would require a “radical revision of our existing scientific world” (French, 2010, p. 58). He does argue that in light of this, the results should be taken more seriously if the effects sizes are larger and some practical applications could be developed (French, 2010, p. 59).

Kennedy (2013) argues that meta-analysis may not resolve debates on “controversial” issues such as parapsychology. Because of the many choices and decisions that have to be made when combining studies, Kennedy argues, meta-analysis remains a form of post hoc analysis and is unsuited to resolving “controversial” questions. For such subjects as psi, Kennedy proposes more stringent practices such as substantially increasing the sample size so that sufficient statistical power is obtained to avoid meta-analysis altogether. This practice has obvious virtues. Of course, researchers that follow this approach might be criticized for not utilizing data across different laboratories and experimenters, which meta-analyses typically do. Another relevant factor here is that parapsychologists typically have fewer resources than researchers in more conventional fields. In this case, insisting that psi research meets higher standards that require substantially more resources has the practical effect of raising the bar against achieving wider acceptance. Kennedy and others might argue that this is a price that must be paid for “controversial” areas of research such as psi.

The history of this debate has shown evolving lines of criticism accompanying the accumulated empirical results. In the presence of empirical results across various modes of telepathy yielding astronomically low *p* values, the common response is the declaration that psi evidence cannot be treated with the same standards of testing and evaluation as more conventional subjects. Such criticisms are perhaps different manifestations of the well-known maxim “extraordinary claims require extraordinary evidence.” Of course, terms such as “extraordinary” and “controversial” are never defined in such a way that can advance our ability to evaluate the evidence. Adding to the confusion, perhaps, is that mainstream science entertains some theories that are at least arguably substantially more radical than psi. Examples that come to mind include Everett’s many-world (or multi-universe) theory of quantum mechanics, claims that artificial intelligence will soon generate consciousness, and epiphenomenal theories of consciousness that exclude free will. Further, some of these claims come unaccompanied by evidence. This state of affairs must be

perplexing to psi researchers who can provide evidence for some categories of psi that meets conventional standards.

Arguments that move the bar from standard norms have also included proposals that accepting psi must be accompanied by larger effect sizes or practical applications of some kind (French, 2010; Kennedy, 2013). Although no doubt such findings would win psi more advocates, this may be another way that the burden of proof for psi is raised relative to other sorts of scientific claims. Usually, the question of whether there is a real effect is separate from the question of practical applications or effect size. In scientific development, practical applications generally follow at some point in time after a phenomenon is accepted as legitimate. For examples, we might cite applications within global positioning systems for general relativity and quantum tunneling for quantum mechanics. In this light, bundling together these two questions will likely hinder the deeper understanding that is required to develop practical applications.

Creating ambiguities in the standards for acceptance is not without costs. Widely accepted testing conventions are necessary for scientific progress. However, the current situation likely leads many researchers, especially those outside of the field of parapsychology, to question whether psi evidence is substantial at all. Such ambiguities might also discourage investigations into psi altogether; pursuing irresolvable questions unlikely provides a boost to one's career.

A psi skeptic might reply that the costs of incorrectly accepting the evidence on telepathy or some other psi category are unusually high. It is unclear, however, that this exceeds the cost of incorrectly rejecting psi. Perhaps our current lack of understanding for any application makes the cost of this error appear small. On the other hand, acceptance of the evidence at hand might encourage research that would eventually lead to useful applications. In any case, given the astronomically low p values for the meta-analyses reviewed above, it is worrisome how little consideration skeptics typically give to type II errors. Naturally, legitimate criticisms on methods for evaluating psi need to be encouraged just as in any other subject under scrutiny. My main point, however, is that shifting the standard of evaluation or creating ambiguity about the appropriate standard has substantial costs that are rarely considered.

Arguments used by skeptics against treating the results of psi experiments like conventional ones usually claim that phenomena such as telepathy and clairvoyance are radical with respect to our currently accepted scientific understanding. As I have noted, some have argued further that the facts and theories accumulated from centuries of scientific investigation are completely inconsistent with psi. It is, of course, inadvisable to accept experimental results at face value that conflict with much more extensive data across many other areas. Recently such arguments have been incorporated within Bayesian methods, which might provide a framework for capturing the background knowledge and underlying assumptions that perhaps guide researchers away from seriously considering psi.

Kuhn's Paradigm Within a Bayesian Framework

Bayesian methods provide tools for statistical evaluation while also incorporating priors reflecting other sources of information that may conflict with the new data. Bayes' rule captures this feature and is generally expressed as:

$$p(H_1 | D) = \frac{p(D | H_1)p(H_1)}{p(D | H_0)p(H_0) + p(D | H_1)p(H_1)} \quad (1)$$

Here, $p(H_1 | D)$ represents the posterior probability of hypothesis H_1 , or the probability assigned to H_1 after taking into account a new piece of evidence or data, D . The expression $p(H_1)$ is the prior probability of H_1 , the probability it is assigned before taking D into account. The likelihood of data D , if hypothesis H_1 is true, is expressed as $p(D | H_1)$. Of course, there are corresponding expressions for the null hypothesis, H_0 , as well.

Using Bayes' rule, weights are generated and applied to the evidence based on stated assumptions

and beliefs that are captured in the prior and likelihood. However, pitfalls may occur if care isn't given to these distributions. Bayesian methods have been criticized for allowing excessive subjectivity in the role of selecting priors, without sufficient grounding in data and background information. This was recently illustrated in a debate triggered by Bem's (2011) presentation of results concerning precognition (a different mode of psi from what has been discussed so far). Wagenmakers, Wetzels, Borsboom, and van der Maas (2011) criticized Bem's results by using a Bayesian framework. Bem, Johnson, and Utts (2011) responded that Wagenmakers et al.'s statistics could be attributable to an excessively low prior and a posterior distribution that exaggerated the effect size. Bem et al. (2011) found results consistent with those reported by Bem (2011) within a Bayesian framework using priors and posterior distributions consistent with values found in the psychology and parapsychology literature.

Palmer (2011) has explored the problematic nature of Bayesian analysis. He notes that because there are no ground rules for establishing the prior probabilities, subjective and perhaps arbitrary arguments often play a significant role. Palmer also argues that biases can emerge simply as a result of a given sequence of experimental findings and theory development. He illustrates this by noting how a Bayesian might deal with a particular psychological effect that has been subject to a "decline effect" (Lehrer, 2010). In such a case, a theory that is initially supported by evidence that eventually diminishes over time can nevertheless be insulated from refutation using a prior based on the earlier findings. This opens the door to a sort of circular reasoning that provides "an excellent way for psychologists to protect their pet theories from refutation" (Palmer, 2011, p.180).

Perhaps a more common way that Bayesian frameworks can support circular reasoning is through the underlying beliefs and metaphysical assumptions employed within priors. While various metaphysical assumptions are generally required to ground any theory, they are of course generally not testable. Arguably, they are perceived to be successful—not through explicit testing—but via their relationship with theories that have achieved some degree of empirical success. However, what happens when some metaphysical assumption or guiding research principle, useful for a certain class of theories, is incorporated in a prior for a very different area of inquiry? Thus, a Bayesian framework can help ensure that any evidence that conflicts with previously "successful" assumptions or underlying beliefs will go unchallenged.

These concerns raise the question of whether Bayesian frameworks can be useful at all for resolving debates that are rooted in fundamental differences in assumptions and worldviews, with one or both sides simply confirming their initial prior, no matter the data. The exchange between Wagenmakers et al. (2011) and Bem et al. (2011) indeed illustrates a clash in fundamental beliefs that characterize most debates on psi. Bem et al. do not state beliefs that might constrain what results are reasonable, but they do argue that the effect size of precognition (should it exist) is likely within a range of other known psychological parameters. They also cite other evidence of precognition. Wagenmakers et al. state: "Psi has no clear grounding in known biological or physical mechanisms" and "lack . . . a plausible mechanistic account" (p. 2). Many psi advocates might agree with these statements in Wagenmakers et al.; however, they usually appear open to the possibility that some forms of psi exist even if we currently have no well-understood mechanism to account for various forms of it.

Thus a Bayesian framework may be inherently problematic for resolving issues involving deeply rooted assumptions and differing worldviews. However, an advantage of a Bayesian framework is that it does offer a formal framework for making such differing fundamental views more explicit. Despite its limitations, perhaps a Bayesian framework can help us clarify the clashing views between the two sides.

Toward this end, we might also incorporate Thomas Kuhn's notions of how paradigms guide and constrain research within science. For Kuhn (1962), a paradigm consists of a collection of key theories, methods of testing, values, and metaphysical assumptions that together guide and constrain what he terms "normal science." Kuhn argues that research on anomalies or experimental findings (and their theories) that do not fit into the current paradigm are generally not encouraged. He also believed that most scientific work could be characterized as "puzzle solving" and that true revolutions within science, where one paradigm replaces another, are rare. For Kuhn, this institutional feature has the advantage of encouraging coordination, organization, and efficiency across a large number of scientists. However, anomalies sometimes do

accumulate sufficiently that the paradigm of that time becomes untenable. Yet Kuhn isn't clear on exactly how this transition occurs.

Recently, Henderson, Goodman, Tenenbaum, and Woodward (2010) have developed a framework incorporating Kuhn's notion of the structure of evolution of scientific theories within a Bayesian context. They capture within this framework the hierarchical structure of Kuhn's ideas: higher-level theories or paradigms frame the inquiry and evaluation of lower-level theories. What we've considered previously as background knowledge and metaphysical assumptions can be replaced by Kuhn's notion of a paradigm or higher-level theories. Henderson et al. (2010) explore a hierarchical framework in which lower level theories are generated from higher level theories. Of course, for the case at hand our current mainstream paradigm or set of high-level theories discourages the acceptance of psi evidence, which most would consider outside the range of what Kuhn terms "normal science."

Using a simplified version of Henderson et al. (2010), we might rewrite (1) incorporating Kuhn's notion of paradigm:

$$p(H_1 | D, T) = \frac{p(D | H_1)p(H_1 | T)}{p(D | T)} \quad (2)$$

In this version of Bayes' rule, T represents a paradigm or collection of higher-level theories (which also include underlying assumptions and background knowledge) that constrains research to remain within what Kuhn calls "normal science." Thus the prior $p(H_1 | T)$, depending on paradigm T, may be sufficiently low to prevent hypothesis H_1 from being confirmed, no matter the data D, as long as the restrictive paradigm prevails in the scientist's judgment. This corresponds well with psi skeptics' unwillingness to accept a meta-analysis that would ordinarily be sufficient for more conventional research questions. These skeptics will either dismiss the data or demand higher standards. On the other hand, researchers more sympathetic to the possible existence of psi will not incorporate such a restrictive paradigm into their prior and will be more willing to let the data confirm the hypothesis at hand.

Next, we might consider what beliefs, metaphysical assumptions, or principles on method might lead us to dismiss or heavily discount psi evidence. We can certainly note that in a number of ways psi phenomena do depart from some well-established principles in physics. For the psi research we reviewed in the first section of this paper, these include the lack of attenuation over distances and the ability to penetrate electromagnetic shielding. Broad (1949) composed a longer list of ways that psi appears to clash with fundamental principles, which he terms "basic limiting principles."

Other statements in this debate provide some key points. Both Alcock (2010) and Hyman (2010a) compare the anomalies of psi unfavorably with those found in astronomy, such as the precession of Mercury and the perceived orbit of Uranus, both of which led to new discoveries. As we noted earlier, Wagenmakers (2011) argues that "there are no mechanisms" for psi phenomena. Elsewhere, Hyman (2010b) argues that "a materialistic framework is necessary to do scientific work" (p. 134).

Alcock (2010) argues in general that psi simply doesn't jibe with other areas of science. He claims:

There is nothing in physics or neurology that would allow for processes such as extrasensory perception or psychokinesis or other putative paranormal phenomenon. This is unlike any area in normal science: biochemical knowledge does not violate the basic principles of physics; chemistry and genetics do not produce grossly conflicting results; biological data is in line with all three of these sciences; geology and astronomy work happily together. While there may be disputes between disciplines at the leading edge of scientific discovery, the diverse areas of science basically jibe with one another. (p. 39)

Alcock paraphrases neuropsychologist Donald Hebb as follows: "...were parapsychology's claims to prove

to be true, then there is something horribly and fundamentally wrong in physics and in biology and in neuroscience” (p. 39).

Palmer (2011) notes that arguments that claim psi doesn’t fit with our current scientific understanding imply a degree of unification between scientific theories that does not exist. Quantum physics, for example, is radically different from classical physics in a number of respects. Interpretations of quantum mechanics involving multiple universes or superposition of possible states hardly square with the rest of science. Also, we currently have no theory that unifies gravity with quantum mechanics. Therefore, perhaps psi requires laws or theoretical structures that are different from those of other phenomenon.

We might note that Alcock here avoids mentioning areas of science that remain mysterious to us. Two examples include consciousness and quantum mechanics. The argument made in Wagenmakers et al. (2011) that there are no known mechanisms for psi also applies to the measurement problem in quantum mechanics, which has to do with how the wave function “collapses” into the observed results of a quantum experiment. I’ll address this issue of persistent gaps in our understanding later, focusing on the problem of consciousness, which is obviously fundamental to psi.

Based on these and similar claims, I’ll formulate a statement about a guiding principle (within a paradigm that constrains our current “normal science”) that I believe will represent most or all skeptics’ thinking. Such an overarching meta-theory would govern research and evaluation throughout scientific enquiry. One example, based on the quotes above, could be: proper scientific theories must be consistent with currently well-understood laws of physics. The problem of course here is that as scientific understanding expands, what seems improbable today may be perfectly comprehensible in time. Indeed, psi researchers generally believe that their debate with skeptics corresponds with the dividing line between what we “know” and what we don’t.

Nevertheless, perhaps something like this is close to a core guideline for most conventional research. The influential philosophers of science Ladyman, Ross, Spurrett, and Collier (2009), while acknowledging that science (and therefore metaphysics) is never complete, nevertheless argue: “our most careful science at time t . . . is the best metaphysics we can have at time t ” (p. 2). The core argument of these authors is that the only kind of metaphysics that can contribute to our understanding of the objective reality is one based on contemporary science as it really is rather than on philosophers’ a priori intuitions or common sense. I believe that this kind of attempt to naturalize metaphysics leads to an overarching meta-theory about science in general that most skeptics would agree with.

Another challenge, however, as I’ve expressed it, is the phrase “well-understood physics.” Although the central equations behind quantum mechanics are well established, they are not well understood. Currently there is no consensus interpretation concerning the measurement problem within quantum mechanics. Further, some of these interpretations involve consciousness or observer dependence in ways that are controversial. Most physicists do not currently embrace such arguments. Thus, many skeptics frown upon explanations of psi that invoke quantum mechanics.

With this in mind, I will therefore propose that the following meta-theory or paradigm guideline be employed in skeptics’ prior for evaluating scientific theories, which I label T_C : *Proper scientific theories that describe macroscopic events (i.e. outside of subatomic physics) should be consistent with currently well-understood laws of classical physics.* I believe this is consistent with the beliefs of most skeptics, and the arguments of Alcock (2010), Hyman (2010b), and Wagenmakers et al. (2011).

A skeptic’s prior of the hypothesis that a psi effect exists, H_ψ , using T_C can be expressed simply as $p(H_\psi|T_C)$. This prior incorporates a paradigm that, for all lower-level theories (outside of quantum physics), assigns a low probability to evidence that is not consistent with well-known laws of classical physics. This of course fits well with such fields as chemistry, biology, and neuroscience, which are with rare exceptions based on classical physics. Although theories in the social sciences, such as economics, are not “hard” in the sense that they are not fundamentally based in physics or chemistry, they too are not expected to clash with classical physics. Thus, our modified version of Bayes’ rule can be rewritten using our constraining paradigm, T_C .

$$p(H_{\psi} | D, T_C) = \frac{p(D | H_{\psi})p(H_{\psi} | T_C)}{p(D | T_C)} \quad (3)$$

As long as a scientist believes that psi is inconsistent with well known laws of classical physics, a scientist will maintain a low probability for prior $p(H_{\psi} | T_C)$, no matter the data D . However, a psi advocate will instead follow a version of (3) where T_C is absent. Despite whatever prior the psi researcher chooses, evaluation of the data will not be constrained so that only explanations that can be linked to well-established laws of physics are accepted. Thus (3) provides a formal expression to help us pinpoint the clash in world-views between psi advocates and skeptics.

Of course, there may be exceptions where some scientists pursue an explanation of psi that is consistent with classical physics. Others may attempt an explanation using quantum mechanics (Shoup, 2015). My expression (3) for Bayes' rule incorporating a paradigm ruling out psi will not apply to these groups of researchers. However, I believe (3) likely captures the views of most skeptics and mainstream scientists.

Psi advocates might question the appropriateness of T_C as an appropriate governing principle for scientific inquiry, especially given the accumulated evidence. As I noted, such an assumption for appropriate research would obviously not be adequate for subatomic physics, and this suggests an important challenge to arguments by skeptics. Palmer (1987) discusses the inherently inductive nature of arguments typically used to attack psi: theoretical frameworks and assumptions that have been found to be useful in shedding light on previous areas of science are assumed to be valid for future inquiries as well. However, borrowing from the parlance of Ladyman et al. (2009), we might ask how well the metaphysics obtained at time t for science at time t serve us for a very different area of inquiry at time $t + 1$? The history of science has abundant cases where theories and claims that were once useful had to be set aside or modified in order to make progress. Thus we entail some risk if we insist that future theories for areas of inquiry we don't presently understand must have the same features as present theories for areas that we do.

Palmer (2011) notes that given that a "theory of everything" remains elusive for physicists, the characteristics of our current set of theories may not necessarily dictate the features of things about which we remain ignorant. We might thus inquire how T_C fares against areas that have so far remained stubbornly mysterious. I believe two areas especially stand out: quantum mechanics and consciousness. Both of these areas overlap significantly with the psi literature. With respect to quantum mechanics, for example, there exists a class of mind-matter interaction experiments that utilizes random number generators based in quantum mechanics. However, in the interest of conserving space (and partly for this reason I have avoided discussion of mind-matter interaction modes of psi) I will focus on consciousness, which obviously is closely linked to psi phenomena. I will then discuss whether a paradigm that insists on consistency with classical physics can be applied to research on consciousness.

The Mystery of Consciousness

With this framework, one might see the debate between psi advocates and skeptics as one between those who argue that consciousness must be based on well-understood laws of physics versus those who believe we may need to look beyond such theories. As background knowledge, we can certainly place a great deal of confidence in the laws of physics, especially classical physics. And in a number of respects, this branch of physics does indeed appear to clash with findings of psi.

However, is confidence that consciousness can be explained completely by classical physics warranted? Today many neuroscientists and philosophers of mind would answer no. Although neuroscience has made great strides in understanding how we perceive, learn, and store memory, how our inner subjective states emerge from the moist matter in our brains remains a mystery. A wide range of scientists and philosophers acknowledge that we are not remotely close to solving what Chalmers (1995) has termed the hard problem of consciousness. Steve Pinker describes consciousness or sentience as "a riddle wrapped in a mystery inside an enigma" (Pinker, 1997, p. 60). Many materialists likely share Searle's (1994) view that

consciousness is likely to be an emergent property of certain kinds of biological processes. However, Searle acknowledges that we are very far from understanding this potential process. Nagel (1974) is much more pessimistic that physical explanations can ever capture the inherent subjectivity, or what he calls the “what it is like to be” of a conscious organism. Chalmers (1995) argues materialistic explanations of consciousness are consistent with zombies that look and behave like us yet are devoid of inner experience. Chalmers (1995) argues that we must take a radical step such as positing that consciousness is in some sense fundamental, rather than something that emerges from collections of nonconscious subatomic particles.

We can note that skeptics of psi generally skip over this void of a consensus theory of consciousness, grounded in well-established principles in science. For instance, Alcock (2010, p. 38) contrasts psi unfavorably with cosmology, which has developed a sophisticated mathematical model of black holes that in turn is consistent with data in other domains. Alcock notes that there is no comparable theory that explains psi. However, this could also be said for any current theory trying to explain the emergence of consciousness.

Increased attention to the problem of consciousness may have been influenced by the neurologist Francis Crick’s (1994) attempts toward establishing some initial understanding of how vast assemblies of neurons and associated molecules lead toward conscious experience. His thoroughly materialistic and reductionist approach was laid out in his book, *The Astonishing Hypothesis*. Searle (1997), while admiring Crick’s book, complains that he falls short in explaining the hard part of the mind-body problem, specifically when Crick questions how “does the brain get us over the hump from electro-chemistry to feeling” (p. 28). Crick spent the remainder of his life working with neurologist Christof Koch on developing a materialistic explanation of consciousness. Recently, however, Koch has abandoned this approach and has teamed up with Giulio Tononi to develop an information-based model of panpsychism (Koch, 2012).

A number of others are attempting approaches that radically deviate from more conventional, materialistic theories. Chalmers (1995) initially advocated what he termed naturalistic dualism, but he has also expressed sympathy for panpsychism. Seager (1999) has endorsed the view that solving the hard problem will likely require taking consciousness as fundamental and outlines another version of panpsychism. Neurophysiologist Stuart Hameroff and mathematician and physicist Roger Penrose (1996) have developed a framework through which quantum gravity interacts with quantum waveform reduction to generate a rudimentary level of consciousness. According to Hameroff and Penrose (1996), our actual experience requires a sophisticated orchestrated objective reduction of this process across clusters of microtubules within the brain’s neurons.

While most scientists and philosophers agree that we do not currently possess an explanation of consciousness in terms of purely materialistic processes, they are split on the implications. Those such as Chalmers and Nagel who hold the view that the problem of consciousness requires a radical solution are probably in a minority, albeit an influential one. A majority probably share Searle’s view that the problem is very real and difficult but consciousness will ultimately be revealed to be an emergent phenomenon of biological processes. Thus, for most, consciousness remains an important and difficult problem, but disagreement remains between those who believe that a purely materialistic account is possible and those who don’t.

Clearly those who favor a nonmaterial explanation will not likely accept T_c as a constraining meta-theory or paradigm. How might they respond to the presence of psi data? They may be able to dismiss or discount it using another prior, but it’s difficult to see what the basis for that might be. Again, recall that by standard norms, the empirical data for such psi categories as telepathy are strong. Although a scientist who accepts consciousness as fundamental may not initially hold beliefs congruent with psi data, the lack of a theoretical structure and evidence for a new theory of consciousness at this point would seem to make it difficult to dismiss or discount such data out of hand. Chalmers (2014) helped to drive home this point in a TED Talk presentation:

I think consciousness right now is a kind of anomaly, one that we need to integrate into our view of the world, but we don’t yet see how. Faced with an anomaly like this, radical ideas may be needed, and I think that we may need one or two ideas that initially seem crazy before we can come to grips with consciousness scientifically.

Within this context, there seems to be little justification for discounting the psi data that I reviewed above. Of course, Chalmers is speaking about the difficulty of accounting for subjective experience, not psi phenomena. However, once we acknowledge the anomalous nature of consciousness with respect to the laws of physics and chemistry, it's difficult to rule out other possible anomalies that are supported by data. And at this point, there is little consensus around a new theory of consciousness that could justify discounting psi.

However, most scientists, unlike Chalmers and Nagel, probably employ something like T_C , although we might legitimately wonder how strongly they hold to it. Although they may not possess an explanation of consciousness based on classical physics or other material processes, they may invoke an argument of promissory materialism. Such an argument might claim that while we are not currently able to explain consciousness via material processes, given the progress and usefulness of meta-theory T_C we are still justified in insisting that all explanations are most likely to remain within the confines of well-understood physics.

However, let's consider this more carefully. We can note that physics consists of sets of equations specifying precise, quantitative relationships between such entities as mass, energy, time, distance, and frequency. Important examples include Newton's laws of motion, Maxwell's equations of electromagnetism, and Einstein's theories of relativity. These sets of equations that comprise classical physics have been enormously successful in providing a foundation for physics, chemistry, biology, and neurophysiology, not to mention computer science and all types of engineering. Historically speaking, scientists who invoke classical physics as a touchstone for all lower level research have strong, practical justifications for doing so.

