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ESP CONTRIBUTES TO THE UNCONSCIOUS
FORMATION OF A PREFERENCE

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ABSTRACT: This study is carried out as a test of some basic ideas drawn from first sight theory (FST). Some of the main ideas being tested include the assumption that extrasensory information has a part to play in the formation of all experience in a continuous, implicit, unconscious way. First sight theory also proposes that experience is created by unconsciously sampling all sources of potential information holistically, including psi information, and that all of these sources of information are treated in similar ways. And it also proposes that valuing the extrasensory domain of information, openness toward and interest in inward experience of the inadvertent sort that most implies unconscious processing (called liminal experience), being relatively free of fear, and being open to intimate communication with other people, also predispose one to make positive access to psi information.

The esthetic experience of preference is chosen as an everyday form of experience for study in terms of these propositions. Considerable research has demonstrated a tendency for persons to experience greater liking or attraction for things as a function of having been exposed to them previously. This is called the Mere Exposure Effect (MEE). This is often demonstrated especially strongly if the exposures are implicit, subliminally presented, and never available to awareness. The assumption is made here that an extrasensory MEE should obtain as readily as a subliminal one, and this study attempted to induce both in its participants.

Participants also responded to a number of psychological tests used here to assess aspects of unconscious motivation or intention. We measured whether or not one thinks ESP is possible in such situations, different aspects of openness to inner experience, tolerance of ambiguity, tolerance for interpersonal intimacy, creativity and fearfulness because FST predicts that each of these should relate to the utilization of extrasensory information. We also assessed the Need for Cognition, the Need for Structure, and Boredom-Proneness because these have been found to moderate the subliminal MEE.

Finally, we used a subliminal, implicit means to induce two different moods in our participants. Half were exposed to a stimulus aimed at enhancing a mood of symbiotic security and well-being, and consequent openness toward the situation, while the other half were exposed to a stimulus intended to evoke a mood of relative isolation, constriction, and vigilance.

Participants were subliminally exposed to a series of pictures, the mood manipulations, and a series of ESP targets (different pictures that were totally covered by an opaque block, such that they would convey no information even if seen supraliminally) in order to effect mood and induce the MEEs.

We expected to find an overall subliminal MEE but did not, and expected that participants would show similar directions of functioning in their subliminal and extrasensory MEEs, but they did not. We did find a number of predicted relationships with the motivational, attitudinal variables, particularly in the case of the extrasensory MEE, and particularly in the context of the induction of the open, positive mood. Discussion focuses on the development of a greater understanding of unconscious thought and how extrasensory information contributes to it.

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EXPERIMENTAL PSI EFFECTS CAN BE PUT TO USE: TWO PILOT STUDIES

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ABSTRACT: I describe two studies that were designed to illustrate the potential applicability of laboratory-derived ESP effects in trying to predict events of practical consequence in the "real world." Both studies attempt to predict the behavior over a designated week in the future of some set of financial indices. The exact things used to represent targets for the studies were chosen secretly by experimenters not otherwise connected with the collection and analysis of data.

The studies followed up on earlier work on the prediction of scoring direction and scoring extremity using mood items, the California F-Scale, and Schmeidler's "sheep-goat" question. Predictors were empirically derived from all data that had been collected up to the time the current studies were conducted using stepwise multiple regression analysis. This program of studies may be viewed as an attempt to demonstrate the reliability of these predictive equations. The program can also be viewed as a series of efforts to make accurate predictions of events outside the laboratory that are yoked to the ESP targets with which participants are working. For example, a random number target might be picked in another laboratory using a REG and then those digits coded onto the ESP targets, or the rise or fall over a certain future period of the price of oil might be yoked to a certain target being guessed by study participants, using the binary alternatives + and -. Such efforts to predict future events have been part of this mood-scale

program of research from its inception. Participants are asked to guess over and over at the same set of targets, and then their responses are combined through a majority-vote analysis to generate a set of “best predictions” to be tested against the actual yoked outcomes.