However, our subjective inner experience does not fit into this framework of mathematical relationships between purely physical constituents. Any attempt to do so leads to a category error. Nagel (1974) put it this way:

If physicalism is to be defended, the phenomenological features must themselves be given a physical account. But when we examine their subjective character it seems that such a result is impossible. The reason is that every subjective phenomenon is essentially connected with a single point of view, and it seems inevitable that an objective, physical theory will abandon that point of view. (p. 437)

Thus, it seems we cannot hope to establish a theory of phenomenal experience in physics the way we can in other branches of science, such as chemistry and biology.

Nevertheless, advocates of T_C will likely insist that consciousness somehow emerges from complex, biological processes, such as dense networks of neurons in the brain (Searle, 1994). Although we may not now understand how this may arise, given the enormous progress under T_C (or similar versions), we still are better off focusing in this direction than considering an alternative meta-theory. Given the complexity of the human brain and the fact that we may have only scratched the surface, some argue we may need to wait several hundred years before we can hope for a complete theory of emergence (Simmons, 2006, p. 148).

However, the emergence of consciousness from purely material processes would be far more radical than any other process of emergence we know. Well known examples of emergence include the liquidity of water from H_2O molecules, complex traffic patterns from simpler movement of vehicles, the vorticular motions of a hurricane, and fluid movements displayed in Bénard convection cells from heated water. All of these examples involve relatively simple motions of substances or objects that lead to more complex, possibly unpredictable motion of the same substance or collection of objects, given various constraints across some defined system, as well as other inputs such as heat. But phenomenal experience is intrinsically different from nonconscious subatomic particles and molecules. The emergence of consciousness, unlike these examples, requires something in a completely different category from matter and energy arising from matter and energy. Given that we know nothing from physics upon which to base such a radical emergence, this sort of explanation appears to require something along the lines of a miracle.

These serious problems raise the question of whether research on consciousness should continue to be chained to something like T_C . Of course, dispensing with meta-theories such as T_C would unmistakably

signify a paradigm shift, at least with respect to consciousness. Kuhn does not provide clear guidance toward how to identify a paradigm in crisis preceding a revolution. However, Chalmers's plea for one or two "crazy" ideas is about as unequivocal a statement as one could hope that business as usual will not suffice.

Let's briefly consider what this sort of paradigm shift might entail. Establishing a true science of consciousness faces perhaps an insurmountable obstacle: how to observe something inherently subjective through objective methods. This centuries-old problem has plagued everyone who has sought to unravel the mystery of consciousness. The inability to "observe" consciousness in something else (whether an animal or brick) makes distinguishing between different possible explanations of consciousness virtually impossible. Thus, all explorations of consciousness capable of explaining our inner experience remain mired in purely philosophical arguments. Of course it's doubtful that philosophical arguments alone are sufficient to give us a truly scientific understanding of consciousness. Although there may be no perfect solution to this problem, perhaps we can still make progress if there are ways to acquire objective evidence, gathered under controlled laboratory conditions, that allow for anomalous features.

Here psi data make a crucial contribution. Psi data, gathered under strict controlled laboratory conditions, give us indications about how consciousness is in some respects anomalous with respect to our current understanding of physics. Although it may be anomalous in different ways than how Chalmers and Nagel describe subjective experience, it nevertheless provides scientists with crucial observations that allow them to explore theories of consciousness that deviate from more conventional ones. Thus, scientists wishing to explore a new paradigm beyond T_c will most likely need to carefully regard the present psi data, as well as consider new directions for psi research.

Conclusion

Psi of course continues to be controversial, and perhaps will remain so for some time. However, meta-analyses conducted on a number of psi categories, such as telepathy, clairvoyance, and precognition, appear to achieve the level of confirmation usually associated with a substantial degree of evidence. Given the failure of early criticisms such as fraud, error, or file-drawer bias to account for the data, psi advocates might understandably expect greater mainstream acceptance. However, most current responses from psi skeptics involve departing from the usual norms or standards of evaluation, given the controversial nature of psi. As I've argued, unstable or ambiguous standards of evaluation must adversely affect the integrity of scientific investigation, with the exception of cases where experimental findings are incongruent with relevant scientific theories for which a consensus exists, based on copious data.

Psi skeptics have generally assumed that results that conflict with currently well-developed theories of our world are sufficient grounds to dismiss or discount psi data. However, they have never grappled with the fact we have no theory of consciousness truly grounded in our understanding of physics. Hence, they have no foundation for rejecting psi data generated under controlled laboratory conditions. Further, philosophers of mind and scientists who wish to consider alternatives to materialist-based theories of consciousness will likely require data, generated under controlled, objective conditions, that are anomalous in at least some aspects. Thus, attempts to reject or limit the acceptance of psi data may inhibit our ability to make progress in understanding the nature of consciousness.

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Abstracts in Other Languages

German

SIND UNTERSCHIEDLICHE MASSSTÄBE ZUR BEURTEILUNG VON PSI GERECHTFERTIGT?

ZUSAMMENFASSUNG: Seit es die Debatte um Psi gibt, haben Skeptiker nahezu geschlossen darauf beharrt, dass bei der Beurteilung des Beweismaterials unterschiedliche Maßstäbe anzulegen seien, da Psi eine radikale Abkehr von unserem gegenwärtigen wissenschaftlichen Verständnis bedeute. Von daher herrscht erhebliche Unsicherheit, welcher Maßstab bei der Bewertung von Psi anzulegen sei. Dem Umstand, dass die Integrität einer wissenschaftlichen Untersuchung aufgrund dieser Inkonsistenz bei der Überprüfung von Maßstäben möglicherweise leiden könnte, wurde nur wenig Aufmerksamkeit geschenkt. Von manchen wurde zur Verbesserung dieses Dilemmas ein Bayesscher Zugang vorgeschlagen, um Einstellungen, Annahmen und den Hintergrund wissenschaftlicher Erkenntnis mehr explizit zu machen, besonders wenn es um die Einschätzung einer kontroversen Hypothese geht. Kuhns Vorstellung von Paradigmen, die wissenschaftliche Forschung auf solche Randbedingungen einschränkt, von denen angenommen wird, sie seien die produktivsten, wurde unlängst in einen Bayesschen Konzeptrahmen überführt. Innerhalb dieses Rahmens erprobe ich ein mögliches, von Skeptikern verwendetes Paradigma oder eine Metatheorie, die typischerweise die Forschung einengt und die es schwierig macht, dass die Evidenz für Psi akzeptiert wird. Es hat den Anschein, dass ein solches Paradigma auch beim Versuch, Bewusstsein zu erklären, auf vielerlei Probleme stößt, was für ein Verständnis von Psi grundlegend ist. Ich lege dar, warum Psi-Daten wahrscheinlich eine Schlüsselrolle spielen werden, wenn es darum geht, bei der Lösung des Bewusstseins-

sproblems Fortschritte zu machen. Daher ist die Anwendung unterschiedlicher Bewertungsmaßstäbe bei Psi-Daten wahrscheinlich kontraproduktiv.

Spanish

¿ESTÁ JUSTIFICADO USAR NORMAS DISTINTAS PARA EVALUAR A LOS FENÓMENOS PSI?

RESUMEN: A lo largo del debate sobre los fenómenos psi, los escépticos han insistido casi universalmente en usar diferentes estándares para evaluar la evidencia, alegando que psi representa un cambio radical de nuestra comprensión científica actual. Por lo tanto, hay considerable ambigüedad sobre qué estándar de evaluación debe cumplir la investigación de psi. Se ha prestado poca atención a los posibles daños a la integridad de la investigación científica que resultarían de esta incoherencia en las normas de investigación. Algunos han propuesto el uso de un modelo Bayesiano como una mejora a este dilema al modelar de forma más explícita creencias, suposiciones, y el marco de conocimiento científico, especialmente en la evaluación de una hipótesis controvertida. Recientemente, la noción de Kuhn de los paradigmas, que circunscribe la investigación científica dentro de los límites que se consideran más productivos, se ha incorporado a un marco Bayesiano. Dentro de este marco, exploro un paradigma probable, o meta-teoría, utilizado por los escépticos que típicamente limita la investigación y dificulta que la evidencia de psi sea aceptada. Tal paradigma podría dificultar en muchos aspectos la comprensión de la consciencia, que es fundamental para la comprensión de psi. Analizo por qué es probable que los resultados sobre psi desempeñen un papel clave para avanzar en la solución del problema de la consciencia. Por lo tanto, la aplicación de diferentes normas de evaluación a los datos psi es probablemente contraproducente.

French

EST-CE QUE L'EVALUATION DU PSI NECESSITE DES STANDARDS DIFFERENTS?

RESUME : Au cours du débat sur le psi, presque tous les sceptiques ont insisté sur les standards différents nécessaires à l'évaluation des preuves associées à ce processus, affirmant que le psi représentait un écart radical par rapport à notre compréhension scientifique actuelle. De ce fait, il y a une ambiguïté considérable quant aux standards d'évaluation susceptibles de s'appliquer pour le psi. Peu d'attention a été portée sur les possibles répercussions de cette inconsistance des modèles d'évaluation sur l'intégrité de la recherche scientifique. Certains ont proposé d'employer un modèle bayésien comme solution à ce dilemme afin de mesurer plus explicitement la part des croyances, des hypothèses implicites et des connaissances scientifiques antérieures, en particulier lorsqu'il s'agit d'évaluer une question controversée. Récemment, la notion kuhnienne de paradigmes, qui limite la recherche scientifique à certaines bornes afin de la rendre supposément plus productive, a été incorporée dans le modèle bayésien. Dans un tel cadre, j'explore un paradigme ou une méta-théorie possible employée par les sceptiques qui délimite de façon typique les zones de recherche et rend difficile l'acceptation des preuves du psi. Il apparaît qu'un tel paradigme aurait, à bien des égards, beaucoup de mal à rendre compte de la conscience, qui est fondamentale pour une compréhension du psi. Je discute des raisons qui me poussent à penser que le psi va probablement jouer un grand rôle dans la résolution du problème de la conscience. Dès lors, appliquer des standards différents lors de l'évaluation des preuves du psi me semble contreproductif.

THE RELATIONSHIP OF THE FEELING OF BEING WATCHED TO PARANOIA, SELF-CONSCIOUSNESS, AND SOCIAL ANXIETY

By Ian S. Baker

ABSTRACT: The common experience of the feeling of being watched by another has been experimentally examined for over 100 years. However, little research has been conducted to investigate the belief in this phenomenon in detail or potential relationships to related personality measures. In two studies, sampling over 2,500 people and using a new measure, belief in *remote staring detection* was shown to decrease as barriers between the starrer and staree increased. In addition, an exploratory factor analysis demonstrated that belief in remote staring detection is complex and is related to a sense of presence (collectively referred to here as *paranormal perceptual awareness* or PPA). It is also different from both extramission (i.e., something is emitted from the eye when one looks at something) and the belief in an “evil-eye” (i.e., one person can cause harm to another person just by looking at them). Both extramission and evil-eye beliefs are collectively defined here as *eye-energy belief* or EEB. Multivariate multiple regression analysis revealed that personality measures of self-consciousness, paranoia, and social anxiety significantly predicted both PPA and EEB. However, PPA belief implies more generalised awareness of one’s social interactions, albeit interpreted through paranormal mechanisms, whereas EEB belief suggests greater concern regarding how another’s gaze can impact oneself, particularly with negative connotations.

Keywords: remote staring detection, belief, paranoia, self-consciousness, supernatural monitoring hypothesis

Remote staring detection refers to the feeling of being watched by another, even though there should be no way of knowing by conventional means that one is being watched (Baker, 2005; Braud, Shafer, & Andrews, 1993a). This phenomenon has been investigated experimentally for over 100 years (Titchener, 1898) but there has been little research examining the belief in remote staring detection in detail, even though the prevalence of the belief in it is high. Research that has examined the rates of belief in remote staring detection report that between 74% and 87% of the population exhibit such a belief (Rosenthal, Tabor, Soper, & Rosenthal, 1997; Sheldrake, 2003). Similarly, research examining self-reported experiences of remote staring detection has suggested that between 68% and 94% of the population report having had some experience of this phenomenon (Braud et al., 1993a; Schlitz & LaBerge, 1997; Sheldrake, 1994). Although research indicates the high prevalence of the belief in and experience of remote staring detection, most studies merely asked if a respondent believes in or has experienced the phenomenon on a yes/no scale, with no gradation of response. Furthermore, with the exception of one study (Thalbourne & Evans, 1992), there have been no distinctions drawn between the experience of the role of the starrer (i.e., staring at someone remotely and watching the person turn around) and the role of the staree (i.e., feeling the remote stare of another and turning around) in order to see if one role is experienced more frequently than the other. Finally, many of the studies referenced above failed to report adequate detail for replication, and there was also a general lack of distinction between the belief in and the experience of the phenomenon.

Several researchers have associated belief in remote staring detection with belief in the evil-eye (Cottrell, Winer, & Smith, 1996; Sheldrake, 1994, 2000; Staats, Ross, Irmscher, & Rada, 2002; Thalbourne & Evans, 1992), due to both beliefs relating to an eye-based paranormal influence, but no direct comparisons have been made between these beliefs. For Cottrell et al. (1996) and Sheldrake (2005b), the link between the two beliefs is extramission: the idea that when an individual looks at something, some-

thing is emitted from the eyes. They theorise that this underlying belief results in a person believing they can feel the stares of others. Cottrell et al. (1996) tested this hypothesis in three studies, one of which tested the hypothesis that increasing levels of occlusion (barriers between the starrer and staree) would reduce the frequency of the experience of remote staring detection due to the belief that the emitted signal would become attenuated.

Testing nearly 200 participants revealed significant differences in the feeling of being stared at in the following increasing order: one-way mirror, dropped screen, peep-hole, transparent curtain, and window. The researchers concluded that these findings do not support the occlusion hypothesis as “. . . a peephole does not interfere with the passage of light or any emanations from the starrer’s eyes” (p. 54). However, they go on to speculate that a more extensive barrier between the individuals typically results in starees being less likely to believe that they will be able to feel the starrer’s looks. Therefore, the extent of the barrier is still a factor, but individuals do not necessarily believe they are detecting some form of emission.

However, barriers between starrer and staree appear to influence belief and thus barriers require further examination. A better way of testing this is through the development of experimental methods for examining remote staring detection over the years. In many of the earliest experiments, the starrer and staree were in the same room (e.g., Coover, 1913; Poortman, 1959; Sheldrake, 2005a; Titchener, 1898). Later, studies separated starrer and staree by a window (e.g., Sheldrake, 2002), a one-way mirror (e.g., Peterson, 1978), or a closed-circuit television (CCTV) system (e.g., Braud et al., 1993a; Braud, Shafer, & Andrews, 1993b). Typically, these methods have increased controls over extraneous variables by introducing increasing barriers between the starrer and staree, but at the potential cost of ecological validity (Baker, 2005). However, there has not been an examination of how people’s beliefs in remote staring detection might be affected by increasing such barriers between starrer and staree, as used in the experiments above. More specifically, beliefs in remote staring detection with regard to such barriers may also impact the potential success of remote staring experiments that utilise such methods.

In addition, although the use of CCTV systems, where the starrer views the staree via a computer-controlled video camera, is considered the gold standard of controlling for extraneous variables in remote staring experiments (Schmidt, Schneider, Utts, & Walach, 2004), there is currently no research examining the prevalence of belief in the existence of remote staring detection via the medium of CCTV systems. As a conservative estimate, the United Kingdom, for example, has over four million CCTV cameras: one camera for every 14 people (Barrett, 2013; Norris, McCahill, & Wood, 2004). If only a small proportion of the population believes that it is possible to detect a remote stare via a CCTV camera, the impact of this belief when combined with living in a highly observed society may be considerable.

In this paper I present two studies; the second study builds upon the findings of the first study and addresses the first study’s limitations.

Study 1

The first study was an exploratory study designed to distinguish between aspects of remote staring experiences and beliefs, such as differences in acting as a starrer and a staree, and to determine if participants believed that it was possible to detect a remote stare under various conditions. In the first study, I explored the differences in how common it is to experience being a starrer compared to being a staree. This builds upon Thalbourne and Evans’ (1992) research that suggested that acting as a staree may be more common (85%) than acting as a starrer (66%). I also examined the influence of barriers that occlude the stare between the starrer and staree on belief, using a procedure similar to that of Cottrell et al. (1996). These barriers corresponded to those that have been employed in experiments to test for the existence of remote staring detection with increasing levels of occlusion, namely, same room (i.e., no real barrier), window, one-way mirror, and CCTV. Finally, I tested the potential differences between belief in remote staring detection and belief in the evil-eye in order to assess if these beliefs are the same.

The hypotheses tested in the first study were:

1. There will be a significant difference in how common it is to experience being a starrer compared to being a staree.
2. There will be a significant linear decrease in the levels of belief in remote staring as the level of occlusion (or barriers) between the starrer and staree increases.
3. There will be a significant difference between belief in remote staring detection and belief in the evil-eye.

Method

Participants. Using a cross-sectional design, 1,405 participants completed an online questionnaire (outlined below) hosted on the SurveyMonkey website using an opportunistic and self-selecting sampling method. Participants were unpaid. A small proportion of participants (14.5%) were excluded from the analysis due to missing values from the primary measures. This resulted in data from 1,200 participants being used in the analysis. The sample consisted of 441 males, 725 females, and 34 unspecified, between 18 and 98 years old ($M = 34.3$, $SD = 12.73$), from 60 different self-specified nationalities (29.8% British, 19.7% American, each of the other nationalities < 5%). Ethical clearance was obtained from the Psychology Ethics Committee at the University of Edinburgh.

Measures and procedure. The participants responded to the first seven items of the remote staring detection questionnaire (RSDQ; see appendix, the additional items were added in the second study), in addition to general demographic questions. The two items relating to the experience of remote staring detection were measured on a 5-point Likert-type scale ranging from 1 (never) to 5 (all the time): “How often have you felt the sensation that someone was staring at the back of your head and when you have turned around you have found someone staring at you?” and “How often have you stared at the back of someone’s head and they have turned around and looked at you?”

The five items relating to belief in remote staring detection were measured on a 5-point Likert-type scale ranging from 1 (no, not at all) to 5 (yes, definitely) and related to the different methodologies employed in remote staring studies. These were: “I believe that you can detect another person’s gaze from across a room, even if you cannot see them”; “I believe that you can detect another person’s gaze when they are looking at you through a window, even if you cannot see them”; “I believe that you can detect another person’s gaze through a one-way mirror (i.e., they can see you, but you cannot see them)”; and “I believe that you can detect another person’s gaze when they are staring at you via a closed-circuit television camera (CCTV).” A final question examined the evil-eye belief: “I believe in the idea of an ‘evil-eye’ (i.e., one person can cause harm to another person just by looking at them).”

Results

Analysis was conducted using R (2.15.1) and SPSS 19 software. Summary statistics are presented in Figure 1. Cronbach’s α for the RSDQ scale in this study was .87.

Participants more frequently reported having experienced the phenomenon of being stared at by someone else ($M = 3.08$, $SD = 0.98$), compared to having acting as starers themselves ($M = 3.02$, $SD = 0.95$), although this difference only approached significance, $t(1199) = 1.94$, $p = .052$, $r = .03$.

A one-way repeated measures ANOVA with Greenhouse-Geisser correction ($\epsilon = .87$) revealed a significant difference in belief between the four levels of remote staring occlusion, $F(2.60, 311.86) = 667.23$, $p < .001$, $\eta^2 = .12$. Furthermore, this difference was significantly linear in nature with a medium overall effect size, $F(1, 1199) = 1260.59$, $p < .001$, $\eta^2 = .12$; this can be seen in the descriptive statistics in Figure 1. Post-hoc analyses indicated that the level of self-reported belief in these different types of remote staring detection significantly decreased in a linear fashion as the degree of occlusion between the starrer and staree increased (see Table 1).

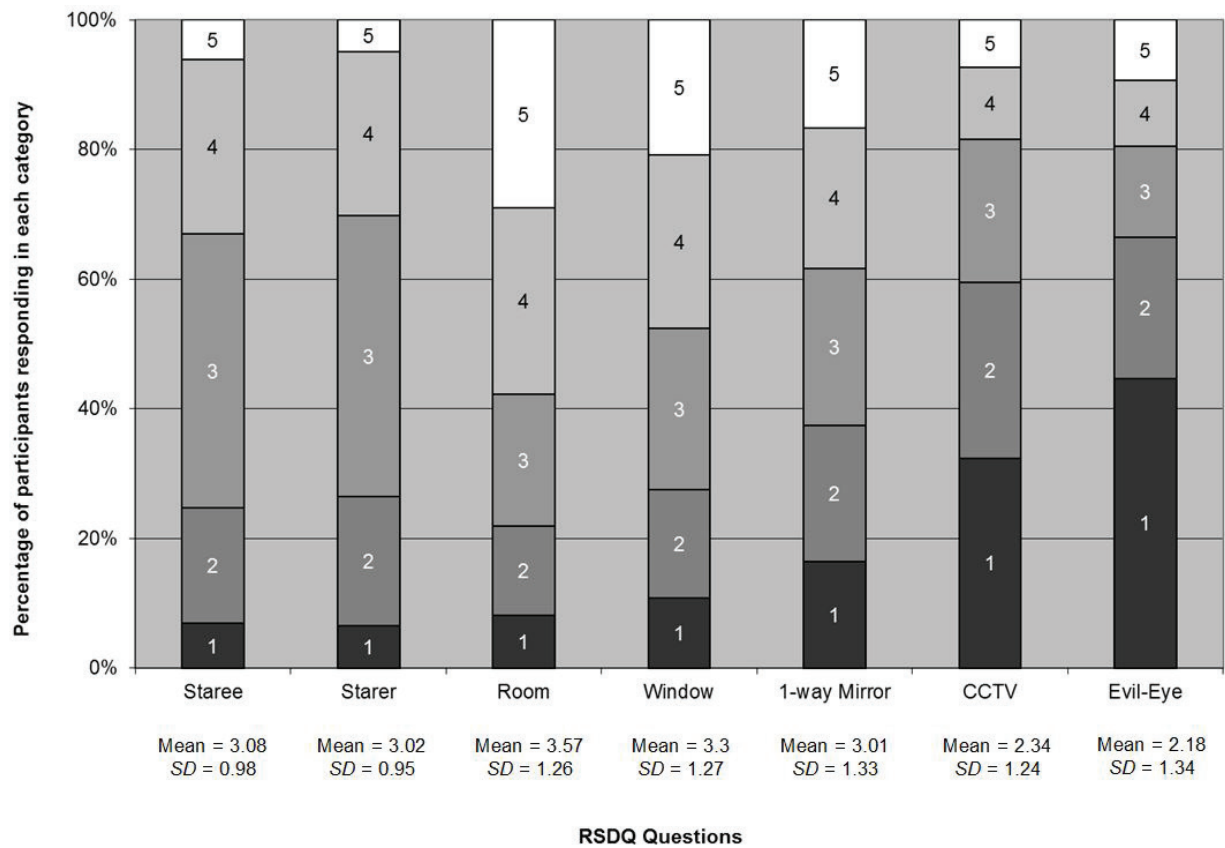


Figure 1. Descriptive statistics for all RSDQ scale questions from study 1.

Table 1
Post-Hoc Paired-Sampled *t*-test Statistics and Effect Sizes (*r*)
for Belief in the Four Different Levels of Occlusion

	Room	Window	One-Way Mirror
Window	11.48 (.11)		
One-Way Mirror	19.00 (.21)	11.75 (.11)	
CCTV	35.69 (.44)	31.30 (.36)	22.80 (.25)

Note. For all comparisons $df = 1199$ and $p < .001$

Finally, participants were significantly more likely to believe in remote staring detection compared to belief in the evil-eye, $t(1199) = 32.78, p < .001, r = .47$, although a post-hoc analysis revealed there is a moderate correlation between the two variables, $r(1200) = .37, p < .001$.

Discussion

Study 1 did not find a significant difference in the experience of acting as a starrer compared to acting as a staree. Although the difference was arguably approaching significance, the large sample and small effect size underscore the fact that it is unlikely to be psychologically meaningful. This result illustrates that the active and passive aspects of remote staring detection are experienced with similar frequency.

There was also a significant decrease in belief in remote staring detection as the levels of occlusion between the starrer and staree were increased, which is broadly consistent with Cottrell et al.'s (1996) findings. There was a significant linear relationship with the level of belief decreasing across the four levels in the following order: room, window, one-way mirror, and CCTV, suggesting that the underlying belief is complex. One interpretation is that belief in extramission is a factor, as the increasing barriers would attenuate any signal or energy coming from the eye. However, it also indicates that extramission belief may represent an incomplete explanation, as CCTV would not transmit such a signal. This is similar to the conclusions drawn in Cottrell et al.'s (1996) research, except that they found that "peep hole" was rated as lower than "window" in terms of potentially feeling stares, even though a peep hole would not attenuate an extramission signal and should therefore be rated higher if extramission was the explanation. In addition, this finding suggests that participants may be less likely to believe in the potential success of an experiment that uses a CCTV separation method to examine remote staring detection, which has become a common methodology (e.g., Baker & Stevens, 2013; Braud et al., 1993a, 1993b; Schmidt et al., 2004). Although this is a useful way of controlling for extraneous variables, it is recommended that this method be explained at the point of recruitment in future experimental studies so that potential participants understand the nature of the experiment from the outset and hopefully adjust their expectations. An interesting finding was that approximately 20% of the sample responded "4" or "5" on the RSDQ, indicating that they believed in the possibility of remote staring detection via the medium of CCTV. Due to the prevalence of CCTV systems in many developed countries, this belief may impact a substantial part of the population, particularly if it interacts with personality characteristics such as paranoia, self-consciousness, and social anxiety.

The findings also demonstrated a significant difference between belief in remote staring detection and belief in the evil-eye, with significantly higher levels of belief in remote staring detection. The large effect size of indicates there is a robust difference between these two measures, which may indicate that belief in the evil-eye and belief in remote staring detection represent different belief constructs, a suggestion that is different from previous research (Cottrell et al., 1996; Sheldrake, 1994, 2000; Staats et al., 2002; Thalbourne & Evans, 1992). However, a post-hoc analysis showed there was also a significant correlation between these two measures, suggesting some degree of relationship between them requiring further investigation.

Study 1 did have some limitations: (a) the questions were limited in scope, (b) the measurement of extramission belief was indirect; participants were not directly asked if they believed in the concept of extramission, and (c) experience and belief in remote staring detection needed to be measured in relation to relevant psychological variables more broadly. These limitations are addressed in the second study.

Study 2

Study 1 demonstrated significantly different levels of belief in remote staring detection and the evil-eye, but there was also a significant correlation between these beliefs. Evil-eye belief can be complex and often centers on negative influences associated with one person staring at another person in general, and it is particularly associated with the expression of envy (Dundes, 1992; Reminick, 1985). A limitation of the first study was that it did not explore these elements in more detail, and an examination of envious looks in addition to evil-eye belief would add to our understanding of the relationship between belief in remote staring detection and evil-eye belief. Similarly, the linear decrease in remote staring belief as barriers increased found in Study 1 suggested that extramission belief may not be a viable explanation for remote staring belief. However, extramission belief was not explicitly measured in the first study and additional research examining this is required. Finally, a paranormal phenomenon not yet discussed that has been related to remote staring detection is belief in the *sense of presence*. This refers to the sensation that another person is present, but it cannot be detected by the recognized senses (Green & McCreery, 1975). It is most commonly associated with a small percentage of apparition-like experiences (Green & McCreery, 1975), but its weakest form has been associated with the feeling of being watched (Bennett & Bennett, 2000). However, belief in this phenomenon has not been directly assessed alongside belief in remote staring detection and was not measured in Study 1.

A second study was designed to address the limitations of Study 1 and to build upon its findings. This study took the original questions used in the first study and added questions to address the issues outlined above; for example, envious looks were assessed, and beliefs in extramission, intromission (i.e., when someone or something is looked at, light enters the eye), and a sense of presence were measured. The intention was that the addition of these questions would produce a belief in Remote Staring Detection Scale, which could measure this belief and related phenomena such as the evil-eye, extramission, and sense of presence.

As part of the development of the scale, it was anticipated that an exploratory factor analysis would reveal if it was unitary measure or consisted of subscales, given that the differences found in the first study between belief in remote staring detection and the evil-eye suggest that questions about these beliefs may separate into subscales. Such a scale would aid the understanding of this particular form of paranormal belief and the recruitment of participants demonstrating high levels of belief for experiments involving remote staring detection. It would further allow examination of whether belief in remote staring detection is a different construct from belief in the evil-eye.

In addition, the first study did not relate the findings of belief in remote staring and the evil-eye with relevant personality correlates, which could help explain the origins of such beliefs. Research has previously examined a variety of potential personality correlates with remote staring detection such as paranormal belief (Watt, Schlitz, Wiseman, & Radin, 2005; Williams, 1983; Wiseman & Schlitz, 1997, 1999); social avoidance and distress (Braud et al., 1993b; Schlitz & LaBerge, 1997); the Myers-Briggs Type Indicator (Braud et al., 1993b); shyness and perceived luckiness (Wiseman & Smith, 1994); and extraversion (Lobach & Bierman, 2004). However, this research examined personality correlates in the context of experimental testing of the phenomena as opposed to exploring the relationship between personality correlates and beliefs and experiences of this phenomenon.

Only one previous study has attempted to examine personality characteristics and their relationship with this belief (Staats et al., 2002). It revealed a predictive relationship between public self-consciousness and remote staring detection belief, but only when social situation variables, such as whether you are being stared at whilst being on your own or amongst friends, were added to the model. However, the relatively low number of participants ($N = 71$) with a relatively high number of predictors (eight) in the study may have contributed to the ambiguity of the results due to it being underpowered. Therefore, there may be a stronger relationship between remote staring belief and self-consciousness than Staats et al. reported.

Staats et al. (2012) used the Self Consciousness Scale (SCS; Fenigstein, Scheier, & Buss, 1975) to assess the different facets of self-consciousness. This scale has been divided into three subscales (Burnkrant & Page, 1984; Mittal & Balasubramanian, 1987). The Private Self-Consciousness subscale is an index of one's awareness of the inner or personal aspects of one's self. The Public Self-Consciousness subscale is a measure of one's self as a social object. The third subscale, Social Anxiety, is a general measure of social anxiety. It is interesting that Staats et al. used only the Public and Private Self-Consciousness subscales of the SCS. However, their findings indicate that social factors are important when assessing belief in remote staring; indeed, the Social Anxiety subscale contains the question "It's hard for me to work when someone is watching me." Therefore, the Social Anxiety subscale was included in this study. As the Public Self-Consciousness and Social Anxiety subscales both measure broadly an individual's awareness of self within a social environment, it was hypothesized that their scores will positively predict scores on the Remote Staring Detection Belief Scale. In contrast, private self-consciousness is awareness of one's internal self, and therefore higher scores on such an inwardly looking measure would negatively predict beliefs that rely upon an outward awareness of others looking at oneself.

Nonclinical paranoia is related to self-consciousness and was noted as correlating most strongly with the public self-consciousness subscale ($r = .40$) of the SCS during the development of a measure of nonclinical paranoia (Fenigstein & Vanable, 1992). Using items derived from several paranoia scales, Fenigstein and Vanable (1992) constructed a scale measuring nonclinical paranoia, named the Paranoia Scale. This scale contains questions that are relevant to belief in remote staring detection, for example, "I have often felt that strangers were looking at me critically", "Someone has been trying to influence my

mind” and “I am bothered by people outside, in cars, in stores, etc. watching me” (p. 132). When testing their scale, Fenigstein and Vanable (1992) used a behavioural measure where participants were asked to wait for 5 min in a room with a large one-way mirror in it before going on to complete an anagram experiment. They found that, compared to participants who waited in a room without the mirror, participants who waited in the room with the one-way mirror demonstrated a significant relationship between one item on a questionnaire that focused on the feeling of being watched and both the Paranoia Scale and the Public Self-Consciousness subscale of the SCS, which had been completed several weeks before. They also replicated this finding in a similar, second experiment. They concluded that “The feeling of being watched or that others are taking special notice of one is a classic manifestation of a paranoid idea of reference . . . it may be argued that this feeling of being observed derives from one’s own self-directed attention” (Fenigstein & Vanable, 1992, p. 133). Therefore, nonclinical paranoia has been demonstrated as correlating with aspects of self-consciousness, and remote staring belief was an important consideration in the development of its measure. It was hypothesized that nonclinical paranoia scores would also positively predict scores on the Remote Staring Detection Scale.

In summary, the second study used the first study as a basis for exploring the nature of belief in, and experience of, remote staring detection by adding additional questions to the original measure in order to address some of the limitations of the first study. In addition, an exploratory factor analysis was planned in order to determine the structure of the belief in more detail. This culminated in a regression analysis to test the hypothesis that scores on the subscales of the self-consciousness scale and the nonclinical paranoia scale would significantly predict scores on the remote staring detection belief scale.

Method

Participants. Using a cross-sectional design, an opportunistic and self-selected sampling method was used to select 1,447 participants who completed the online questionnaire hosted on the SurveyMonkey website. The participants were unpaid. Almost a quarter of the participants (22.9%) were excluded from the analysis due to missing values on the primary measures, resulting in 1,116 participants in the analysed sample. This sample consisted of 404 males, 697 females, and 15 unspecified, all between 18 and 80 years old ($M = 35.3$, $SD = 11.81$) and from 67 different self-specified nationalities (34.3% British, 24.2% American, each of the other nationalities < 5%). Ethical clearance was obtained from the Psychology Ethics Committee at the University of Edinburgh.

Measures and procedure. The participants completed the measures in the following order: questions on general demographic information, and the 22-item Revised SCS (rSCS), followed by the 20-item Paranoia Scale (PS). They were then asked to complete 11 items regarding experiences of, and belief in, remote staring detection and related phenomena (RSDQ). It has been argued in previous research that questionnaire measures should be administered before psi tasks in case the task influences the completion of the measures (e.g., Hume & Lawrence, 2005). In a similar manner, in this study participants were asked to complete the rSCS and PS scales before the RSDQ in order to prevent their responses from being influenced by the content of the new scale.

Remote Staring Detection Questionnaire. Building upon the seven items used in the first study, the final four questions of the RSDQ were added at this stage in order to examine its relationship with measures of concepts such as envy: “I believe it is possible to cause something bad to happen to a person by looking at them enviously (i.e., you envy them or something they have), even if they are not aware they are being looked at;” sense of presence: “I believe that you can feel the ‘sense that another person is there,’ even if you cannot see them;” and intromission/extramission belief: “I believe that when people look at something or someone, energy or something else comes out of their eyes” and “I believe that when people look at something or someone, energy or something else enters their eyes.” Cronbach’s α for the entire scale was .89 (see appendix for the full scale).

Revised Self-Consciousness Scale. The original SCS (Fenigstein et al., 1975) evaluated self-consciousness as three separate subscales (Burnkrant & Page, 1984; Mittal & Balasubramanian, 1987): private self-consciousness as an index of a person’s awareness of inner or personal aspect of self, public self-con-

sciousness as a measure of the self as a social object, and social anxiety. The 22-item revised SCS (Scheier & Carver, 1985) was developed to be more straightforward and more suitable for general populations than the original SCS but can be used interchangeably with it. Due to the general nature of the population sampled in this study, the rSCS was judged to be more appropriate ($\alpha = .85$, test-retest reliability after 4 weeks: $r = .74$ to $r = .77$ for the subscales).

Paranoia Scale. This 20-item scale ($\alpha = .91$, test-retest reliability after 6 months: $r = .70$) was designed to measure paranoia in nonclinical populations and was adapted from items in several pathological paranoia scales (Fenigstein & Venable, 1992).

Results

Factor analysis. An exploratory principle axis extraction with oblimin rotation (Costello & Osborne, 2005; Gorsuch, 1990) was conducted on the 11 items from the RSDQ for the 1,116 participants of the analysis sample. This oblique extraction rotation method was selected as it permits the factors to correlate (Costello & Osbourne, 2005). Two factors were extracted incorporating all of the variables. Communality values, as seen in Table 2, were generally high, with only one (starrer $h^2 = .24$) being below optimal (Tabachnick and Fidell, 2001). However, due to a combination of high communality values for the other variables, the lack of outliers for this variable, the large sample size, the lack of cross-loading, and a high Kaiser-Meyer-Olkin value (.86), it was judged appropriate to leave this variable in the factor solution (cf. Tabachnick & Fidell, 2001).

Rotated loadings of variables on factors, communalities, percentages of variance, factor eigenvalues, and suggested interpretive labels are shown in Table 2. All loadings higher than .45 (20% of the variance) are highlighted in order to demonstrate their contribution to the respective factors (cf. Comrey & Lee, 1992).

Table 2
*Rotated Factor Loadings, Communalities (h^2) and Percentages of the Two Principle Extracted Factors
(With Suggested Interpretive Labels) From the Oblimin Rotation*

Item	Factor 1 (Paranormal Perceptual Awareness)	Factor 2 (Eye-Energy Belief)	h^2
Staree	.68	-.03	.44
Starer	.49	-.01	.24
Room	.90	-.07	.75
Window	.92	-.02	.84
1-way Mirror	.85	.02	.74
CCTV	.59	.19	.49
Evil-eye	-.02	.83	.68
Envy	-.11	.90	.71
Sense of presence	.71	.05	.55
Extramission	.16	.56	.44
Intramission	.06	.53	.32
Eigenvalues	5.06	1.14	
Percentage of variance	45.97%	10.4%	
Cronbach's α	.90	.81	

In summary, this analysis suggests that the RSDQ measures two factors for this sample: *Paranormal Perceptual Awareness* (seven items) and *Eye-Energy Belief* (four items).

The relationship between personality and belief. Separate correlational analyses followed by a multivariate multiple regression analysis were used to model the predictive influence of the following variables: private self-consciousness (PrSC), public self-consciousness (PubSC), social anxiety (all measured by the rSCS), and nonclinical paranoia on Paranormal Perceptual Awareness (PPA) and Eye-Energy Belief (EEB). Following this, post-hoc individual multiple regression models were tested to examine the relationships between each predictor and the two outcome variables individually.

The overall multivariate multiple regression model was significant, Pillai-Bartlett's Trace $V = .19$, $F(8, 222) = 28.94$, $p < .001$, as were each of the individual predictors when modeled against both PPA and EEB together, PrSC: $V = .04$, $F(2, 1110) = 23.86$, $p < .001$; PubSC: $V = .02$, $F(2, 1110) = 8.47$, $p < .001$; social anxiety: $V = .01$, $F(2, 1110) = 7.18$, $p = .001$; paranoia: $V = .12$, $F(2, 1110) = 73.80$, $p < .001$. The results breakdown for relationships between the predictors and PPA and EEB separately are summarised in Figures 2 and 3.

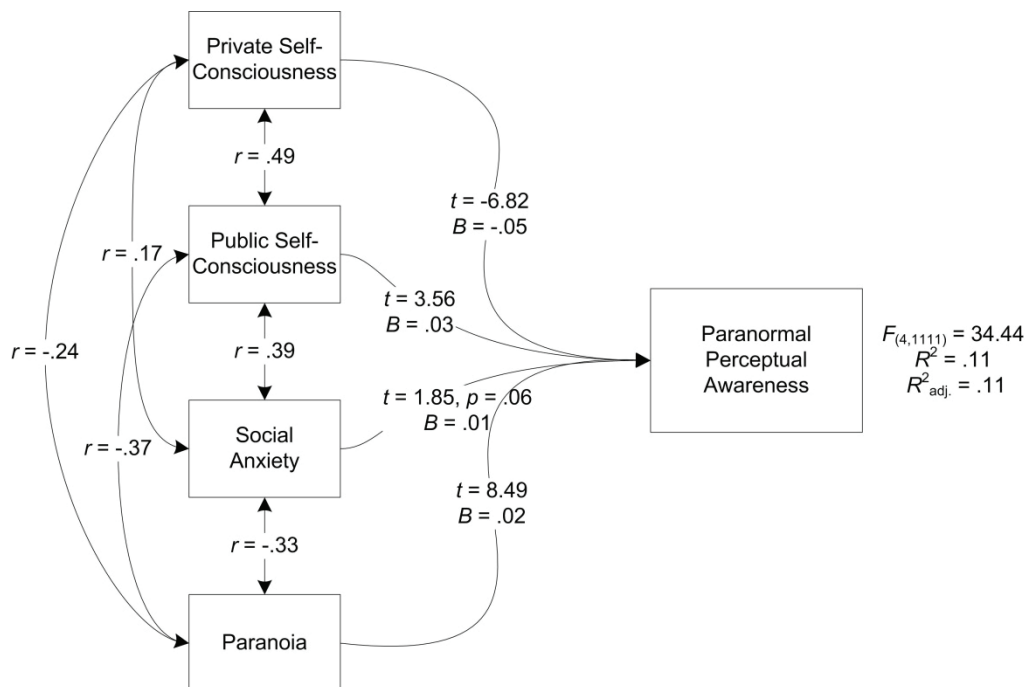


Figure 2. Multiple regression model predicting Paranormal Perceptual Awareness. All p values are $< .001$ unless otherwise indicated.

Collinearity diagnostics (VIF range = 1.2–1.58) and adjacent residual statistics (Durbin-Watson = 2.03) for the PPA model were within tolerances (Tabachnick & Fidell, 2001). The final regression equation was significant, $F(4, 1111) = 34.44$, $p < .001$, and provided a medium effect size ($R^2 = .11$, $R^2_{adj.} = .11$).

Similarly, adjacent residuals (Durbin-Watson = 1.89) for the EEB model were within tolerances. The final regression equation was significant, $F(4, 1111) = 49.85$, $p < .001$ and provided a medium effect size ($R^2 = .15$, $R^2_{adj.} = .15$).

In summary, the overall multivariate model was significant and the detailed analysis revealed a more complex relationship. Increasing levels of public self-consciousness and paranoia, and decreasing levels of private self-consciousness, predicted higher levels of paranormal perceptual awareness, whereas social anxiety was not a significant predictor. Furthermore, social anxiety and paranoia predicted higher levels of eye-energy belief, with private self-consciousness acting as a negative predictor; public self-consciousness was found not to be a significant predictor.

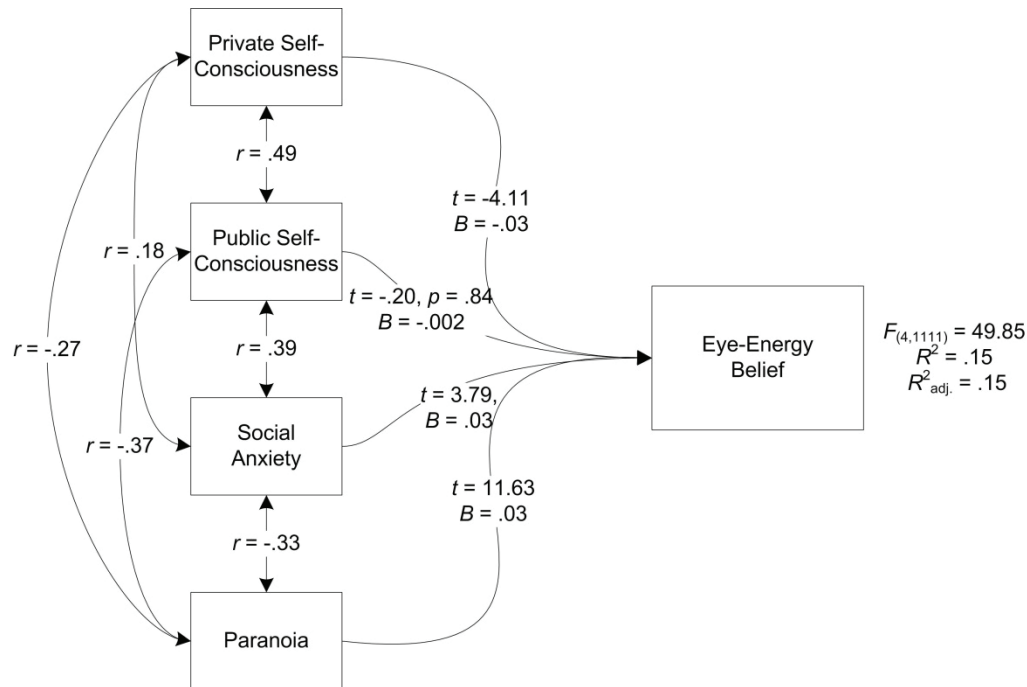


Figure 3. Multiple regression model predicting Eye-Energy Belief. All p values are $<.001$ unless otherwise indicated.

General Discussion

The findings reported in the above studies should be considered tentative pending replication. The exploratory factor analysis in Study 2 revealed that the 11-item Remote Staring Detection Scale is comprised of two factors or subscales: Paranormal Perceptual Awareness, and Eye-Energy Belief. The questions on the Paranormal Perceptual Awareness subscale focus primarily upon experience of, and belief in, remote staring detection and the sense of presence. The questions on the Eye-Energy Belief subscale focus upon questions regarding belief in the evil-eye and in extramission/intromission.

In contrast with previous research suggesting that belief in remote staring detection and belief in the evil-eye are parts of the same overall belief (Cottrell et al., 1996; Sheldrake, 1994, 2000; Staats et al., 2002; Thalbourne & Evans, 1992), the findings of the two studies presented here suggest that they are different but related beliefs. Although both beliefs involve staring activity and the eyes, they appear to be held to different degrees. This difference might be due in part to the evil-eye belief involving negative connotations of envy, impotence, and death (Dundes, 1992; Reminick, 1985), whereas remote staring detection experiences can involve negative (e.g., threat), neutral (e.g., turning around and someone is looking), and positive (e.g., eyes met across a crowded room) emotional connotations. Also, evil-eye belief may represent a specific belief structure that is relevant only to certain cultural backgrounds, whereas belief in remote staring detection may be more generalized.

Similarly, belief in extramission has been proposed as a mechanism to explain belief in remote staring detection (Cottrell et al., 1996; Sheldrake, 2005b, 2005c). However, the results of Study 2 suggest that extramission belief relates more strongly to belief in the evil-eye rather than remote staring detection. Interestingly, the linear decrease in the level of reported belief in remote staring detection as the degree of occlusion between the starrer and staree increases, found in Study 1, may indicate some degree of belief in a physical connection between a starrer and a staree.

The analysis in Study 2 also extracted remote staring detection and the questions related to the sense of presence as a single factor, demonstrating that these separate phenomena may have an integral un-

derlying belief structure which empirically supports previous suggestions (i.e., Bennett & Bennett, 2000). The implication of this finding is that the feeling of being watched by another could, if strong enough, become a feeling that another person is physically present when they are not. This association between the sense of presence and sense of being stared at may also relate to the *supernatural monitoring hypothesis* (Atkinson & Bourrat, 2011; Gervais & Norenzayan, 2012)—this refers to the belief that a watchful deity perceives human thoughts and actions. Research into supernatural monitoring has demonstrated that such beliefs affect public self-awareness and prosocial behavior, specifically that “. . . thoughts of God might cause many of the same psychological consequences as does being aware that other people are monitoring one’s behaviour” (Gervais & Norenzayan, 2012, p. 301). Although belief in remote staring detection may not incorporate a deity per se, the belief that one’s actions are being monitored by others may broadly relate to this hypothesis. It is possible that the feeling of being watched, including a sense of presence, may also relate to beliefs that others are observing (and judging) one’s actions. This may lead some people to be careful about their behaviour due to perceived paranormal monitoring by others, as opposed to the more religious connotations in the supernatural monitoring hypothesis. In other words, do the feeling of a sense of presence and the feeling of being watched represent the supernatural monitoring hypothesis in action, but with the monitoring being interpreted through the prism of paranormal beliefs as opposed to religious beliefs? More research is required to investigate this subtle distinction further.

In summary, it would appear that paranormal perceptual awareness refers collectively to becoming aware of a stimulus in one’s surroundings and using a paranormal framework of interpretation to explain it (i.e., “someone is looking at me,” or “something is present that I can feel but cannot see”). Related to this, it would seem that eye-energy belief is the belief that one’s stares, which may involve emission of a kind of energy, have a more direct, and potentially negative, impact upon others.

Overall, the personality measures of paranoia and self-consciousness predicted both subscales of the RSDQ. However, the subtle differences in the predictive relationships between the paranoia and self-consciousness measures to the PPA and EEB measures may help to explain mechanisms of belief. Private self-consciousness and paranoia were both significant predictors of PPA and EEB. Private self-consciousness is a measure of an individual’s awareness of inner or personal aspects of self (Fenigsten et al., 1975), and it is therefore follows that it would have negative relationships with both PPA and EEB as these are both externally focussed sources of awareness. The Paranoia Scale was a strong positive predictor of both subscales, which is consistent with the findings of Fenigstein and Venable (1992). Individuals who have paranoid tendencies may be more likely to believe in either or both PPA and EEB. However, social anxiety was a significant predictor of EEB, whereas public self-consciousness was not. Conversely, social anxiety only approached significance as a predictor of PPA, and public self-consciousness is a significant predictor of PPA. This difference in predictive relationships might be due to PPA being explained better by the supernatural monitoring hypothesis. Previously this has been interpreted in terms of individuals’ belief that a deity is observing their behaviour, resulting in them engaging in prosocial behaviour (Atkinson & Bourrat, 2011; Gervais & Norenzayan, 2012). However, as mentioned above, this may need to be extended more broadly to “paranormal” observation by others (i.e., feeling of being watched and a sense of presence), relating to a greater propensity for public self-consciousness and an increased likelihood of prosocial behaviour. Future research could examine if high scorers on PPA are more likely to engage in prosocial behaviour.

In contrast, eye-energy belief appears to be driven by a combination of paranoia and social anxiety, with public self-consciousness not being a factor. This argues against supernatural monitoring acting as a potential mechanism. Instead, EEB tentatively suggests an inner focus on how another person’s gaze can have an impact upon oneself, potentially with more negative connotations such as envy, social anxiety, and nonclinical paranoia. However, the findings of Study 1 suggested that levels of belief in the evil-eye, which is an important aspect of EEB, are generally lower than remote staring detection and therefore EEB may not be as common as PPA, which may also help to explain the differences between EEB and PPA. The samples for both studies were dominated by participants from the U.K. and U.S. As these two countries have demonstrated low levels of evil-eye belief in anthropological studies (Dundes, 1992), cross-cultural sampling of

populations that have demonstrated higher levels of evil-eye beliefs (e.g., several countries in Africa and the Mediterranean) may provide different results. In addition, the use of the term “evil” when asking the evil-eye questions could have had negative connotations for the respondents and therefore resulted in lower self-reported levels of belief, although it can be challenging to ask about this belief without using this term. These conclusions are also broadly consistent with Cottrell and Winer’s (1994) finding that extramission belief (also part of EEB) generally decreases with age. Because the sample I used consisted of people age 18 years and older, lower levels of this belief may be reflected as well. Finally, the EEB factor described only 10.4% of the variance of the model and it only has four items. Collectively, the above findings suggest that the EEB factor is less robust than the PPA factor.

There are some additional limitations to this research. The RSDQ is complicated somewhat by the inclusion of two different Likert scales: one for experience and another for belief. Although this is a strength in many respects as it measures both belief and experience, it does mean that two of the 11 questions were measured on a subtly different scale of measurement. This may explain why the communality score of one of the experience questions was less than optimal. However, the scale as a whole does appear to be valid, but replication employing confirmatory factor analysis would be ideal, along with an assessment of test-retest reliability, and future replications should contain this. An area of improvement in future research involves the measurement of social anxiety, particularly as measured by the SCS. Although social anxiety is of interest due to (a) Staats et al.’s (2002) findings, (b) the relevance of the questions in Social Anxiety subscale to remote staring belief, and (c) the fact that it ultimately predicted eye-energy belief, the use of the Social Anxiety subscale of the SCS may not have been the ideal measure to use for social anxiety. Although included in Fenigstein et al.’s (1975) original factor structure and the factor structure for Scheier and Carver’s (1985) revised scale, several more recent analyses of the factor structure of the SCS disregard the Social Anxiety subscale and focus more upon the self-consciousness subscales (e.g., Anderson, Bohon & Berrigan, 1996; Martin & Debus, 1999), finding clear structures without it. Therefore, further research should employ social anxiety measures that were designed from the outset to specifically measure social anxiety, alongside the self-consciousness measures.

As highlighted in the introduction, these beliefs are worthy of isolated study due to their prevalence. However, additional validity of the RSDQ would be demonstrated by comparing it to broader measures of paranormal belief (e.g., Tobacyk, 2004) and magical ideation (e.g., Mason, Claridge, & Jackson, 1995). Both EEB and PPA may also link with persecutory ideation (McKay et al., 2006), which has been associated to differing levels with hallucinatory predisposition and perceptual anomalies (Freeman et al., 2005), and this may help to describe in greater detail the personality characteristics that may underlie these belief structures. Although there were very large sample sizes in both studies, and the predictive relationships involving the paranoia and self-consciousness measures were significant in Study 2, these measures explained only 11–15% of the variance of the PPA and EEB measures. Therefore, additional research is needed in order to explain these beliefs in more detail, focusing upon the supernatural monitoring hypothesis and the personality measures discussed above.

This research has demonstrated that the common belief in the feeling of being watched has a more complex structure than previously envisaged. It is related to the sense of presence and may correlate with, or even have a mechanism similar to, supernatural monitoring. Conversely, belief in the evil-eye and extramission would collectively appear to represent a different belief structure with different relationships to personality measures, particularly public self-consciousness and social anxiety.

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Acknowledgements

I would like to thank Professor David Sheffield, Paul Staples, Malcolm Schofield, Dr. Jane Montague, Dr. John Palmer, Dr. Penelope Junkermann, and two anonymous reviewers for their helpful comments on earlier drafts of this paper. This research was conducted as part of the author's PhD research at the University of Edinburgh.

Appendix

Remote Staring Detection Questionnaire (RSDQ)

All questions are measured on a 5-point Likert scale which ranged from 1 “never” to 5 “all the time” for the first two experience questions, and from 1 “no, not at all” to 5 “yes, definitely” for the rest of the scale.

1. How often have you felt the sensation that someone was staring at the back of your head, and when you have turned around, you have found someone staring at you?
2. How often have you stared at the back of someone’s head, and they have turned around and looked at you?
3. I believe that you can detect another person’s gaze from across a room, even if you cannot see them.
4. I believe that you can detect another person’s gaze when they are looking at you through a window, even if you cannot see them.
5. I believe that you can detect another person’s gaze through a one-way mirror (i.e., they can see you, but you cannot see them).
6. I believe that you can detect another person’s gaze when they are staring at you via a closed-circuit television camera (CCTV).
7. I believe in the idea of an “evil-eye” (i.e., one person can cause harm to another person just by looking at them, even if that person is not aware that they are being looked at).
8. I believe it is possible to cause something bad to happen to a person by looking at them enviously (i.e., you envy them, or something they have), even if they are not aware they are being looked at.
9. I believe that you can feel the “sense that another person is there”, even if you cannot see them.
10. I believe that when people look at something or someone, energy or something else comes out of their eyes.
11. I believe that when people look at something or someone, energy or something else enters their eyes.

Abstracts in Other Languages

German

DER ZUSAMMENHANG DES GEFUEHLS, BEOBACHTET ZU WERDEN,
MIT PARANOIA, SELBST-BEWUSSTSEIN UND SOZIALER ANGST

ZUSAMMENFASSUNG: Das Gefühl, von jemandem beobachtet zu werden, ist eine verbreitete Erfahrung, die experimentell seit über 100 Jahren untersucht wird. Detaillierte Forschungen zum Glauben an dieses Phänomen oder mögliche Beziehungen zu Persönlichkeitsmerkmalen wurden bisher jedoch vergleichsweise wenig durchgeführt. In zwei Studien unter Beteiligung von über 2.500 Personen und unter Verwendung eines neuen Fragebogens konnte gezeigt werden, dass der Glaube an eine *entfernte Blickwahrnehmung* in dem Maße abnahm, wie die Abschirmungen zwischen dem Beobachter und dem Beobachteten zunahmen. Zusätzlich konnte mit Hilfe einer exploratorischen Faktorenanalyse gezeigt werden, dass der Glaube an eine entfernte Blickwahrnehmung komplex ist und auf das Gefühl einer Präsenz bezogen ist (die hier zusammengefasst als *paranormale Wahrnehmungsaufmerksamkeit* – oder PWA -- bezeichnet wird). Er unterscheidet sich auch sowohl von einer Ausstrahlung (d. h. etwas geht vom Auge aus, wenn man etwas anschaut) wie auch dem Glauben an den „bösen Blick“ (d. h. eine Person kann einer anderen durch bloßes Anschauen Schaden zufügen). Sowohl die Ausstrahlung als auch die Vorstellungen vom bösen Blick werden hier zusammengefasst als *Glauben an die Energie des Auges* (GEK). Eine multivariate multiple Regressionsanalyse ergab, dass Persönlichkeitseigenschaften wie Selbstbewusstsein und Paranoia signifikant PWA wie auch GEK vorhersagten. Der Glaube an PWA schließt ein verbreiteteres Achtgeben auf jeweil-

ige soziale Interaktionen ein, wenn auch mittels paranormaler Mechanismen interpretiert, wohingegen der GEK eine größere Sorge darüber einschließt, wie der Blick des Anderen einen beeinflussen kann, besonders mit negativen Konnotationen.

Spanish

LA RELACIÓN DE LA SENSACIÓN DE SER OBSERVADO CON LA PARANOIA, LA CONSCIENCIA DE SÍ, Y LA ANSIEDAD SOCIAL

RESUMEN: La experiencia común de la sensación de ser observado por otro se ha examinado de forma experimental durante más de 100 años. Sin embargo, se ha investigado poco la creencia en este fenómeno en detalle o su posibles relación con las medidas de personalidad relevantes. En dos estudios, con una muestra de más de 2,500 personas y el uso de una nueva medida, la creencia en la detección de miradas a distancia disminuyó a medida que las barreras entre el observador y el observado aumentaron. Además, un análisis factorial exploratorio demostró que la creencia en la detección de miradas a distancia es compleja y se relaciona con una sensación de presencia (denominada colectivamente aquí como *consciencia perceptiva paranormal* o PPA). También es diferente de las creencias en extramisión (es decir, algo que se emite desde el ojo cuando uno mira algo) y en el “mal de ojo” (es decir, que una persona pueda causar daño a otra con sólo mirarla). Ambas creencias se definen aquí como *creencia ojo-energía* o EEB. Un análisis de regresión múltiple multivariado reveló que las medidas de personalidad de autoconsciencia y paranoia predijeron significativamente tanto al PPA como al EEB. Sin embargo, la creencia en PPA implica la consciencia más generalizada de las propias interacciones sociales, aunque interpretada a través de mecanismos paranormales, mientras que la creencia en EEB sugiere una mayor preocupación por la forma en que la mirada de otro puede afectarlo a uno, sobre todo negativamente.

French

LA RELATION DE LA SENSATION D'ÊTRE OBSERVÉ AVEC LA PARANOÏA, LA CONSCIENCE DE SOI ET L'ANXIÉTÉ SOCIALE

RESUME : L'expérience commune de se sentir observé par quelqu'un a été examinée expérimentalement depuis plus de 100 ans. Toutefois, peu de recherches ont été conduites sur les croyances associées à ce phénomène ou leurs possibles relations avec d'autres mesures de personnalité. Dans deux études, un échantillon de plus de 2 500 personnes et employant une nouvelle mesure, la croyance dans la *détection à distance du regard* a diminué en même temps que les barrières entre le regardant et le regardé se renforçaient. De plus, une analyse factorielle exploratoire a démontré que la croyance dans la détection à distance du regard est complexe et associée à la sensation de présence (collectivement associé ici à la *conscience perceptuelle paranormale* ou PPA). Elle est également différente à la fois de l'extramission (c'est-à-dire l'émission de quelque chose depuis les yeux lorsque quelqu'un regarde quelque chose) et de la croyance au « mauvais œil » (c'est-à-dire qu'une personne peut faire du mal à une autre juste en la regardant). Ces deux dernières croyances sont définies ici comme des *croyances aux énergies oculaires* ou EEB. Une analyse de régression multivariable a révélé que les mesures de personnalité de la conscience de soi et de la paranoïa ont significativement prédit à la fois PPA et EEB. Toutefois, la croyance PPA implique une conscience plus généralisée des interactions sociales, bien qu'elle soit interprétée par des mécanismes paranormaux, tandis que la croyance EEB suggère une plus grande inquiétude concernant la façon dont le regard d'un autre va avoir un impact sur soi, en particulier avec des connotations négatives.

FIVE QUALITATIVE RESEARCH APPROACHES AND THEIR APPLICATIONS IN PARAPSYCHOLOGY¹

By John G. Kruth

ABSTRACT: Five qualitative research approaches are presented in this article including information about data collection methods, data analysis techniques, sampling, reporting, and validation. Each of these techniques is described separately with discussion about why a researcher might choose to use a qualitative research approach rather than follow a strict experimental or quantitative protocol. The qualitative approaches outlined are narratives, case studies, phenomenology, grounded theory, and ethnographies. In addition, a brief discussion of transpersonal qualitative approaches is included to introduce the reader to the perspectives of the transpersonal researcher. Finally, multiple examples are provided from the field of parapsychology that discuss how each approach could be applied to help advance the understanding of the psi experience and to contribute to future quantitative studies. Parapsychological researchers are encouraged to develop a better understanding of the value of qualitative research techniques outside of a laboratory environment and to utilize the results of qualitative studies to structure and develop better experimental methodologies in the laboratory setting.

Keywords: qualitative research, transpersonal psychology, phenomenology, case study, parapsychology

Experimental approaches to parapsychology have always been considered the pinnacle of research and the primary source of scientific information for the field, but the rich tapestry of information available from people who have spontaneous psi experiences is essential to expand our knowledge of the field. From the case collections of Louisa Rhine (1961, 1967, 1975, 1981), to the in-depth studies of specific individuals (Curry, 2008; Mishlove, 2000), to the cultural explorations of the Huna (Long, 1948) and Balinese (Edge, 1996; Edge & Suryani, 2001), parapsychologists and anthropologists have been exploring human experiences of psi in an attempt to pull back the curtain and expose the inner workings of individuals, groups, and cultures that have integrated psi into their daily lives. If these explorations are to be considered scientific and viable research projects, there is a clear need for a defined and precise research methodology. Qualitative analysis techniques have advanced significantly over the past 30 years, and traditional scientific principles have been defined for the entire process of exploring human experience outside of the laboratory setting. The world of parapsychology has begun to recognize the value of qualitative analysis techniques and among other publications at least one new journal, *Exceptional Experiences*, was created in 2013 with the directive to explore psi utilizing qualitative methodology. This renewed attention to qualitative methodologies and explorations outside of the laboratory is providing a new perspective on psi phenomena that is often overlooked in the laboratory setting (Cardena, 2010), and very well-defined and controlled procedures, analyses, and reporting methods are being used to help to uncover the thought processes and experiences of people who produce or encounter psi phenomena.

As seen in recent issues of *Qualitative Research in Psychology*, *Journal of Exceptional Experiences*, and the *Journal of Parapsychology*, with a few exceptions (e.g., Wooffitt, Holt, & Allistone, 2010), the recent studies that are applying qualitative methodologies to parapsychology are utilizing a phenomenological approach to examine the nature of specific psi experiences. The phenomenological approaches in these published studies have been defined and refined in order for them to be applied more appropriately to the study of psi experiences (e.g., Coyle, 2010; Wilde & Murray, 2010), and the value of these explorations in the field can be seen, for example, in Rock, Storm, Harris, and Freidman's (2013) study of shamanic

¹ An earlier version of this paper was presented at the 57th Annual Convention of the Parapsychological Association, Concord, CA, USA, August 14–17, 2014.

journeying and Williams, Dutton, and Burgess's (2010) exploration of energy healing experiences. As the value of qualitative studies becomes more apparent, it is essential that parapsychologists understand the true nature of qualitative approaches and the variety of approaches that are available to researchers outside of the laboratory. This introduction to qualitative methodologies will provide an overview of a few of the major types of qualitative methods that are commonly used in the field of psychology, anthropology, and sociology. In addition, it will provide insight into the scientific characteristics of the qualitative approaches to sampling, data gathering, data analysis, validation, reliability, and reporting.

No discussion of qualitative research in parapsychology would be complete without including transpersonal research methods. Though a thorough exploration of transpersonal approaches to qualitative research is beyond the scope of this paper, some of the basic principles of transpersonal methods will be presented to provide a very brief introduction to the topic. Finally, I will discuss a few potential applications of the basic qualitative approaches in the field of parapsychology.

This general introduction is not meant to be complete and comprehensive in scope, but rather it is meant to provide the foundation for understanding qualitative techniques and how they are applied based on modern scientific principles.

What Is Qualitative Research?

The purpose of qualitative research, as is the case with any research, is to provide unbiased and reliable information in a format that is relevant and meaningful to the target audience (Denzin & Lincoln, 2005). Although some qualitative approaches recognize and embrace the biased perspective of the researcher (e.g., many ethnographies involve the researcher becoming immersed in the cultural experience to facilitate a personal perspective), all research, including qualitative research, strives to provide useful information about a topic. So how is qualitative research different than the traditional quantitative research methods that are used in experimental environments? A number of the differences described below are presented by Patton (2002) in *Qualitative Research and Evaluation Methods*.

Participants in qualitative research studies are often referred to as co-researchers due to their extensive participation in the development of the research methodologies and their typical interest in exploring the nature of the studied phenomena, along with the research team. In this document, the terms "participant" and "co-researcher" will be used to refer to the person who is having the experience or who is the target of the investigation.

Objective Versus Subjective and Controlled Versus Natural

Quantitative researchers attempt to provide an objective investigation of a phenomenon in the controlled environment of the laboratory. In contrast, qualitative research is by definition subjective (but non-judgmental) in nature and most investigations are performed in a natural setting where the participants or co-researchers are most comfortable and where the topic can be examined in the environment where it is most commonly observed. Although controlled settings and objectivity have traditionally been the hallmarks of sound scientifically gathered information, the laboratory environment is not conducive to the demonstration of many phenomena, and when dealing with people, all observations and experiences are subjective in nature. Contrary to traditional scientific methodologies, qualitative researchers do not attempt to control the situation, participants, and the environment but rather embrace the concept that all of our experiences are different and that subjectivity is a natural characteristic of human experience. Qualitative researchers examine this subjective experience to explore common themes and extract the information from language, behaviors, and implied meaning that is expressed in everyday life.

Instruments and Tools

Experimental researchers utilize carefully tested and reliable instruments to measure activity and behavior within clearly defined and specified parameters. Qualitative researchers rely on loosely structured

interviews and natural observation to allow the co-researchers to provide information in a way that will most clearly reveal the nature of their experiences and allow for maximum expression of the subjective experience. While qualitative researchers encourage co-researchers to provide information using language that is most comfortable for them, the interview process is structured to keep the conversation on track and maintain a thread of meaning in the interview. Qualitative research depends on the skills and diligence of the researcher to utilize interviewing techniques to gather data. The researcher is the data collection tool, and the records collected by the researchers are the source materials used in the analysis process.

Some qualitative research methods include data collected from formal documents, conversations, informal documents such as diaries or letters, photographs, or many other sources that are not quantitative in nature. The significant number of different qualitative approaches that are available give the researcher a large amount of flexibility in choosing the source materials for the analysis. In each case, the essential instrument and tool for data collection is the researcher and the structured approach provided by the qualitative method that is selected.

Hypotheses

One of the most important characteristics of a sound quantitative study is the establishment of a clear and concise hypothesis that is defined before any experimental work begins and is used as the foundation for the full methodology and the selected analysis method. Without a clear hypothesis, experimental research is often considered to be unreliable or exploratory at best—a classification that is frowned upon in strict experimental settings. Qualitative research studies typically begin with a research question or a loosely formulated hypothesis that is purposefully modified and adapted as the study progresses. The data gathered during interviews may indicate that the existing hypothesis is incomplete or even incorrect, but this does not invalidate a qualitative study. On the contrary, hypotheses often emerge from the data gathering process to help inform the researchers and participants how they may better explore the research question.

This may appear to be an unstructured and improvised approach to research, but just as many improvisational comedy routines seem to be unstructured, there is typically a very structured and defined method behind the improvisation. Such is the case with qualitative research. The changes to the hypotheses and research approaches may occur while the data are being gathered, but the changes are well documented, controlled, and verified before they are implemented as part of the study. In other words, as the interviews and other data produce additional information, the researchers reevaluate their assumptions and adjust their activities to suit the new data.

Sample Size and Timeframe

In order to establish a sound statistical analysis process, it is necessary to define an appropriate sample size. Many experimental research studies are criticized if the sample size is not well defined before the study begins as this would allow researchers to collect data until the desired results are confirmed. This approach is appropriate when dealing with controlled studies aimed at rejecting or confirming a predefined hypothesis using established statistical methods. The same approach is not appropriate for a study that is intended to explore a research question to its full extent and to learn everything that can be learned about the subjective nature of an experience or behavior.

Though qualitative approaches have different needs related to sample sizes, for many qualitative studies a sample size is proposed but the study continues and more participants are recruited until the researcher is confident that enough information has been collected to address the research question. As more information is gathered, it may conflict with previous information. This is not considered a problem in qualitative research, but rather it is an indication that additional study is needed. Qualitative studies often have a changing sample size and an undefined timeframe. The project continues until the researcher has a level of confidence in the information that has been gathered.

Typically, sample sizes in qualitative studies are guided by the principles of data saturation. Qualitative studies should collect enough data to provide answers to the research questions, while recognizing

that there is a point of diminishing returns when the data become repetitive or do not add to the knowledge of the project (Mason, 2010). Other factors can influence the size of a sample in a qualitative study (Ritchie, Lewis, & Elam, 2003), but the researcher must be confident that the sample elucidates most or all opinions related to the topic under investigation.

Summary of Qualitative Research Methodology

In essence, qualitative research utilizes the skills of the researcher as the data collection instrument, and inductive rather than deductive data analysis techniques are used. Both the similarities and the differences of the data are examined, and the reports are written in expressive language to capture the character of the experience of the participants. The results typically include great detail and examples from the participants' specific statements, which provides for a more natural presentation of information in a format that is familiar to the reader and similar to the reader's experience in the world.

Why Do Qualitative Research?

When considering the loosely structured and uncontrolled nature of qualitative research, many experimental researchers wonder why they would want to do this type of research work. Laboratory work is easily understood, well established, and carefully structured to avoid the intrusion of subjective experiences. Sound data are collected and analyzed using methods that assist the researcher in maintaining a distance from the experiencer and assessing performance from a protected environment that improves the quality of the information that is gathered. So, why would a researcher choose to do a study using a method that breaks down these barriers and not only allows subjective information to infect the data, but actually embraces the subjective perspective?

Overcoming Barriers

There are some topics or experiences that are obscure or so uncommon that they require more research before a hypothesis can effectively be determined. When trying to examine these topics, quantitative methodology does not provide the flexibility necessary to inductively produce a hypothesis from the data. These topics require a substantial amount of information gathering and review in order to better understand how to appropriately express a hypothesis that sufficiently captures the target topic. In other words, a significant amount of research must be done in a qualitative way before a hypothesis can be clearly defined.

In other cases, it is either impossible or extremely inconvenient to bring a situation into the laboratory. The laboratory environment may substantially change the nature of the experience and the experience may not be reproducible in the lab. For example, to explore the nature of psi activity in the Huna culture it is not viable to reproduce the environment in the lab, and to bring representatives of the Huna people into the lab may have a significant effect on their experience that would corrupt the data and reduce the validity of the information provided by the research. In these cases, it would be more valuable to perform this research in the field, where behaviors and experiences can be observed first-hand in a more clear and direct manner.

Additional Contributions of Qualitative Research Methods

Qualitative research often produces categories or insights that can later be used as factors or variables in quantitative studies. Through the exploration of interviews, experiences, and behaviors, specific thematic insights often arise from qualitative analyses. These insights and the classification of information gathered during the qualitative analysis process can inform researchers as to the nature of the phenomena in such a way that they can utilize this information to produce new quantitative studies based on these specific factors that were discovered in a qualitative review. Another very important factor to consider when performing research is the audience of the research. Most quantitative research studies are designed to appeal

to an academic or professional audience. In these cases, the general public typically cannot understand the information, and the research community is dependent upon third parties to correctly interpret their results so that they can be presented to the general public in a more accessible language. Qualitative reporting is purposely written in a very accessible and clear manner in order to allow nonscientific readers to understand the results. Often this is done in order to help describe the results to the co-researchers who participated in providing the data for the study. In other words, qualitative reports are accessible and written for the non-scientific audience, which lessens the need for third party interpretation and makes the information available to people who may not be experts regarding the target topic. Though qualitative research can assist in the development of quantitative studies, qualitative studies also have a value in their own right. Roxburgh and Roe (2013) used qualitative methods to explore the experience of mediums by giving them a voice, recognizing their expertise in the area of study, and acknowledging their experiences in the context of their culture. Wilde and Murray (2010) explored out of body and near death experiences using interviews and an exploration of the cultural factors that may influence the personal experience and reporting of these phenomena. Qualitative studies can also provide insight into the effectiveness of interventions after a quantitative study has been completed (Peters, Ruiter, & Kok, 2014). These examples demonstrate how qualitative methods stand on their own as valuable research tools independent of their value to quantitative studies.

Reasons to Use Qualitative Methods

Qualitative research methods are designed to provide important information about topics and experiences, but they are not limited by the strictly controlled laboratory methods that are prevalent in experimental research settings. Despite the fact that there are fewer controls in qualitative research studies, there is a defined structure which will be explored in more detail later in this paper. The lack of controls provides for greater flexibility in the exploration of topics while still providing new information that can assist in further study, often in a laboratory environment.

When to Choose Qualitative Research

What follows is a very brief list of some of the reasons that a researcher may choose to perform qualitative research. This list is not meant to be all inclusive, but it is an example of some of the factors that may encourage a researcher to select a qualitative methodology instead of trying to adapt research to a quantitative method.

Consider a qualitative method when:

1. Very little is known about the topic being studied and more exploration is needed to develop a working hypothesis.
2. The research topic cannot be brought into the laboratory or when it is more appropriate to do the data collection in the participants' natural environment.
3. There is a very small sample available for the study.
4. The data are in verbal, video, or textual format only.
5. No theory exists to describe a phenomenon.

Types of Qualitative Research

There are hundreds of different types of qualitative research methods, but there are some major methodologies that are commonly applied in the social sciences. Five different types of qualitative research as described in Creswell's (2007) *Qualitative Inquiry & Research Design: Choosing Among Five Approaches* will be discussed below. For each type, the discussion will include:

1. The type of problem that is best suited for each method
2. The focus of the study or the character of the sample

3. The data collection method
4. The data analysis method
5. The character and nature of the report

In the process of reviewing each method, additional information will be provided to clarify why each approach is different and how each approach can best be used in the exploration of the target topic. The five types of qualitative research that will be described are narrative, case study, phenomenology, grounded theory, and ethnography.

Narrative

Narratives are similar to storytelling. They involve identifying significant events, placing them in a time constrained order, and relating the information. The focus of a narrative is typically a single individual or a group. Data are collected using interviews and documentation and sometimes correspondence, journals, or diaries. The data are transcribed to facilitate the data analysis process. The data analysis associated with narratives involves reading the collected data multiple times to become completely familiar with the contents. Themes are identified within the story, and significant events are identified. The information is reordered chronologically and the events are presented as a narrative about the life and experiences of an individual.

Case Study

A case study is the exploration of a *bounded system* from multiple perspectives. The term “bounded system” refers to a single case that can easily be differentiated from other cases. The case is the object of the study, and that case may be an individual, an event, or a series of events clearly bounded and differentiated from other events.

Case studies are intended to develop a detailed understanding of a single case or a number of similar cases by examination of the case from multiple perspectives. The focus of a case study is the specific case being studied, and the goal is to provide an in-depth understanding of that case. Data collection in a case study typically includes multiple sources, including interviews, observations, documents, and artifacts. Data analysis typically includes an analysis of the individual case descriptions, the development of themes within the cases, and an exploration for cross-case themes that seem to apply to multiple similar cases. The report of a case study includes a detailed description and analysis of a single case or possibly multiple cases.

Phenomenology

A phenomenological study is aimed at understanding the essence of an experience. There are many different variations of the phenomenological model, but in each model, the focus is on the experience that is being examined, not on any individuals who are having the experience. Data collection primarily consists of interviews with individuals who have had a specific experience, but it can also include focus groups, or a review of documents, observations, writings, and even works of art.

The major methods of phenomenological analysis were presented by the Empirical Phenomenological method described by Giorgi (1985) and the Transcendental Phenomenology of Moustakas (1994). The analysis and reporting methods described below include elements of these techniques, but the reader would be best served by reviewing the primary sources for complete details of the phenomenological processes. Much of the information is vital to performing a sound phenomenological study, but it is too detailed for an introduction to the topic.

When analyzing data for phenomenology, the process is detailed and very structured. Typically it includes multiple judges who first identify significant statements in the transcripts. Units of meaning are then separated within the data, and textual and structural descriptions are identified to give the descriptions

a more clearly structured format. Extraneous words are removed and the data units are broken down into categories that are illustrated with direct text and quotes from within the original data. These categories arise from the data using an inductive process, and they are some of the major components of the experimental results. The categories are reviewed, collated, and combined to create super-categories that become the building blocks for the essence of the experience.

Finally, the reporting of a phenomenological study provides a description of the essence of an experience in plain language that can be easily understood and presented to the reader.

Interpretative phenomenological analysis (IPA). This is a very popular phenomenological method that has often been used by parapsychologists (e.g., Drinkwater, Dagnall, & Bate, 2013; Rock et al., 2013; Roxburgh & Roe, 2013; Wilde & Murray, 2010). IPA researchers approach experiences in context and recognize that no experience can be understood without first recognizing that the experience is being interpreted by an individual (Smith, Flowers, & Larkin, 2009). With a thorough understanding of an individual and a thorough understanding of an experience, a researcher is more likely to gain insight into the experience of the individual and increase their understanding of the phenomenon. Smith, Flowers, and Larkin (2009) suggest that experiences involve multiple levels of reflection and cognition. Only with a clear understanding of individual psychology, societal pressures, cultural norms, and situational factors can a researcher gain a clear understanding of any experience. Also, researchers must consider their personal biases, beliefs, and experiences in order to recognize how personal influences may affect their interpretation of the experience and the individual having the experience (Moustakas, 1994; White, 1998). Throughout this detailed exploration of the individuals and the situations surrounding an experience, as is the case with every phenomenological examination, the focus remains on the phenomenon being studied, not on the individual.

IPA is a valuable tool for researchers and is currently a very popular approach to qualitative analysis, but it is by no means the best way to study every psi phenomenon. Each situation must be evaluated individually, and the appropriate approach must be selected to suit the situation. Many qualitative approaches explore experiences in the context of the people involved in the processes, and the appropriate approach must be selected based on the purpose of the investigation and the goals of the research.

Grounded Theory

Grounded theory research attempts to create a theory of an event, phenomenon, or experience from an exploration of interviews with participants and co-researchers. The problem being addressed focuses on the creation of the theory rather than a description of an experience or an exploration of a specific case. The focus is the development of a grounded theory, which is derived from the data that are gathered in the field.

Data collection for grounded theory research must be broad in nature and include interviews with numerous participants, typically 20–60 people. The sample size is variable and undefined to enable the researcher to collect enough data to formulate a theory that is appropriately derived from the interviews. Due to the pure inductive process utilized in grounded theory research, the time frame for a grounded theory study is unpredictable and dependent on the coherence of the interviews that are collected. Grounded theory research can take months or even years to complete.

The data analysis methods for the development of a grounded theory are iterative and can involve a number of judges. The judges first perform an open-coding evaluation of the interviews in which each individual interview is reviewed for consistency, common themes, and meaning units. General information categories are derived from the preliminary evaluation, and these categories are then confirmed with follow-up discussions with the participants. After each individual interview is reviewed and evaluated by multiple judges, the judges then re-enter the data to perform axial coding. In axial coding, the body of all the interviews is reviewed for thematic consistencies and common experiences. From the axial coding, categories of information will become apparent across the interviews, and more generalized categories can be identified. Axial coding connects the categories that were derived in the initial open coding process. Finally, in order to build a story that connects all of the categories and defines a theory, selective coding is

performed. The categories are reviewed in the context of their connections, and from these associations a story begins to emerge that provides the basis of theory development (Strauss & Corbin, 1990).

When reporting grounded theory research, it is essential that the developed theory be presented in the context of the data that have been collected. A clear path must be presented from the data, through the analysis, and to the construction of the theory. Grounded theory is a general method that is time and labor intensive. As Glaser (2000) states, there is a tendency for researchers using this methodology to shortcut or simplify the process in order to shorten the time needed for the analysis. This temptation results in an incomplete approach in which the opinions and attitudes of the researcher are presented rather than the theory that would arise from a complete data analysis. Glaser indicates that a researcher should go with this type of research method only when sufficient resources exist and there is a potential for significant benefit from a complete grounded theory approach.

Ethnography

An ethnographic research is aimed at describing a shared cultural phenomenon experienced by a group and exemplified by patterns of behavior or attitudes within a culture. The focus of an ethnographical study is a group that shares a common culture, but it is not limited to groups united by a cultural heritage. For example, an ethnographical study could examine a group of emergency room workers, single parents, or war veterans.

Data collection in an ethnographical study is typically done through observation and interviews. Additional sources of information are gathered from extended periods of observation in the field. Due to the specific need to examine a culture and behavior patterns, often a researcher of an ethnographic study will become embedded in the research environment and experience the activities of the group first hand. This provides a more clear view of the patterns of behavior and enables the researcher to gather more reliable data.

The data analysis includes an analysis of the descriptions of each member of the group and the development of themes around the group's experiences and activities. Group roles are often identified and a hierarchy or cultural identity often emerges from the collected interviews. The report from an ethnographic study describes how the group experiences and expresses its cultural activities.

An interesting variation on the ethnographic approach is autoethnography, which is a combination of ethnography and autobiography. A researcher will typically recall and document past circumstances related to a personal understanding and exploration of a cultural identity while focusing on the epiphanies that provided a basis for an in-depth personal knowledge (Ellis, Adams, & Bochner, 2010). Besides telling the story as an autobiographer might, an autoethnographer must also examine and analyze the experiences and stories in order to provide validity to the story and to demonstrate how the personal experiences may indicate a more universal theme for a culture (Denzin, 1989). This might be done by comparing the story to existing publications, reviewing the experiences of other people, or supporting the conclusions with cultural artifacts or literature (Boylorn, 2008; Denzin, 2004).

A Brief Discussion of Transpersonal Research Methods

In the first issue of the *Journal of Transpersonal Psychology*, Anthony Sutich (1969) discusses transpersonal psychology as a topic concerned with the scientific study of individual and species needs, values, unitive consciousness, and transcendence of the self. He describes the need for the individual to clearly understand personal limitations and biases in order to transcend those limitations and more clearly recognize the nature of consciousness and the experience of being human in the context of the natural world, cultural contexts, and the spiritual life that is inherent in every person.

When considering a transpersonal perspective in research, Anderson (1998a) describes the need to go beyond the personally identified aspects of the self. Researchers must take into account all perceptions and perspectives, and a transpersonal approach to research should use all available information channels to provide information to address a research question.

Integrated Approach

Rather than selecting a single research approach to explore a topic, Braud (1998) discusses the need to consider the integration of multiple methods including quantitative and qualitative techniques. Through a combination of strictly controlled research methods and a carefully constructed qualitative examination, the researcher can learn more about the participants, the researchers, their moods and attitudes, and how these factors may influence the data that are being collected. Braud called this *integral inquiry*. In more recent terminology, this approach is often considered a mixed-method approach to research where both quantitative and qualitative methods are used, but there is much more to this approach than combining different research techniques. The overall research design must carefully consider any research methods that are used and provide a clear justification for how each approach will contribute to answering the research question. In other words, any and all methods that are applied in a study must produce an integrated method that addresses the goal of the study rather than just mixing the methods.

Intuitive Approach

When gathering data for a research project, there are typically clearly defined sources of information. In the intuitive approach to research, the researcher should consider all possible channels including non-traditional channels of information (Anderson, 1998b). For example, psi should be considered a viable method for gathering information, and all data should be evaluated with a consideration of the source.

Moustakas (1994) discusses *imaginative variations* as a stage in the data analysis process that provides an opportunity for the researcher to explore multiple possibilities and alternative explanations for the study results. Moustakas describes this step as an opportunity for the researcher to consider all of the data from multiple perspectives and to follow an intuitive path that will allow the researcher to explore avenues that may not be apparent in the primary analysis.

The intuitive approach that is presented as a transpersonal research method extends the imaginative variations presented by Moustakas to include the use of psi and the consideration of psi as a source of data within a qualitative research study.

Inquiry Informed by Exceptional Human Experience

Giorgi (1985) discusses the need for researchers to know their own thoughts, feelings, biases, limitations, and prejudices before attempting to engage in a research study on the attitude, beliefs, or activities of another person or group of people. Giorgi clearly indicates that the researcher is part of the research process and must recognize the influence of personality and cultural factors on perception. Giorgi introduces the concept of bracketing as a method to separate personal beliefs and attitudes from the data collection process. In bracketing, the researcher prepares for a data collection session by first consciously acknowledging factors that may influence the perception or understanding of the data. These factors include cultural beliefs and personal attitudes that typically may not be consciously apparent.

In order to acknowledge these factors, the researcher must first know these factors. It is only through a thorough and complete process of self-examination that researchers can recognize their own beliefs, biases, prejudices, and cultural leanings. So, in order to gather accurate information, researchers must first go through a process of self-examination, acknowledge their personal limitation and biases, and review these factors before each data gathering session. Researchers must take steps to consider these factors during data analysis and explore ways to minimize the impact of these factors on the data that are gathered during the study.

Rhea White (1998) takes this idea one step further by recognizing that many of the activities and results of a scientific study can be influenced by the researcher's unconscious or even by psi. The researcher may introduce personal beliefs into a study, even a quantitative study, without a conscious awareness of this influence. Psi may provide inspiration for a research direction, or a precognitive insight may direct research

activities. White discusses the need for a researcher to document and be conscious of all thoughts and feelings during a research study in order to provide more information about the process used in the study.

It is not only essential for a researcher to include this type of information about the events during a study, but White also discusses the need for researchers to document thoughts, feelings, and intuitions while the study is being developed and designed. All of these factors, including the potential for psi influences, contribute to the research process, and they are necessary to provide a more complete understanding of the research and potentially the results of the study.

Qualitative Reporting and Validity

Reporting Results

The reporting methods used in qualitative studies are an essential part of the research approach. Reports should be accessible and informed but written in natural language (Patton, 2002). These reports avoid technical expressions to maintain a readable quality that will appeal to the co-researchers as well as academics who are familiar with the topic. Qualitative reports incorporate quotes and descriptions from the participants to illustrate the themes and categories that emerged from the analysis process.

Due to the subjective nature of the evaluation, it is necessary for researchers to identify their personal biases in the report and to discuss the extent of efforts to remove bias (Moustakas, 1994). In addition, researchers must report on the methods that they used to overcome personal biases during the interpretation and analysis stages. It is essential in qualitative reporting that the researchers include as much information as possible about their reasoning. Descriptions of prioritization, the selection of specific factors and categories, and the process used when identifying a common description of an experience, group, or phenomenon should be explicitly stated in the report.

The description of the phenomena should be provided in natural language, and the report should include not only the similarities of the participants, but also the differences. In qualitative research the differences are as important as the similarities to provide a clear description of the target topic in the context of the study.

Validity in Qualitative Studies

In all research studies, validity is defined as the extent to which a research study measures what it intends to measure. In qualitative research, validity is determined by evaluating four specific factors (Winter, 2000). The first factor is the credibility of the participants and the data that are gathered. If the data are only available from one source, it is less credible than data that are gathered from multiple, independent sources. In addition, the source of the information must be examined for consistency and how well it was maintained. Data security plays a large role in the process of determining credibility, and therefore the validity of the study.

Validity can also be evaluated by examining the transferability of the conclusions that were developed as a result of the study. If the interpretation and conclusions provided by the study can be applied to other situations, the study is more likely valid. Dependability is another factor that affects the validity of the study. If results are repeatedly observed throughout the study, or if there is a clear description about how the activity changes when the context and environment changes, the observed phenomena are more likely associated with the topic that is being studied.

Finally, a very important evaluation of validity is related to how and when the interpretation and results were confirmed with the participants in the study. Repeated confirmations take much more time, but they provide strong evidence that the information presented in the study is in agreement with the experience of the participants. In addition, if the same results and descriptions are confirmed by multiple researchers involved in different studies, it is more likely that the results are valid.

Because personal perspectives play such a large part in qualitative research, it is essential that the experiences of the participants are correctly verified throughout the study. Consistent information that is

provided by multiple participants sets the tone for a valid study, but multiple factors must be examined in order to insure that the study is measuring the factors it intends to measure.

Qualitative Publication References

The purpose of producing reliable and valid results is to provide integrity to the information presented in a report of a qualitative study, but another reason to provide sound and supported results is to assist in meeting the qualifications for publication in professional journals. The information provided above is a summary of some of the important guidelines that will assist in producing a professional study and a valid report, but it is important that any researcher review the guidelines for publication of qualitative research in professional journals, not only in the field of parapsychology, but also in other professional fields where the literature and information could be useful.

Some of the guidelines for publication reference specific tasks and topics that every qualitative report should consider: Own your perspective, provide examples to illustrate your interpretation, support your findings, write a coherent document, and provide general perspectives that arise from specific cases (Elliott, Fischer, & Rennie, 1999). In addition, standard issues should be considered and addressed in each qualitative report, including ethical considerations, fitness of methodology, analysis techniques, and a clear distinction between the data and interpretations (Social Science & Medicine, 2010). The reader is encouraged to seek out guidelines for publication of qualitative research for professional journals and to review them carefully before considering their design for a qualitative study.

Possible Applications in Parapsychology

The field of parapsychology is rich in the literature of personal experiences, but typically that information is not gathered using established qualitative research methods. Each of the research types described above provides an opportunity for parapsychologists to explore psi utilizing methods that are not typically employed in the laboratory environment.

Narratives

Narratives are typically related to biographies and historical information. Parapsychology is a field with an extensive history and many intriguing personalities. Historical and biographical records can be developed, explored, and enhanced with the application of a precise narrative methodology. For example, Mauskopf and McVaugh's (1980) *The Elusive Science* reviews the origin of parapsychological laboratory research, and Louisa Rhine's (1967) *ESP in Life and Lab* provides a clear narrative of the Duke parapsychology lab along with other insights about the nature of psi.

Case Studies

Extraordinary events or individuals provide a seemingly never-ending source of data for case study analysis. Events as specific as a case of spontaneous healing can be examined from multiple perspectives, and individuals who have exceptional abilities can be considered unique cases. A case study based on the events in the lives of high performing psi experiencers may shed light on the character and factors that contribute to these events. Case studies of the experiences of mediums or investigations of reported cases of anomalous activity, such as hauntings or apparitions, can provide detailed information about the events and engage readers. Subsequent studies can utilize the information gathered from case studies to develop factors and variables that may be used in quantitative studies of these or similar individuals.

Phenomenology

What is PK? What is the nature of an out of body experience? How do shamans experience their

surroundings when they travel to other worlds? All of these questions and many more can be examined using the phenomenological method. Phenomenology is focused on the human experience related to a specific phenomenon. It is not essential to demonstrate that the phenomena being studied actually occurred or can be captured in a laboratory environment. Phenomenology focuses only on the human experience of the phenomena. Besides interviews with people who have experienced psi phenomena, collections of reports of psi experiences can be collated and examined using a phenomenological approach to help reveal the nature of a specific type of experience.

In cases where the phenomena have been demonstrated in a laboratory setting, a phenomenological examination can assist with process-oriented research that attempts to describe how a phenomenon occurs or is performed. Phenomenology currently is a popular qualitative topic in parapsychology, and it will continue to be a method of choice until scientists can clearly understand the mechanisms behind psi.

Grounded Theory

One of the major hurdles for parapsychologists is the development of a theory that describes psi phenomena and why they appear to be explicitly demonstrated so infrequently and by so few individuals. When sufficient time and funding exist for an extensive examination of a process or event, it may be possible to produce a singular theory that will include testable hypotheses. Using a grounded theory approach, there is potential for the exploration of topics that examine the relationship between PK and other psi abilities. This approach can also be used to examine questions such as whether there are differences between remote viewing and out-of-body experiences, and, if so, why.

The important aspect of grounded theory research is that the theory must emerge from the collected data, and that the researchers must be sure to follow the complete process in order to insure validity and reliability of the generated theory. Grounded theory research is a very long process, but the rewards can be great if it is applied meticulously and if the researchers follow through.

Ethnography

The culture of psi is unique, and there are very well defined groups of experiencers and researchers within the field. The culture of energetic healers, Reiki professionals, remote viewers, lucid dreamers, and many other groups can be studied using an ethnographical approach. Parapsychologists work together more or less effectively based on their culture. What is the culture of an effective and productive parapsychology laboratory? In a more traditional sense, an ethnographic study can be used to examine the psi beliefs and psi experiences of different ethnic or cultural groups. Even religious organizations can be examined to identify how psi events are represented in their cultures. There are many opportunities for ethnographical research within parapsychology.

Summary

Qualitative researchers utilize a variety of methods to gather, analyze, and report on information that enhances the quality of research in the social sciences. Five specific methods have been presented along with a brief introduction to the purpose and application of each of these methods. These five methods do not encompass all of the methods used in the social sciences, but they are representative of some of the major approaches to qualitative research.

A brief introduction to transpersonal research methods was provided to introduce the reader to these topics and as a guide for further study. Though this introduction is brief and perhaps incomplete in some sections, the purpose is not to provide a complete explanation of transpersonal psychology or of the potential research methods that could result from a transpersonal approach. This overview of the transpersonal approaches is meant to provide insight into research methods that are not typically considered in quantitative or qualitative research.

Parapsychology is a field that could benefit from the application of qualitative research techniques. The lack of a comprehensive theory of psi experiences and the many undefined processes related to psi demonstrate a need for a greater understanding of the experiences of the individuals who regularly produce psi effects. Qualitative research techniques provide a flexibility and an inductive process that are not appropriate for laboratory experiments but that give the researchers an opportunity to include descriptive data in their studies to help reveal the true nature of psi.

The experiences of people who regularly demonstrate psi hold a great deal of information that can provide guidance for future quantitative research studies. Through the application of rigorous and consistent qualitative research methods, the entire science of parapsychology will move forward in the quest to understand consciousness and design better tests to examine the nature of psi.

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Abstracts in Other Languages

German

FUENF QUALITATIVE FORSCHUNGSZUGÄNGE UND IHRE ANWENDUNGEN IN DER PARAPSYCHOLOGIE

ZUSAMMENFASSUNG: Fünf qualitative Forschungszugänge werden in diesem Artikel vorgestellt einschließlich einer Information zu den Methoden der Datenerhebung, zu Techniken der Datenanalyse, zur Stichprobenerhebung, Berichterstattung und Bewertung. Jede dieser Techniken wird getrennt beschrieben und diskutiert, warum ein Forscher sich eher entschließt, einen qualitativen Forschungszugang einzuschlagen, als einem streng experimentellen oder qualitativen Protokoll zu folgen. Die dargestellten qualitativen Zugänge sind narrative Interviews, Fallstudien, Phänomenologie, Grounded Theory („gegenstandsbezogene Theoriebildung“) und Ethnographien. Zusätzlich werden kurz transpersonale qualitative Zugänge diskutiert, um dem Leser eine Vorstellung von den Perspektiven eines transpersonalen Forschers zu geben. Abschließend werden mehrere Beispiele aus der parapsychologischen Forschung vorgestellt, an denen gezeigt wird, wie jeder Zugang das Verständnis von Psi-Erfahrungen verbessern und zu zukünftigen quantitativen

Studien beitragen kann. Parapsychologische Forscher werden ermutigt, ein besseres Verständnis für den Wert qualitativer Forschungstechniken außerhalb der Laborumgebung zu entwickeln und die Ergebnisse qualitativer Studien heranzuziehen, um bessere experimentelle Methodologien innerhalb des Laborzugangs zu strukturieren und zu entwickeln.

Spanish

CINCO ENFOQUES DE INVESTIGACIÓN CUALITATIVA Y SUS APLICACIONES A LA PARAPSICOLOGÍA

RESUMEN: Se presentan cinco enfoques de investigación cualitativa en este artículo, incluyendo información sobre los métodos de recolección de datos, técnicas de análisis de datos, toma de muestras, informes, y validación. Cada una de estas técnicas se describe por separado con una discusión sobre por qué un investigador puede optar por utilizar un enfoque de investigación cualitativa en lugar de seguir un estricto protocolo experimental o cuantitativo. Los enfoques cualitativos delineados son: narrativas, estudios de casos, fenomenología, teoría fundamentada (grounded theory), y etnografías. Además, una breve discusión de los enfoques cualitativos transpersonales se incluye para presentarle al lector las perspectivas del investigador transpersonal. Por último, varios ejemplos del campo de la parapsicología se proporcionan para discutir cómo se podría aplicar cada enfoque para ayudar a avanzar la comprensión de la experiencia psi y contribuir a futuros estudios cuantitativos. Se alenta a los investigadores parapsicológicos a obtener una mejor comprensión del valor de las técnicas cualitativas de investigación fuera de un entorno de laboratorio y a utilizar los resultados de los estudios cualitativos para estructurar y desarrollar mejores metodologías experimentales en el laboratorio.

French

CINQ APPROCHES DE RECHERCHE QUALITATIVES ET LEURS APPLICATIONS EN PARAPSYCHOLOGIE

RESUME : Cinq approches de recherche qualitatives sont présentées dans cet article dont des informations sur des méthodes de collecte de données, des techniques d'analyse de données, d'échantillonnage, de signalement et de validation. Chacune de ces techniques est décrite séparément avec une discussion sur l'intérêt qu'aurait un chercheur à opter pour une approche de recherche qualitative plutôt que de suivre un protocole strictement expérimental ou quantitatif. Les approches qualitatives esquissées ici sont l'approche narrative, l'étude de cas, la phénoménologie, la théorie ancrée et l'ethnographie. De plus, une brève discussion des approches qualitatives transpersonnelles est incluse pour introduire le lecteur aux perspectives de la recherche transpersonnelle. Finalement, de multiples exemples sont fournis à partir du champ de la parapsychologie qui viennent mettre en discussion l'application de chacune de ces approches et leur contribution possible à la compréhension du vécu psi et à d'autres études quantitatives futures. Les chercheurs en parapsychologie sont encouragés à développer une meilleure compréhension de la valeur des techniques de recherche qualitative en dehors d'un environnement de laboratoire et à utiliser les résultats des études qualitatives pour structurer et développer de meilleures méthodologies expérimentales au sein du laboratoire.

BOOK REVIEWS

EVIDENCE FOR PSI: THIRTEEN EMPIRICAL RESEARCH REPORTS edited by Damien Broderick and Ben Goertzel. Jefferson, NC: McFarland, 2015. Pp. viii + 324. \$49.95 (paperback). ISBN 978-0-7864-7828-6.

Previously, when I had to recommend a book to a friend or colleague interested in psi research, I usually turned to Dean Radin's (1997) *The Conscious Universe*—rightly called “the parapsychologist's manifesto”—to try to win their sympathies. For a popular audience, I still would. But for scientifically trained colleagues, a book has emerged recently that has the potential to pack a much more spirited punch, enclosed in a small volume. That book is *Evidence for Psi: Thirteen Empirical Research Reports*, edited by Benjamin Goertzel and Damien Broderick. A whirlwind tour of psi research, it features simple, proof-oriented experiments, multidisciplinary lines of evidence, and even a few theoretical perspectives—all, however, grounded in solid empiricism. This diversity gives the book a certain robustness, avoiding the narrow lens through which the field is sometimes examined. In my opinion, it comes closer than almost any other (similarly sized) text to explaining what is so compelling about psi research as to drive numerous highly qualified scientists to put up with it, often for the remainder of their careers, despite professional peril and lack of funding. Normally, such a task would be quite daunting—but Broderick and Goertzel embrace it with relish.

Their book has a simple structure; there are 15 chapters, 12 of which are papers by psi researchers, and three of which are written by the authors: an introduction, skeptical overview, and conclusion. This review summarizes each chapter, focusing on the reports I have the most to say about—beginning with the Introduction, which I found to be something of a mixed bag. While Broderick and Goertzel rather ambitiously tried to summarize all of the early history, scientific motivation, available paradigms, research difficulties, and theoretical models for psi in their opening chapter, the effect seemed to be less one of ambition and more one of loss of focus. Their lengthy discussion of the early mediumship studies is exemplary of this; they mention that psychical researchers looked at everything from table rappings to ectoplasm, stating that there *could be* something to these things because contemporary sources (e.g., *Randi's Prize*; McLuhan, 2010) have given “detailed analyses” of the skeptical claims. But they do not provide these analyses. Even though they do express skepticism of the early research, it must seem cheap and unearned to the novice reader, mixing up Broderick and Goertzel's own admirable openness with the rigor of the evidence for psi—a theme repeated in their later discussion of the world-as-a-simulation hypothesis. However, this apart, there is much to commend in the Introduction, and a great deal that is valuable to novices. B&D vitiate parapsychology's *raison d'être*, explaining why scientists study psi in the first place (people from all over the world report psi experiences!), successfully summarizing some of the research paradigms available, and prepping the territory for the coming reports. Additionally, B&D discuss how researchers have tried to fit psi into their understanding of the world, through building models and through attempting to falsify them. All of this makes the Introduction an important foundation for the contributions in the rest of the book.

Among these, the chapter by Jessica Utts, the current president-elect of the American Statistical Association, has to be acknowledged as a powerful accounting of concepts in meta-analysis. In this segment, Utts lays out the pedagogy of statistical power, heterogeneity, effect sizes, confidence intervals, and more, in a side-by-side comparison of a psi meta-analysis and a mainstream one. The effect is to show that psi meta-analyses follow proper statistical guidelines and are no less reliable than standard meta-analyses—by now a classic refrain of psi proponents (for good reason). Although some of the details given, on hypothesis testing, may be tedious to those familiar with them, the sections on meta-analysis present worthwhile insights, such as that psi effects are often larger than mainstream effects, despite being considered “small,” and that small effects can have big consequences.

The next chapter, by Julia Mossbridge, a perception neuroscientist at Northwestern University, is a formidable part of *Evidence for Psi*. Mossbridge studies presentiment; her experiments look for physiological activity that is statistically predictive of randomly determined future events (she calls this phenomenon “Anomalous Anticipatory Activity,” or AAA). In this segment, Mossbridge presents data not only from her own experiments, but also from the meta-analysis of presentiment work she published with Utts and Tressoldi in the Swedish journal, *Frontiers in Psychology*. The gross details of that publication can be found in the book, but what drew my interest in this chapter was Mossbridge’s fortuitous discovery of a rather large, sex-differentiated presentiment effect, because she uses a methodology that conclusively rules out “expectation bias.” That is, she examines only the first trial of every participant, rather than all the trials; this makes it impossible for the averaging artifacts discussed by Dalkvist and Westerlund (2006) to interfere with the results. The effect is fortuitous, too, because in eliminating this bias, it was very possible for Mossbridge to discover a significant reduction in effect size, but what she found instead was that it skyrocketed to $d = 1.41$ —nearly triple the average effect size in psychology experiments ($d = .5$; Bakker, Dijk, & Wicherts, 2012)—but only in males. The reason is simple enough, and is perfectly aligned with the presentiment hypothesis and the nature of the stimulus. Mossbridge asked participants to guess which of two images a computer would (randomly) determine to show next—a psi-guessing task that, by itself, did not return significant results. But when the postfeedback responses of males and females were compared, only males seemed to become more excited when they found out they had answered correctly, versus incorrectly; therefore, only males would be expected to become more excited *prior* to feedback on a correct choice. Most exciting of all, in my opinion (as I found out through personal communications), Mossbridge appears to be replicating this effect, finding one almost twice as large in heart rhythm and replicating the gender differential in her smart-phone research. If this pattern of results holds, Mossbridge’s experiment may become the parapsychologist’s replication paradigm *du jour*, with an effect size that nearly obviates the need for statistical analysis.

Along similar lines, the next chapter in the book, authored by Edwin May, Tamas Paulinyi, and Zoltan Vassy (MPV), discusses possible experimenter effects in presentiment work. The primary portion of this chapter reports a simple replication experiment with audio stimuli, finding results like those of other researchers. But the interesting section focuses on differentiating experimenter versus participant effects. As the authors note, it is often assumed that any presentiment difference is a result of the participant’s physiology responding to a future event, but it could also have something to do with the experimenter’s intuition. The evidence for this is subtle, but interesting; in their experiment, MPV noticed that nonspecific skin conductance responses (ns-SCRs) were relatively infrequent, such that it would be “easier” for an experimenter to intuit (with psi) the starting time for a session so as to *avoid* the maximal number of ns-SCRs prior to silent controls, than so as to *capture* the maximal number of ns-SCRs prior to actual audio startle stimuli (both of which would cause the number of ns-SCRs prior to silent controls versus prior to audio stimuli to differ from each other, leading to significant results). In their analysis, this is exactly what MPV reported: Pre-control ns-SCRs were significantly depressed and pre-audio ns-SCRs were statistically no different from the background rate. So some kind of experimenter effect appears to be a viable and likely explanation. Notably, however, their effect size was very small ($d = .14$), closer to the effect size of forced-choice guessing experiments than to mainstream presentiment experiments ($d = .43$; Mossbridge, Utts, & Tressoldi, 2012). This suggests that the kind of subtle, pattern-sorting intuition discussed by May et al. in this chapter is usually insufficient to produce large effects, but may affect many parapsychology experiments with small effect sizes, which are legion.

Regaining the Utts’ birds-eye-view approach to psi research—and leaving, for the moment, the thickets of experimental methodology—we have a chapter by Bryan J. Williams on a meta-analysis of ganzfeld experiments, one of the most tested, classic paradigms in parapsychology. Williams sets out to verify whether ganzfeld experiments have been replicated, after the famous 1986 *Joint Communique* between proponent, Charles Honorton, and skeptic, Ray Hyman, set out the protocols for a rigorous ganzfeld study. Along the way, Williams treats the reader to a detailed history of ganzfeld research and fairly assesses several of the key debates around this paradigm. He presents useful graphics of experiment success rates that

help the reader get a feel for the variability in ganzfeld results, as well as helpful breakdowns of results by meta-analysis and laboratory. My only criticism of this chapter is that insufficient attention is given to the issue of selected versus unselected participants. The author treats the heterogeneity in experimental results as a natural outcome of design differences, or does not mention it, when there is powerful evidence that almost all of the significant results in the ganzfeld database come from testing participants preselected for psi-enhancing qualities, while other kinds of participants get results only marginally different from chance (Baptista & Derakhshani, 2014)—within the range of “experimenter” effect sizes that MPV found in their chapter.

On the topic of experimenter effects, and experimenters who get exceptional results, probably few compare to the author of the next chapter: Rupert Sheldrake, a biologist, and a fellow of Clare College, Cambridge. This is because Sheldrake’s inventive experiments consistently deliver large, significant results (if they are experimenter effects, they seem to be atypically robust ones). His approach—no doubt molded by his profession—is to set up “ecologically valid” psi experiments that replicate spontaneous psi experiences reported by many people. One of these is “telephone telepathy,” the phenomenon of suddenly thinking about someone before they call. In his chapter, Sheldrake reports on how he tested this with videotaped telephone telepathy experiments in which callers were randomly prompted to call via the toss of a die, and the person to pick up the phone had to guess who called them. He reports a high average hit rate of 45% for these trials, where 25% would be expected by chance. Sheldrake also goes on to discuss a variety of studies he’s done on animal telepathy and telepathy with SMS and email, and even an interestingly designed precognition experiment that gave null results, suggesting to Sheldrake that it really is telepathy—not precognition—that accounts for a person’s knowledge of who is on the other end of the line. Overall, I found Sheldrake’s chapter a nice addition to the book and noticeably different in flavor from the contributions of the other parapsychologists, none of whom are biologists.

In the subsequent chapter, Bryan J. Williams takes the plate again, providing an extensive review of tests done on the psychic Sean Harribance, trying to get at the question of whether he displayed genuine psi. This is probably the most detail-oriented contribution, complete with protocol descriptions, experimenter names, diagrams of the laboratory, tables of results, and arguments and counterarguments—all trying to show that Harribance could not have scored the way he did (on forced choice and micro-PK tasks) by ordinary sensory means or trickery. Indeed, the evidence seems compelling: 10 consecutive experiments conducted at the Psychical Research Foundation, with increasing precautions, showed generally above average, highly statistically significant scoring, with no apparent drop-off in hit rates. Tests done by other laboratories also found highly statistically significant results, suggesting that Harribance really did have psychic powers. Reading this chapter brought me back to J. B. Rhine’s and J. G. Pratt’s experiments with Hubert Pearce in the 30s—this is the classic rule-out-all-the-flaws parapsychology study, and Harribance, a psychic from a small village in the West Indies, is the paradigm case of a selected subject. This makes Williams’ chapter a fine addition to the book, because in modern parapsychology it is sometimes easy to lose sight of the fact that many, many trials have been conducted with talented *individuals* (as opposed to groups) who produced consistent, reliable effects—and that careful investigators instituted numerous precautions to ensure that they did not cheat.

However, the topic of individuals, and individual ability more generally, is not covered only by Williams. Suitbert Ertel, an emeritus psychology professor from Georg-August University, addresses it from a psychometric perspective in his chapter. Ertel points out (correctly) that relatively little work has been done in parapsychology on the issue of estimating psi ability—no one has developed a “PsiQ” test and used commonly accepted psychometric tools to assess its validity and reliability. As a start to that, he offers a simple procedure, wherein participants close their eyes and draw a ball out of a bag. This procedure is not intended to prove the existence of psi—just as an IQ test cannot, by itself, prove that it measures intelligence (or some presumably important aspect of it). In fact, Ertel often lets participants complete the tests at home, without supervision. His goal is to use the results of the “Ball Selection Test” (BST) to explore both the characteristics of psi giftedness, and possibly psi itself, for which purpose he amassed somewhere near 90,000 trials, and a cluster of analyses providing evidence that his results meet two key psychometric

criteria: consistency (they recur in a predictable fashion) and validity (they measure psi). Ertel examines, for instance, the test-retest correlation of his participants (comparing the 1st, 3rd, and 5th trials to the 2nd, 4th, and 6th trials, for a sample of 143 students who each contributed at least 6 runs), finding a Spearman-Brown corrected correlation of $r = .78$ —“medium reliability,” according to psychometric convention. Tempering this result, it should be noted that the test-retest reliability of IQ, which has undergone decades of development by psychometricians, is in the vicinity of .95, for sessions administered *about a year* apart (Brody, 1992). The Big Five Inventory, on the other hand, a well-accepted tool in psychometrics also, is more limited, with a test-retest correlation range of $r = .70$ –.79 (Hampson & Goldberg, 2006 for one-year intervals in adulthood, and .80–.84 for two-week intervals (Gnamb, 2015). Ertel presents a graph in his book that does suggest the strength of his correlation depends on the participant’s average scores, so that mixing in the correlations of people who are just guessing ($r = 0$ by default) with those who seem to display some psi ability will inevitably dilute the correlation. Still, it is clear that the proposed PsiQ test has a way to go.

Ertel’s other analyses are numerous; he looks for earmarks of psi, including hit displacement, psi missing, and hit spreading—a novel property, indicating that higher-scoring participants spread their hits more evenly than would be expected from random distributions. He also tests skeptical hypotheses and brings his higher scorers into the lab, putting them through progressively more controlled tasks. I found Ertel to be a little thin in this part, especially because it was evident that most participants did poorer in these tests; I would have liked to see more details, especially on the computerized Zener cards. Still, there is a lot of good material here. Although effect sizes tended to drop significantly, highly statistically significant results were still observed. For the purpose of convincing investigators who already find psi plausible, I agree with Ertel that these tests are probably sufficient, and validate the BST as a discrimination tool for psi ability. Investigators might ask prospective participants to conduct it at home, to screen for good candidates for psi studies that examine similar tasks. Overall, I greatly enjoyed Ertel’s chapter, and I found myself agreeing much with his perspectives. Continuing a theme, his contribution adds to the diversity of research perspectives in the book, introducing the reader to a data-rich psychometric exploration of psi.

By contrast, Stephan Schwartz offers a look into psi from an archeological angle, detailing the accomplishments of his Mobius remote viewing project (but before he does that, he presents a useful overview of experimental remote viewing experiments). Schwartz claims to have used remote viewers to locate sunken ships, uncover sites of historical interest in the Bay of Alexandria, and discover buried Byzantine ruins in the Egyptian desert. One particularly striking example of one of his successes involved a challenge to find, well, anything, in an area of more than 500 square kilometers, suggested to his team by skeptical archeologists at the University of Alexandria. Although the area had been previously surveyed by researchers at the University of Gelf, without any success, the remote viewers located within several hours what they described as a building foundation and mapped out its contours. After 3 to 4 feet of digging, the archeologists found the structure much as described. Reports like this feature prominently in Schwartz’s chapter, suggesting that the spontaneity and strength of psi outside the lab, with talented participants, can be significant. Although largely qualitative, his “consensus methodology” offers a degree of quantitative evaluation for his studies, especially likely to be useful to those readers familiar with the archeological process and its accuracies and inaccuracies. Mostly, however, the chapter appears to be there to break the reader out of the narrow confines of laboratory work, to see what psi can do in a freer setting.

Physicist York Dobyns’ chapter, up next, reports on work done at the famous Princeton Engineering Anomalies Research (PEAR) laboratory, on both remote viewing and psychokinesis (I will confine my comments to the latter, for brevity’s sake). In the psychokinesis experiments, “operators” attempted to influence the results of random number generators (RNGs), pushing them to produce more 1s, more 0s, or an approximately even distribution of both. The type of trial was determined either by the operator in advance, or assigned to him or her by a random process. The findings collectively indicate that operators were able to shift approximately one bit per 1,000 in their intended direction—or .20 bits in a customary 200 bit trial—and that this yielded highly statistically significant results, with odds against chance of more than seventeen million to one. Lots of details are offered on these experiments: for instance, the curious discovery that among trials where two operators tried to influence the RNG bits in unison, same-sex pairs had

no effect and opposite sex pairs had approximately four times the effect of single operators. Dobyns also overviews difficulties in replicating previous findings and gives refutations of skeptical criticisms, creating an impression of balance. His chapter, as an essential addition to *Evidence for Psi*, discusses one of the most important parapsychological collaborations created to study micro-psychokinesis, out of which arose the Global Consciousness Project (GCP).

This project, headed by Roger Nelson in his home office in Princeton, NJ, began with the FieldReg trials at PEAR; they examined if mental activity could unintentionally induce changes in the bit streams of local RNGs. Experimental successes observed with this method prompted parapsychologists to launch a global distributed network of RNGs, to explore possible data structures caused by psi (e.g., correlations between RNGs, effect of distance on psi, etc.), and whether events of collective global importance would correspond to measurable departures from randomness. After recording more than 400 carefully defined events, including 9/11, the 2004 tsunami, and the election of president Obama, the GCP has amassed a statistical significance of more than seven sigma, or odds against chance of 100 billion to 1; this indicates that RNGs are significantly less random during periods of global import. Nelson, who writes this chapter, provides a detailed breakdown of the equipment, procedures, and results of the GCP. In addition, he imparts interesting insights into the structure of the data during global events—RNG outputs do correlate across different machines, and there is a small distance-time relation—and discusses several sources of competing, non-psi explanations (e.g., electromagnetic disturbances from cell phones, etc.). His chapter reviews a critical, ongoing experiment in parapsychology, setting the reader up for one of the most intriguing articles in the book, which discusses models for the GCP data.

Physicist Peter Bancel, a long-time collaborator with Nelson, writes of how one can formally distinguish between two overarching models for the anomalous GCP effects: one with psi and one with “proto-psi”—a kind of unintentional, residual psi. He uses the mathematical technique of separation of variables to argue that when anomalous perturbations occur without intentionality/engagement (as they presumably do in the GCP), their characteristics should be different than when engagement is present. Also, to form a complete description of any experiment with engagement, that experiment’s results must be included in the description (not necessary for nonengagement). For instance, if I *intend* to select the correct target from among a group of decoys, as a psi task, then what the results of that task will measure is how well I was able to match my intention—there is an inherent circularity in any experiment with engagement, which cannot be avoided. On the other hand, if I merely wish to, say, plot temperature against reaction rate, for a certain chemical mix, my engagement is not a part of the experiment description, and there is no circularity.

As confusing as this is—and it is quite confusing—it illustrates a key difference in how GCP results should theoretically manifest, depending on whether they do measure some latent proto-psi, or are, for instance, an experimenter effect. With this information, Bancel takes the brilliant next step of examining the physical structure of the random event generators (REGs) used in the GCP. What he finds is that one kind of REG has an internal setup that is incompatible with proto-psi as has been formulated, because it uses a deterministic process to randomize the bits after they have been randomly generated from a stochastic physical process—one that could have been affected by proto-psi global consciousness. But if there is truly no engagement in this setup, then any nonrandomness before this deterministic screen would get destroyed; event-correlated nonrandomness emerging after that screen could then *only have been produced* by a contrivance—a prior fitting of the bits so that the (constantly updated) deterministic algorithm would produce nonrandom bits on the other end. This is *de facto* engagement. The catch is that the other kind of REG used in the GCP contains a structural loophole that could, just barely, allow some nonrandomness through. Bancel examines correlations within and between these types of REGs and finds that (a) the non-loophole REGs are not intercorrelated, (b) the loophole REGs are, and (c) the nonloophole and loophole REGs are strangely, strongly intercorrelated. He interprets this last finding as evidence against the proto-psi view, discusses possible alternatives, and then explores other analyses providing evidence that the GCP effect is not well explained by psi selection. His chapter, as a contribution to Broderick and Goertzel’s book, illustrates that psi research can sometimes (and perhaps will increasingly) benefit from the rigor and exactness that pervades the physical sciences, although the conclusions that can be drawn with this constrained approach are still limited.

Coming from a very different angle, but no less intriguing or exact, is the paper by James P. Spottiswoode, a statistician and former consultant to the World Bank, inviting the reader to take a broader perspective on psi by examining a truly unusual correlate: local sidereal time (LST). LST is the time of day as indicated by the rotation of the earth relative to the fixed stars, rather than to the sun. The effect of using this measure is that, across the year, the same sidereal times very accurately correspond to the same regions of the sky, above particular places on the earth's surface, while any given earth time over the course of a year varies across the full celestial circle, and all sidereal times. This allows one to check if something about the position of the earth relative to the sky correlates with psi, and Spottiswoode's data suggest that it does, to a significant extent. His findings document a more than threefold increase in the effect size of free-response psi experiments (mostly ganzfeld and remote viewing trials) around 13.5 h LST, with a sample size of nearly 1,500 trials. Providing further confirmation of this, Spottiswoode crossvalidates his finding with another approximately 1,000 trials, finding a peak at *exactly* the same LST. Together, the two data sets support the hypothesis of an increased effect size in the window of 13.5 ± 1 h LST, for trials conducted (mostly) in the US and Europe, evincing a signal strength of more than five sigma; the physics gold standard. Spottiswoode additionally explores LST as a moderator of the sometimes observed psi-GMF (geomagnetic field fluctuation) correlation, and proposes an intriguing explanation for the LST findings that involves emissions from the center of the Milky Way (neutral hydrogen noise appears to drop off at about the time the psi effect peaks). This chapter truly magnifies the psi research perspective, suggesting moderators of astronomical origin that persist across decades, creating patterns in the psi data that are difficult to explain by any conventional account.

Nevertheless, conventional accounts are briefly looked at in the next chapter, on skeptical responses to psi research. This chapter is written by one of the authors (Ben) and his father (Ted), a sociologist without any connection to psi research, but with experience studying movements, belief structures, and statistical claims. Together they produce an overview of the history of the modern skeptical movement and several of its controversies, trying to give the reader an idea of the state-of-play between professional skepticism and parapsychology today. Not much specific rebutting of criticisms is done in the chapter—much of that was covered by the book's contributors in their various chapters—instead, only a gestalt summary of psi skepticism and a few key examples are given. This brevity and generality of focus are repeated in the final overview chapter, where the authors give their assessments of the evidence, ask some questions, and critique some traditional approaches. They wrap up by speculating on the relationship between psi and physics and psi and biology, giving a couple recommendations for the field.

By now, the reader has hopefully come to terms with the scope and ambition of Broderick and Goertzel's book, which aims to present the best case for psi research, with the aid of the top scientists in the field. In my opinion, *Evidence for Psi* is a rigorously presented, well-curated sample of research papers. The authors are cautious and fair, and although I may disagree with some of their assessments and choices of presentation (e.g., their tacit acceptance of the decline effect as an all-pervasive phenomenon, which is not supported by any of the papers in the book, or their claim that psi experiment *z* scores do not scale positively with sample size, with which I disagree), the vast majority of what they write is in my opinion professional, expository commentary, of the quality that will attract many open minds. The contributions in the book, moreover, are selected from among the best—and it shows—as I had many worthwhile insights while reading it. If someone asks me, therefore, to scientifically justify my “hobby” in psi research, I would feel confident lending them a copy of *Evidence for Psi*, in the knowledge that it will represent me—and my reasons for taking psi seriously—better than I ever could.

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THE WORLD'S MOST HAUNTED HOUSE: THE TRUE STORY OF THE BRIDGEPORT POLTERGEIST ON LINDLEY STREET by William J. Hall. Pompton Plains, NJ: New Page Books, a Division of Career Press, 2014. Pp. 251. \$15.99 (paperback). ISBN 978-1601633378.

Every year, especially since the advent of the paranormal-focused TV shows, a small number of books are published centering on a single case of haunting or ghostly attack. Most are written (or cowritten) by one of the people experiencing the ostensibly paranormal activity. Some few are written by someone investigating the situation. Rarely are they of cases where there are a range of witnesses in and out of the family (or investigative team), and even more rarely are they of cases investigated even partially by someone within our field. Hall's retelling of the Bridgeport poltergeist case is relatively unique in the spread of haunting books available today.

The case of the Goodin family of Bridgeport, Connecticut took place over several weeks in late 1974. Jerry (Gerald) Goodin, his wife Laura, and adopted daughter Marcia were beset by extensive movement and breakage of seemingly everything in their home that wasn't tied down. The case got considerable publicity at the time and attracted investigators—many of whom became eye-witnesses—from the local police and fire department as well as from Ed and Lorraine Warren. Eventually Boyce Batey of the Spiritual Frontiers Fellowship, and Keith Harary and Jerry Solfvín, who at the time were with the Psychical Research Foundation, visited the home.

Writing about a case that's decades old in an accurate way is difficult to say the least. The author pieced together the happenings at the house on Lindley Street through recordings provided by Batey of many interviews of eye-witnesses conducted in 1974 and 1975 including tapes of interviews recorded at the Bridgeport Police Department, as well as more recent interviews conducted by (the reader assumes) the author in 2013 and 2014. Additionally, documentation, such as newspaper accounts and documents referenced as being included with the recordings, was consulted.

The story begins with some background on the Goodins, including their struggles with a son with cerebral palsy who passed away early in life in 1967, and their adoption of a little girl named Marcia in 1968. As a result of an apparently overprotective mother (Laura) who was used to taking care of their late son's every needs, Marcia was beset with social problems in school and lacked friends. Additional issues arose because Marcia, a full blooded Seneca, was beset by bullying at school, which culminated in a physical attack on her by a fellow student. This led to her having to wear a back brace and to leaving school in favor of home schooling by a tutor in October, 1974.

Although the activity that is the main focus of the book took place in late 1974, the author reports

that occasional inexplicable physical movement of objects took place as early as 1968 shortly after 4-year-old Marcia was adopted.

The Goodins first reported activity to the local police in 1972. They reported rhythmic pounding noises that they'd been hearing since November 1971 and that continued on and off into November of 1974. They also began experiencing other phenomena, including seeing a disembodied hand and doors opening and closing on their own, and finding chairs moved from previous locations.

The night of November 22, 1974 marked the start of several days of intense physical activity. The observed activity included large pieces of furniture, including chairs, moving about wildly and even leaving the floor, knickknacks and wall hangings coming down and smashing, the TV moving on its own, and more. Policemen called to the home witnessed the refrigerator moving and even floating above the floor.

Police and fire fighters investigated and witnessed events. A local priest was called, and others including the Warrens came in and observed the intense activity. Unfortunately for the Goodins, the press was alerted and hundreds of people began visiting the home in hopes of catching the activity. The apparent psychic phenomena continued past that weekend, with the Goodin family reaching their wits' end. The activity continued unabated through the end of December, 1974.

As mentioned above, Boyce Batey, Jerry Solfvin, and Keith Harary also became involved in the case in December, 1974. Hall provides basic background of the investigation, discusses whether Marcia was the poltergeist agent, and includes a lengthy transcript of a meeting between Batey, Laura and Jerry Goodin, and Father William Charbonneau. From the conversation, it became clear that Laura had some major resistance to even considering that she was possibly affecting Marcia's development by being over-protective.

Hall gives some idea of what happened with the family after the activity halted, including attempts to sell the home. He goes further in describing what went on with Jerry and Laura Goodin, and he attempted to track down Marcia, even going so far as to hire a private investigation service, to no avail.

Hall includes two chapters of quoted testimony and recollections from numerous individuals. The second of these includes a tantalizing statement that there were "three additional homes that experienced incidents as a result of the Goodins' poltergeist activity" (p. 198). Another chapter, by Boyce Batey, provides reflections on preliminary findings of the investigative team. Batey's perspective is one of RSPK, although it's unclear whether the "preliminary evaluation" was written at or shortly after the actual investigation, or more recently.

Also included is a chapter entitled "Other Theories," with speculation as to what was going on. It includes comments by Father Charbonneau, Paul Eno, Jerry Solfvin, and the late Ed Warren. Eno, at the time of the case a student for the priesthood who had worked with the Warrens, provided his speculations looking back from 2014, which are further afield than those of Warren and Father Charbonneau.

Eno's perspective has to do with the theory of the multiverse and entities he calls "parasites." He claims that his experience "in the trenches" of looking at a variety of experiences of the unexplained led him to be convinced that it's the overlap of worlds and dimensions of the multiverse that account for everything from ghosts to UFOs to cryptids. He then goes on to point to the parasites as responsible for much of the activity, although the movements we would label psychokinesis he explains as "the result of cross-world interaction that disrupts the physical laws we know" (p. 176). Solfvin provides a much, sometimes needed, question, raising the issue of why we can't simply take something unexplained as just that: "unexplained phenomena" (p. 178).

Also included in the book are police reports, a log of individual incidents, and copies of the actual data sheets with the floor plan and indicated incidents. A final appendix provides references to press coverage of the case.

Hall states that he started out with an opinion that the case was most likely a hoax, and after investigating the case, going through the recorded testimony of so many credible witnesses and other evidence, and piecing together the timeline and activity, he states, "I have a belief. I now realize it really happened" (p. 202).

So what is one supposed to make of this book and the case it covers?

Over the 35 years of my own field investigations, I've been witness to the aftermath of incidents in poltergeist cases, as well as actual object movements by ostensible apparitions and RSPK cases. None have been as intensely physically disruptive as the Goodins' case, nor had as many witnesses to unexplained physical activity. Finding a case in the literature with the same degree of both would be a task I'm not sure would have a positive result.

Though certainly more violent and chaotic than the vast majority of reported poltergeist cases, this case does generally seem to follow the general description of RSPK cases. This includes Marcia faking some activity, claiming later she was trying to get the attention off the family. However, there are some glaringly different elements, especially if Marcia is identified as the agent.

First, considering that the initial activity happened in 1968 shortly after Marcia was adopted at the age of 4, the timeline for this case is quite a bit longer than for the majority of reported RSPK cases. Additionally, a 4-year-old RSPK agent would be yet another extremely unusual element. This would even be the case with Marcia at age 10, during the height of the activity. Naturally, we could look to another, perhaps Laura Goodin, as the potential agent.

Second, there were incidents witnessed while Marcia was not present, including apparent movements of objects when the entire family was out of the house. Consequently, it's difficult to be sure one of them was the RSPK agent even though there are cases in the parapsychological literature in which the assigned agent was rather far away from the activity on more than a single occasion.

Overall, I found the book to be a very interesting read. The author is a decent storyteller, and he provides a very straightforward account and chronology of events. The inclusion of quoted witness testimony, the police reports and incident logs, and additional material helps underscore the research Hall conducted to piece together the main narrative.

One paragraph in the book did give me pause. In recounting a conversation between Ed Warren, Batey, Harary, and Solvvin when he met with them to brief them on the family and what he had gathered so far, Hall states that they, "chatted about several obstacles . . . including one major obstacle: parapsychologists." Given who was involved in that conversation, this is odd to say the least. Hall goes on to say, "They [parapsychologists] go in there believing in the supernatural right off the bat. The problem is that the only people who research these occurrences are psychic investigators" (p. 122).

Whether you believe PK is caused by the living, discarnate entities, or even multiversal forces, *The World's Most Haunted House* certainly is well researched. Given the support of the witnesses, including those Hall was able to talk with as he researched the case, the Lindley Street poltergeist case offers an exciting example of a true paranormal mystery. That it happened seems to be well supported. What was causing the activity is the mystery.

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[*Editor's Note:* The following Letter is longer and more substantial than I normally accept for the Correspondence section. I am making an exception in this one case because I think the content will be of particular interest to *JP* readers and it doesn't fit well in other categories.]

To the Editor:

The cover story written by Mr. Jim Popkin in the November 12, 2015 issue of *Newsweek* was about my colleagues and me (Popkin, 2015). This Letter is my response to that article. Jim Popkin is an award-winning investigative journalist and writes for a variety of publications. From 1995 through 2008, Popkin was a reporter and senior producer of the NBC News Investigative Unit, and he was granted an Emmy Award for his *Washington Post* story on Ana Montes, which now has been optioned as a feature film by Identity Films. In association with this work, Popkin worked with and eventually wrote about Scott Carmichael—a Defense Intelligence Agency (DIA) counter intelligence specialist—in *The Washington Post Magazine* entitled, “Ana Montes Did Much Harm Spying for Cuba. Chances Are, You Haven't Heard of Her” (Popkin, 2013).

One of my associates is Angela D. Ford, who worked for over 30 years as an intelligence analyst for a number of agencies, including DIA. Working for DIA, she was one of the remote viewers assigned to the Ft. Meade, Maryland, secret special unit to use remote viewing to collect intelligence during the Cold War. Because she knew Carmichael—as did I much later on while working with him on a special project—she had met Popkin; later Angela suggested I talk with him regarding a potential article he would like to write.

Only because of that reference, I agreed to meet Popkin, which I did on February 21st, 2015, upon my arrival directly from India. Washington was experiencing a massive snow storm, but I struggled to meet Popkin at Tysons Corner in Virginia for a late breakfast. I no longer interact with media people because barring very few exceptions I have been treated terribly, not paid, and made to look the fool by unscrupulous media people and unethical editing. It is beyond the scope of this commentary to document the shabby state of American media with regard to psi, but it suffices to say that I have been collecting names and associations to add to my “Wall of Shame,” which may appear either in print or on the web at some future date.

I did, however, inform Popkin of my previous media treatment in some detail and asked him directly (a) why I should agree to be interviewed and (b) why I should trust him. Over three hours, Popkin provided answers that made sense and began building some trust. He asked why I was still conducting research 20 years after the closing of the US Government's Star Gate program. That, he said, would be the focus of his article to be submitted to *The Washington Post Magazine*. The implication of and response to this question were the scientific advances made in the field, with particular reference to remote viewing. I looked forward to his approach.

We met in person two more times and engaged in countless email exchanges and phone calls as Popkin conducted his research. Like many investigative reporters he is aggressive and does not easily take “no” for an answer. He knew of my Bial bursary to study the degree to which expending liquid nitrogen at a randomly selected, remote site would affect the quality of the remote viewing. He wanted to film a real session and the three viewers (Angela D. Ford, Nevin D. Lantz, and Joseph W. McMoneagle) but I thought this would not be a good idea and denied Popkin access to our on-going study.

One of the in-person meetings occurred in Maryland *after* Angela and I had completed the final series of six sessions in the Bial study. We demonstrated part of the protocol. Angela and I pressed Popkin to allow us access to his article before publication; he did not agree. However, he *did* agree to allow us to fact check what he had written by reading the article to us on the phone. Angela and I were impressed. No other media person had ever been so open.

The last in-person meeting I had with Popkin was at Joe McMoneagle's house in Virginia. Again,

after we had completed six sessions in our on-going study, he agreed to be filmed while he and I demonstrated a binary associative remote viewing (ARV) session—based upon a future coin flip.

The Article

During October 2015, Popkin became more aggressive in his questioning and wanted access to my family and high school class mates—all of whom I denied access to. Besides, they knew nothing of my 45-year career. Popkin informed me that it was likely his article would appear in *Newsweek* by the end of October or in November and not, as previously thought, in *The Washington Post Magazine*.

I had agreed to give the Bill Roll memorial lecture on November 5, 2015 at the University of West Georgia. While boarding my flight on the 4th, Popkin called to ask if I was available for photographs. In Georgia, I received a call from someone at *Newsweek* asking if I would mind if they sent a photographer from Atlanta to photograph my lecture. Sure. No one showed up.

The Good

Popkin (2015) provided an entertaining—sometimes even amusing—portrayal as to why I still am conducting research. In addition, he was able to obtain interviews with important people in the history of the project: Former Senator and former Secretary of Defense William S. Cohen, LTC Brian Buzby (a former commander of the Government's in-house psychic spying program), and the director and president of the Bial Foundation in Porto, Portugal, Dr. Luís Portela. Gaining access to Secretary Cohen and Lieutenant Colonel Buzby speaks to Popkin's research skill. All these people were on record as being in support of psi research in general and in support of me and my research in particular. However, these few good points in Popkin's article are offset by a host of half-stories, outright inaccuracies, apparent sole-sourcing (to use a professional intelligence term) of material (no fact checking), and a number of ad hominem statements. Popkin reneged on his promise to allow us to fact check his writing.

The Bad

One of the people Popkin interviewed by phone was Professor Ray Hyman. I have known Hyman since the late 1970s and privately we consider each other as colleagues, and he is convinced that I am not a fraud and that my strict adherence to the methods of good science are worthy of respect. Hyman's critique in the American Institutes of Research (AIR) evaluation of the Science Applications International Corporation remote viewing investigations is that I was the only judge of that data. In the AIR report, Hyman offers no explanation as to why that is a problem, beyond the implicit suggestion that I may have cheated somehow or my "obvious" bias toward the existence of remote viewing could have biased my analyses. Privately, at least to me, he acknowledges that he does not think I am a fraud and that double-blind protocols were strictly followed. Given that this is true, then there can be no problem with my being the only judge. Perhaps, as one question common in experimental psychology is how some effect is distributed in the population, it is an obvious requirement to use both unselected participants and unselected analysts (a.k.a., judges). But in studying any exceptional human performance, adhering to both these requirements is a mistake. For example, if one wants to study Olympic-level ice skating, he or she would use only the best possible skaters available and use as judges people who know the ins-and-outs of the sport, that is, all the technical details of Olympic competitive skating. Most likely I am the most knowledgeable and experienced remote viewing judge anywhere so far.

While reviewing the AIR report it is important to understand that they examined only 10 remote viewing studies, all of which were conducted at Science Applications International Corporation; none of the work conducted at SRI International from 1972–1989 was included in the analysis. I will now quote from Hyman's contribution to the AIR report:

- ♦ "We [Professor Utts and I] agree that the effect sizes reported in the SAIC experiments are too large and consistent to be dismissed as statistical flukes" (Mumford, Rose & Goslin, 1995, 3-42).

- ♦ “I agree with Jessica Utts that the effect sizes reported in the SAIC experiments and in the recent ganzfeld studies probably cannot be dismissed as due to chance. Nor do they appear to be accounted for by multiple testing, file-drawer distortions, inappropriate statistical testing or other misuse of statistical inference. I do not rule out the possibility that some of this apparent departure from the null hypothesis might simply reflect the failure of the underlying model to be a truly adequate model of the experimental situation. However, I am willing to assume that the effect sizes represent true effects beyond inadequacies in the underlying model. Statistical effects, by themselves, do not justify claiming that anomalous cognition has been demonstrated or, for that matter, that an anomaly of any kind has occurred. So, I accept Professor Utts’ assertion that the statistical results of the SAIC and other parapsychological experiments ‘are far beyond what is expected by chance’” (Mumford et al., 1995, 3-50).
- ♦ “Utts has concluded that ‘arguments that these results could be due to methodological flaws are soundly refuted.’ If she is correct, then I would have to agree with her bottom line that “psychic functioning has been well established” (Mumford et al., 1995, 3-51).
- ♦ “The statistical departures from chance appear to be too large and consistent to attribute to statistical flukes of any sort. Although I cannot dismiss the possibility that these rejections of the null hypothesis might reflect limitations in the statistical model as an approximation of the experimental situation, I tend to agree with Professor Utts that real effects are occurring in these experiments. *Something* other than chance departures from the null hypothesis has occurred in these experiments” (Mumford et al., 1995, 3-73).

A point by point rebuttal of Hyman’s remarks by Utts (Mumford et al. 1995) in the AIR report can be found beginning on page 3-2 and ending on page 3-40.

The unbalanced nature of Popkin’s article suggests that he had not read the AIR report and trusted Hyman as his sole source.

I go into this detail only because Popkin never afforded me the opportunity to respond as I have with some of the points above. In my view, this apparent sole-sourcing of his information reveals a possible editorial bias against the field.

However, the most egregious problem arises from Popkin’s (2015, p. 12) quoting of Hyman as saying “. . . a known ESP proponent . . .” when commenting upon the CIA-funded American Institutes for Research review of Star Gate—the government’s psychic spying program. If Popkin had read the AIR report, he would have learned that the “known ESP proponent” was none other than Professor Jessica Utts—one of the nation’s most respected statisticians, who in January 2016 will be the president of the American Statistical Association. She currently is the chair of the statistics department at the University of California, Irvine. Utts was a major contributor to the AIR report and in doing so mounted a cogent, statistically-based counterargument to the skeptic Hyman (Mumford et al., 1995, p. 3-2).

It is important to note here that despite their disagreements in the AIR report, Hyman and Utts agreed on some key aspects. In discussing their reviews, Mumford et al. (1995) state:

At the outset, it should be noted that the two reviewers agree far more than they disagree. One central point of agreement concerns the existence of a statistically significant effect: Both reviewers note that the evidence accrued to date in the experimental laboratory studies of remote viewing indicate that a statistically significant effect has been obtained. Likewise, they agree that the current (e.g., post-NRC review) experimental procedures contain significant improvements in methodology and experimental control. (p. 3-80)

In the *Newsweek* article, there are a significant number of inaccurate quotes attributed to me; Popkin never enlisted my aid in determining whether his sole-source informants were telling the truth. Just one example. The skeptic, Hyman, told Popkin, “They [Hyman & May] agreed that the early SRI research was ‘crap,’ Hyman says, providing way too many clues to the psychics and fudging the results” (Popkin, 2015, p. 12). Although there were some difficulties in the early work as described now in the

published literature, I never agreed with Hyman as reported by Popkin. In my view, once again Popkin failed by (a) using sole-sources when they fit the apparently *a priori* bias of the piece, and (b) violating his agreement to allow me to fact check his writing before he submitted anywhere.

Popkin was fascinated with our, then, on-going entropy experiment, but because he failed to fact check with me he had many of the details wrong. He even obtained permission from Dr. Portela, to allow me to send him a copy of my final report to the BIAL Foundation. Yet, because Popkin is a journalist and not a scientist he apparently did not understand what he was reading, nor, as I said above, did he fact check the technical material with me. Examples of his mistakes include:

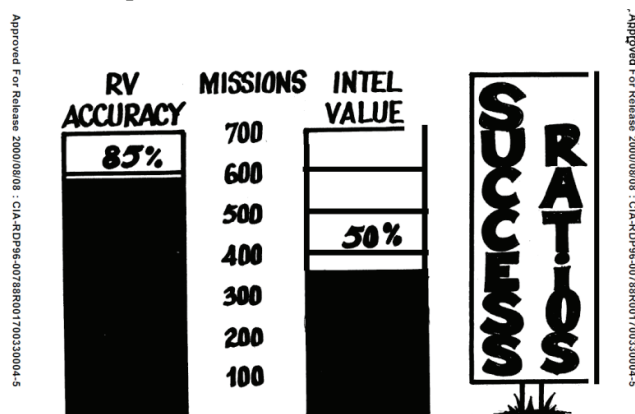
- ♦ “In his final report to Bial, May declared victory finding ‘a significant effect supporting the study hypothesis ($z_{diff} = 1.80, p = .036, ES = 0.425 \pm 0.236$) (Popkin, 2015, p. 11).” Had he understood the final report he would have seen that the above statistic was for the first half of the study only and the correct statistic should have been ($z_{diff} = 1.503, p = .066, ES = 0.251 \pm 0.167$).
- ♦ In referring to the liquid nitrogen pouring Popkin (2015, p. 1) says “. . . she’s released nitrogen gas clouds . . .” This is technically incorrect again. The cloud one sees is water vapor. Gaseous nitrogen is colorless—after all, 78% of what we breathe is nitrogen gas.

A List of Factual Errors in Order of Appearance

- ♦ Title: “Meet the Former Pentagon Scientist Who Says Psychics Can Help American Spies.” (Popkin, 2015, p. 1). I have never been a Pentagon scientist and my salary came from two defense contractors. Some of their resources came from the military but other sources included nonmilitary intelligence organizations and in-house funds supplied by the contractors.
- ♦ In the beginning of the article, Popkin (2015, p. 2) says: “That wasn’t good enough, however. Already embarrassed and under pressure for the disclosure that one of their own, Aldrich Ames, had been spying for the Russians for a decade, the CIA officially shut down the psychic spies program. Star Gate had fizzled out.”

There are a number of problems with this sentence besides the nonsequitur of Aldrich Ames. That case had nothing to do with the CIA closing Star Gate. All Popkin had to do was simply read my commentary on the AIR report (May, 1996). In this report, I was able to document a large number of problems with the CIA review of our program, too numerous to list here. However, I will give a single example. The CIA was obligated by the US Congress to conduct a review of the 20-year program. They only reviewed one year.

- ♦ Popkin (2015, p. 6) quotes me as referring to an “obscure presentation” and proceeds to give statistics from it. I never said anything like that, especially because the presentation was anything but obscure. Rather, it was from a briefing by LTC Brian Buzy, the commander of the Ft. Meade section of the Star Gate program. Popkin does not get his numbers correct. The graph in question, circa 1984, is reproduced below.



Popkin quotes 760 missions whereas the chart shows 700. This may seem like a minor point but in my view, good investigative reporting usually prides itself on detail and accuracy.

- ♦ Under the heading, “I Believed It Then, and I Believe It Now” Popkin (2015, p. 5) attributes to me: “And May has even less time for all the former Star Gate psychics who peddle mood-ring junk science online, some warning paying customers about flying saucers and the coming apocalypse.” Although colorful, I never said such things. Yes, I am critical of many of the former Star Gate psychics, but for scientific protocol reasons only.
- ♦ In the same section Popkin (2015, p. 6) writes, “‘It is clear to this author that [ESP] is possible and has been demonstrated,’ she wrote in the agency’s report. This conclusion is not based on belief, but rather on commonly accepted scientific criteria.” Yes, this is an accurate statement, but Popkin does not acknowledge the author, Professor (statistics) Jessica Utts. Acknowledging her clearly would have lent more credence to the positive outcome of Star Gate (Mumford et al., 1995, 3-2 to 3-40).

Ad Hominem Remarks and Other Disrespectful Statements

Working in a controversial arena, I have to have “thick skin.” Ad hominem and irrational attacks are relatively common. However, in a supposedly quality investigative journalistic piece such things detract from the message, lower respect for the journalist and, in this case, *Newsweek*, itself. Here I list in temporal order (in the piece) what I find to be unnecessary remarks, without further comment from me.

- ♦ In the section, “I believed it then, and I believe it now,” Popkin (2015, p. 5) refers to me as “a paranormal prophet.”
- ♦ In the same section Popkin (2015, p. 5) refers to me as, “Thick of waist now with a shiny pate and white beard . . .”
- ♦ Popkin (2015, p. 10) refers to Angela Ford: “Ford was one of only a half-dozen women who worked as psychics for the government’s program. Some of her military colleagues derided her because three ‘spirit guides’ would possess her mind during Star Gate remote-viewing sessions and guide her observations. One was a fat cherub, another a boy-like angel, and the last a 17th-century British professor who spoke through her, Ford says. In an interview, she also says she once saw a UFO outside her suburban home in 2010. ‘It reminded me of something like they call the mother ship,’ she says. ‘It was not moving. It was hovering . . . and then it sort of disappeared.’”

I must comment on this: Angela Ford has been an intelligence analyst for over 30 years. And some of her work has been briefed to the President of the United States. In my view, the paragraph makes her appear at a minimum as weird, and at the maximum a total whack-job. This is clearly unnecessary, especially in that the anomalous cognition data she obtained by whatever method was among the best ever produced in the Star Gate program (Jack Vorona, personal communication, July, 1998).¹

In my view, the belittling of Joe McMoneagle’s demonstration was totally unnecessary. Although it is true that earlier in the piece Popkin emphasized Joe’s Legion of Merit award for his remote viewing intelligence collection skill, he leaves the distinct impression of questioning his ability because of a failed single RV demonstration, and he supplies no context at all. I am not suggesting that Popkin provide a list of excuses for failure—Joe, himself would balk even at that suggestion. Rather, Popkin could have been kinder and far more informative by noting that (a) remote viewing does not happen on demand, and (b) like any other human performance, remote viewing depends significantly on what psychologists call set-and-setting. That is, states of mind like being tired, medical conditions, and feeling hungry, thirsty, or angry about something all matter and contribute in mostly unknown ways to moderate human behavior of any kind.

¹ At the time of Angela’s contributions Dr. Vorona was the Deputy Director for Scientific & Technical Intelligence at the Defense Intelligence Agency.

Conclusion

In some respects, having any article, even one riddled with errors but suggesting positive results in psi research, appear in a national news magazine can be considered a positive outcome. What I find immensely disappointing is to know how much better and significant this article could have been if Popkin had done even a modicum of fact checking as promised but reneged.

Why am I still conducting research? The answer is rather straightforward. Psi research has made substantial progress since the closing of the Star Gate program. In addition to the models put forth by some of our colleagues, the Laboratories for Fundamental Research (LFR) has recently published the multiphasic model of precognition (Marwaha & May, 2015). While Popkin was in the know about the published model, including the recent publications from LFR (May & Marwaha, 2014, 2015a, 2015b; May, Rubel, McMoneagle, & Auerbach, 2014), he apparently failed to look at these reports on the scientific output from the Star Gate program and the theoretical advances made based on that. These would have answered the question that he first came to me with: why I was still conducting research 20 years after the closing of the US Government's Star Gate program.

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To the Editor:

Our organization recently read *Parapsychology: A Handbook for the 21st Century*. In Chapter 25, Dr. Michaelleen Maher (2015) provides a comprehensive literature review entitled "Ghosts and Poltergeists: An Eternal Enigma." On examination, we noticed that our research (Laythe & Owen, 2013) was referenced and discussed. Although we were pleased to be included in her review of research related to ghosts and

paranormal phenomena, we regret to say that Dr. Maher's commentary describing our research contained several inaccuracies.

To begin, Dr. Maher stated that "it was not clear from their report how electromagnetism from their multiple data recorders was effectively shielded, or if the house could have been penetrated by magnetic fields from high tension wires nearby, or from a generator they installed outside to power their equipment" (Maher, 2015, p. 334). These are relevant confounds regarding the aberrant nature of the EMF/GMF data we collected. Nevertheless, we addressed these issues extensively in our paper.

With regards to penetration from "high tension wires nearby" (Maher, 2015, p. 334), we clearly stated that "there were no wires leading from the electricity pole to the building or fuse box, nor any wire leading from the pole to the main electricity poles along the road" (Laythe & Owen, 2013, p. 217). On the same page we stated that "the house is situated approximately one quarter mile from a traveled road" (Laythe & Owen, p. 217). Thus, active electrical wiring that could produce EMF was approximately one quarter mile from the electricity-free location we were studying. We also stated that "field tests of the meters demonstrate that both types have an approximate range of 8 feet in diameter in terms of detecting a 100 mg field" (Laythe & Owen, 2013, p. 218), and "EMF . . . practically decreases at a factor of about 10 to 1 foot of distance between the source of the field and the meter" (Laythe & Owen, 2013, p. 215).

We emphasized these points to the reader because we ourselves found this EMF/GMF data so vexing in our previous work. Correlations between five sets of immobile meters radically changed on an hour-to-hour basis. These coefficients ranged from $-.70$ to $.64$, and in some instances increased or decreased by a correlation coefficient of $.4$ or greater (Laythe & Owen, 2013). As explained in the discussion section, changes between meters in different locations of the house would represent either: (a) change in the location of the meters, (b) a change in reflective surfaces in the house, or (c) a change of the origin point of EMF fields (Laythe & Owen, 2013). As the meters did not move (see Protocol section, Laythe & Owen, 2013), and the house did not suffer an earthquake, the only likely explanation is that the source of the EMF/GMF fields themselves changed.

To further support the above point, we tested our meters with active power lines. The typical active power line, conducting many *kilowatts* of electricity through its cables, only registered a 1 milligauss field on the meters that were used in our study when set approximately 15 ft away from the cables. An 800 watt generator "placed 25 ft. from the investigation site" (Laythe & Owen, 2013, p. 218) would not create a sufficient field to affect our meters. Thus, our conclusion was that EM fields detected in the home varied from room to room, and appeared to generate and disappear within the house while lacking an obvious means to generate them.

We are unclear as to Dr. Maher's meaning with regards to her statement that "it was not clear from their report how electromagnetism from their multiple data recorders was effectively shielded" (Maher, 2015, p. 334). Our lines to our meters were shielded, but we are confused as to why the meters themselves would need to be shielded. The meters themselves could not be shielded, or they would not be able to detect EM fields. If Dr. Maher is alluding to some type of artifact in our data due to the data-logging system we employed, we had already addressed this in our work. Any sort of interference in EMF from our data-logging system itself still would not explain the crucial point of the paper. We obtained highly significant relationships with time synced spikes of EMF/GMF and events captured on audio/video (Laythe & Owen, p. 232).

Whereas the above issues focus on technical concerns clearly addressed in our manuscript, we are more concerned with the following statement drawn directly from the above referenced book chapter: "Moreover, a sizable crowd of ghost enthusiasts had apparently gathered in front of Black Moon Manor to observe the investigation—a situation hardly conducive to controlling potential artifacts when conducting a formal study" (Maher, 2015, p. 334). We can only infer that Dr. Maher is claiming that we either allowed crowds to gather during our investigation or that our members themselves have been denigrated to "paranormal enthusiasts." This inference is a great disservice to our organization's character and experience with field research design.

Perhaps this misstatement was the consequence of some confusion in interpretation, as we had

stated in our manuscript that two organizations (ITPO and ASAFP) were present (Laythe & Owen, 2013, p. 217). Hence we wish to clarify that the same 10 participants reported in our methods were members of both organizations (one public, one an approved college organization). Nevertheless, we clearly stated that “all members were briefed in protocols for the current study, and have had previous training on data collections in previous investigations” (Laythe & Owen, 2013, p. 217) and “Only investigators were present on the site during data collection” (Laythe & Owen, 2013, p. 219). To be perfectly clear, we did not allow any individuals that were untrained on the site, nor is it ever a practice for us to do so. If that were the case and we did allow onlookers, we would certainly have noted this potential confound in the body of the discussion section of our manuscript.

I am sure that Dr. Maher appreciates the importance of maintaining a strict protocol in such field research, including tracking of participants on video monitoring systems during an investigation. Specifically, these protocols included maintaining silence when not actively investigating, and keeping a large distance away from the investigation site. We also train members to verbally announce themselves when entering/exiting, and require members to announce any noise made by themselves to facilitate the minimization of such confounds.

Even if these protocols were not in place, our “scheme for classifying phenomena,” as per Dr. Maher (Maher, 2015, p. 334) further controlled for audio artifacts. We clearly described in our work that audio phenomena on a particular audio recorder was not considered *likely to be anomalous* unless comparison across four other audio recorders on location demonstrated that there was *no noise present whatsoever* at the time of the proposed EVP (Laythe & Owen, 2013, p. 220). As such, any noise present from any recorder during a potential EVP immediately disqualified the sound as contaminated. Although this method is not foolproof, it does greatly reduce the probability that the EVP collected in the current study was explainable by vocal or environmental contamination. We also engaged in vigorous recreation for several hours (which failed) with the video phenomena that we captured. Thus, we justifiably stated with regard to some of the apparition phenomena that we “were unable to re-create these shadows from any aspect of the room or house” (Laythe & Owen, 2013, p. 225).

The possibility that Dr. Maher deduced that our members were “a crowd of paranormal enthusiasts” (Maher, 2015, p. 334) is understandable given the host of paranormal television shows with ghost hunters, and (sadly) the generally unscientific reputation of the ghost hunting community. Our organization does include a variety of individuals from various walks of life and educational backgrounds. However, the goal of our organization has always been the empirical assessment of haunting phenomena and the publishing of such information in scientific journals. As such, all of our members are trained in recognizing threats to validity, basic research methods, and techniques for determining alternative nonparanormal explanations as well as psychological explanations (cognitive, neurological, and social) for purported anomalous phenomena.

In closing, we write this letter not to incite controversy, nor to disparage Dr. Maher, whom we admire, but rather to make it clear that our findings in Laythe and Owen (2013) were obtained using strict methodological protocols and analytic techniques. We employed the best laboratory conditions and analyses available. We are open to scientific criticism and debate but desire that said criticism involve an earnest analysis of our methods or attempts at replication. It is our hope that other parapsychologists might adopt our protocols, or a variant of them. We would happily welcome company in scientifically investigating these locations, regardless of our findings. However, we understandably take issue with criticisms that we obviously controlled for in our research design.

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To the Editor:

The interesting study by Laythe and Owen (2013) was included in my review (Maher, 2015) because it was a novel approach to examining magnetic fields at ostensibly haunted locations. Generally, the GMF/EMF approach in parapsychology has been focused on the hallucinatory potential of magnetic fields, whereas the authors were attempting to determine if such fields could be products of the “ghosts” themselves. Diverse approaches are needed to sort out the possible effects (and/or causes) of experience-inducing magnetic fields. However, in a critical review, it is incumbent upon the author to discuss weaknesses or potential confounds in the design or execution of the study. Let me address their objections to my remarks.

With regard to magnetic fields penetrating the house from “high tension wires nearby” (Maher, 2015, p. 334), the reference was to high-voltage transmission lines that transport the electricity generated at power plants to substations with step-down transformers, which in turn send smaller loads to densely populated areas. Such high-voltage lines (commonly called high-tension wires) are not found along roads but rather crisscross the countryside, typically on steel lattice towers, creating powerful transverse waves of EMF. These emissions have been implicated in various illnesses and have been a significant factor in reducing the value of nearby properties, leading in some cases to abandoned homes. The presence or absence of high-voltage transmission lines in the vicinity was not addressed in the report, and readers know only what they are told.

Electromagnetism is a complex force and its effects are not perfectly understood. Because scientists have learned to harness a force does not mean that all of its implications have been grasped. There are many possible confounds in an experimental setup such as the authors have described. (A floor plan of the premises, showing the placement and orientation of their equipment, and the configuration of the wiring, would have been helpful.) I cannot say to what extent their data collection procedures might have affected their results, but as they reported that “no readings or spikes were detected” (Laythe & Owen, p. 218) prior to turning on their equipment, the suggestion that EMFs from the equipment may have impacted the data they were collecting is certainly plausible. Video cameras, tape recorders, magnetometers, computers, electrical wiring, generators, and even people moving rapidly through space (as in the “interactive” sessions) can all create detectable EMF. Their finding that EMF readings inside the house were 50% to 100% greater compared to readings outside the house (p. 222) could also imply that their energized equipment was influencing the EMF data they were recording.

There are a variety of ways that electrical artifacts could have affected the authors’ EMF results. Inadequately shielded wiring, a generator producing uneven power (above or below 120v), harmonic distortion in the circuitry, the proximity effect (a redistribution of current in a conductor caused by another conductor), battery versus AC-powered equipment, and the use of different magnetometers for measurement are all potential confounds that might have influenced the EMF readings. Alternatively, the low EMF they recorded may indicate that there was ambient EMF already present in the environment, but it was too weak to be detected during their initial surveys. After the magnetometers were amplified by coils (p. 218), the EMF became apparent. Potential sources for such EMF would include not only passing cars and planes, as the authors suggested (p. 231–232), but also the high-voltage transmission lines mentioned earlier. Highly sensitive magnetometers might have registered additional EMF from the generator, or from distant lightning strikes. The warren of copper pipes (conductors) routinely found in old houses could be another contaminating factor. With so many potential confounds, and with so much energized equipment on the premises, it would be very difficult (if not impossible) to eliminate all of the unwanted sources of EMF and measure only what was left with any accuracy or consistency.

These speculations would not explain why a pattern of spikes occurred in conjunction with hard-to-interpret audio/visual effects unless both resulted from common (shared) artifacts. If the power quality from the generator was uneven, harmonic distortion (acting like static on a telephone line) could

have produced spikes or glitches in both cameras and computers. It would be instructive to learn what pattern of results would be found using the same equipment in a comparable house with no electricity and no history of ghosts. (EMPE evaluators, in such a study, would have to be kept “blind” as to the nonhaunted status of the house.)

It was difficult to make out from the report how many onlookers were present or what their purpose was. It was never made clear how many designated “investigators” as opposed to “noninvestigating members” (p. 219) there were, or that the 10 “participants” noted in the Method section (p. 217) included the “noninvestigating” members. (Perhaps the noninvestigating members began investigating at some juncture.) As no video or audio equipment was set up outside the building, I assume that no documentation of the activities of the onlookers was attempted. In my experience, it is never a good idea to have multiple persons—trained or untrained—milling about the site of an investigation. The more people there are, the harder it is to keep track of what each is doing.

The term “ghost enthusiasts” (Maher, p. 334) was meant to be descriptive rather than pejorative. Enthusiasm is a beautiful thing—implying interest, pleasure, and curiosity. Should I have described the noninvestigating participants as “members of more than one lay organization interested in the study of ghosts”? Although I never used the term “paranormal enthusiasts,” I would hope that all of the persons mentioned in the authors’ study are enthusiastic about the discipline of parapsychology, which attempts to extend knowledge of the world we inhabit beyond what is presently known. This pursuit poses challenges that are not always easy to surmount.

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To the Editor:

In his recent two papers on hypnosis and psi in this journal, Dr. Adrian Parker (2015a, 2015b) substantially misrepresents my work and that of my doctoral student, so I would like to set the record straight and point out some other inaccuracies:

- ♦ Dr. Parker (2015a) states on page 25 that “. . . the critics of parapsychology have been described as “wolverines” for their aggressiveness” (Cardeña, 2011). Not true at all. In that paper, which the reader can consult, the only being who is called a wolverine is, well, a wolverine in a zoo. I used it to exemplify that how a creature can be fierce and tender at different moments can serve as an analogy to the complexity found in the study of psi, not to call anybody names.
- ♦ On page 41, when commenting on Marcusson-Clavertz and Cardeña (2011), Dr. Parker (2015b) states that we only had “a handful of participants.” Although we ourselves mentioned as the “foremost” limitation of the study the small *N* and consequent low power (Marcusson-Clavertz & Cardeña, 2011, p. 252), we did not have “a handful” but 26 individuals, the result of our selection procedure that required more than 2 years to administer a hypnotizability test to 332 individuals and then recruit willing participants who fulfilled our selection criteria. Our tested

sample, furthermore, was only four individuals lower than the *Ns* that Dr. Parker used in his single ganzfeld studies (cf. Parker, 2000, p. 5).

Also on page 41, Dr. Parker (2015b) opines that we had “a study overloaded with variables and hypotheses.” He does not provide his criterion for what constitutes an “overloaded” study, but here are the facts: Besides the screening instruments, the only predictor variables we analyzed were the Phenomenology of Consciousness Inventory, a questionnaire asking about demographic variables, and three questions, two on whether the person thought that the experiment in general or him/her in particular would succeed, and one on whether s/he had had a prior psi experience. In other published studies, one of them accepted into the very rigorous *Journal of Experimental Psychology*, we have used more variables without the editors or reviewers objecting to it.

As far as “overloading” of hypotheses, we had a big total of five (Marcusson-Clavertz & Cardeña, 2011, p. 238), in which we predicted that the following would correlate with the dependent variable (psi *z* scores): (a) believing that one would be successful in the experiment; (b) previous psi experiences; (c) high hypnotizability; (d) alterations in consciousness, which would also correlate with high hypnotizability; and (e) that dissociation would mediate or moderate the effect of hypnotizability on psi scoring. Contrary to Dr. Parker’s (2015b) statement that “the only indisputable finding” was a sheep-goat effect, hypotheses a, b, and d (the latter one only for the subgroup of high hypnotizables, but we had prespecified that high hypnotizables would exhibit greater consciousness alterations) were supported.

Also on page 41 Dr. Parker (2015b) states that “the specific measure used to test [the first] hypothesis may [*sic*] not have been prespecified.” This is not true, as we prespecified our hypotheses and ways to test them. Furthermore, in the Results section (Marcusson-Clavertz & Cardeña, 2011, p. 244), we stated that when we used two similarly worded questions we had corrected alpha by dividing by 2. Also, Dr. Parker makes the groundless accusation on that same page that “The study appears to present many post hoc findings although they were not identified as post hoc.” This is false, as we described our hypotheses in the paper and the reader can then precisely determine which are the post-hoc findings. Incidentally, to avoid this kind of innuendo and as a matter of good research practice, we preregistered the analyses to be performed in our follow-up study in the KPU registry, something that we encourage all researchers to do.

Finally, also on page 41 Dr. Parker (2015b) states that “it is likely that some of the tests chosen by the authors violated the rule for the use of parametric statistics,” even though we specifically mentioned in the Analysis section that we had used the Mann-Whitney *U* test and rank correlations when parametric assumptions were violated (Marcusson-Clavertz & Cardeña, 2011, p. 244). The scores on the DES, which are not normally distributed (see below) were used only to classify participants, not to conduct other analyses. Incidentally, all of our parametric results are still significant even when using nonparametric tests. Specifically, of the three results that supported our hypotheses one had been already subjected to a nonparametric test in the original report (p. 245), the other two remain significantly associated with psi *z* scores when a Spearman rank correlation is applied: psi *z* scores correlated with belief in individual success, $r_s = .49$, $p = .012$, and altered state in the ganzfeld (for high hypnotizables), $r = .63$, $p = .015$. Overall, I believe that Dr. Parker’s descriptions are inaccurate and slanted (see also Bauer, Hövelmann, & Lucadou, 2013, in press).

Dr. Parker also makes inaccurate statements when referring to other authors’ work:

- ♦ The Dissociative Experiences Scale is wrongly labeled as the Dissociation Experiences Scale (Parker, 2015a, p. 26) and as the Dissociated Experience Scale (Parker, 2015b, p. 38). More importantly, its distribution is described as “being extremely skewed or even bimodal” (Parker, 2015a, p. 26). Although we are aware of the skewness of the DES, we are not aware of any study showing DES bimodality nor does Dr. Parker cite any. The DES was analyzed taxometrically by Waller, Putnam, and Carlson (1996), who commented on the bimodality of hypnotizability measures, not of the DES.
- ♦ On page 28 Dr. Parker (2015a) claims that Kallio and Revonsuo (2003) “coined the term ‘virtuoso’ [hypnotizable],” when in fact Ernest R. Hilgard was using it already in 1977 (p. 57), if not earlier.

- ♦ When discussing T. X. Barber's typology of high hypnotizables, Dr. Parker (2015a) mentions that "prone to expectancy" (p. 28) is one of these types, which is not quite right because Barber (1999, p. 27) called it the "positively-set person," because these individuals do not only have high expectancies but also high positive attitudes and motivations. Dr. Parker (2015b) also states that "support for this typology was found in a study of highly hypnotizable people" and then refers to a 2010 publication by Deirdre Barrett (a "she" not a "he" as Dr. Parker writes on p. 42). Actually, the original study by Barrett was first published in 1990 and it partly inspired Barber's theory. We found some corroboration for this theory using more sophisticated analyses than had been used previously (e.g., Terhune & Cardeña, 2010).
- ♦ Finally, and in this Dr. Parker (2015a) follows many other hypnosis authors, Braid did not coin the term "hypnotism" and related cognates: Etienne Félix d'Hénin de Cuvillers did (Gravitz & Gerton, 1984).

It also bears mentioning that although Dr. Parker lists various proposed components of hypnosis, unfortunately he does not discuss integrative, multifactorial models such as those of Ronald Shor, not "Schor" as Dr. Parker (2015a) writes (p. 28), and Daniel Brown and Erika Fromm (1986), who considered in their theoretical models individual-cognitive, social, and cultural variables.

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The Board of Directors of the Rhine Research Center would like to thank the following people for their generous donations of \$250 or more (beyond membership) received through December 31, 2015. These contributions have greatly assisted the work of the Rhine and the *Journal of Parapsychology*.

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