In contrast to previous work in this program, analysis of these data was greatly facilitated by a scoring program written by Richard Broughton. Among other things, this program randomly reshuffles the same set of targets for each run of forced-choice guessing carried out by participants, thus avoiding the stacking effect due to positional preferences, and making statistical evaluation much simpler. The program also scores other predictors used in these studies (the California F-Scale and mood scales aimed at predicting ESP scoring direction and scoring extremity), sorts participants and runs into appropriate bins, and carries out prescribed operations on their guesses to permit a final tally of their rendered work. For example, a given run’s performance might be expected to score above chance so its calls would be entered as they stand into a majority-vote analysis, whereas another run’s performance might be expected to be below chance, so all its calls would be switched to their binary alternatives and these reversed calls added to the final tally. Predictions of scoring extremity were employed in a more complicated way involving the use of index samples derived from independently scoring responses to certain targets that have predetermined content. Then the scoring direction of the index calls was used to predict the scoring direction of the other, precognitive trials in the run, all following certain rules.

These studies were conducted partly to demonstrate the principles of ESP amplification procedures in planned lectures. Under the pressure of time, small samples were obtained in both studies, so reliability of the results was expected to be low. As it happened, both studies were incompletely analyzed at the time that they were conducted, and were only recently returned to for complete analysis.

The results of the first study were statistically significant and powerful enough in terms of amplification to have practical consequences. Eleven of twelve market indices and industry group comparisons were predicted correctly.

The second study was less effective. Results were nonsignificantly positive, with 7 of 12 similar entities being predicted accurately. Since this study also employed a different participant-soliciting experimenter, who took a more psi-facilitative attitude toward the groups with which she spoke, and since the study also engaged artistic persons as participants, it was deemed legitimate to conduct a secondary, unplanned analysis to see if the data as a whole, irrespective of the various predictors, might show psi-hitting. It did, in fact, to a significant degree, and a simple majority-vote procedure of the sort that would be done assuming psi-hitting was carried out and was fairly successful. Ten of the twelve indices were predicted correctly.

Discussion addresses possible concerns about the interpretation of these results in the case of the unplanned analysis of Study 2 hinging on the nonrandom nature of any real-world targets. One could imagine that some confluence of events might coincidentally occur such that targets might be highly correlated and happen by chance to covary with calls which might themselves coincidentally

have a predominance of one target type (for example, most market indices might happen to rise in value and be coincidentally yoked to a set of calls that happened to contain a predominance of the symbol "PLUS." In the particular analysis in question in Study 2 this would have potentially affected only half of the targets, and analysis makes it clear that this did not happen in fact. In order to eliminate this possibility for future research employing simple majority votes, a means is suggested that involves adding an additional randomizing step to the analysis. Then I address the potential implications of psi amplification using laboratory-based effects in regard to making parapsychology not only an interesting but also a useful branch of science.

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PSI AS FIRST SIGHT:
A FORMAL STATEMENT OF THEORY

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ABSTRACT: The first sight model is intended to help understand the place of psi phenomena in human nature and to articulate a way of thinking about the mind in which psi could fit, and thereby to hasten the integration of parapsychology with general psychological science. The theory is aimed at helping to elucidate the rules governing the functioning of psi processes. Two fundamental postulates and 12 corollaries are presented. Several of the corollaries can be easily elaborated in testable directions and have already proven useful in helping to understand a great deal of published parapsychological research. While most of these ideas have been expressed before in other forms, here I further elaborate and organize them, and make clearer some of their empirical implications. The two postulates define the model. In them, I propose that organisms exist and transact continually in a nonlocal universe, that the mind thinks unconsciously about all of these transactions along with other unconscious transactions in a purposeful way, and that this unconscious thinking produces consciousness and other goal-directed experience. Nonlocal transactions (psi) are understood to be called upon actively and continuously in this process of unconscious work. The corollaries elaborate various aspects of the postulates and go beyond that as well in specifying various expectations about psi and other unconscious functioning that are consistent with the postulates.

Each corollary is named in a way that summarizes the gist of its conception. The Phenomenology Corollary asserts that unconscious mental functioning is best understood in terms of personal meaning rather than impersonal, biochemical process. The Personalness Corollary states that unconscious thinking is no less personal and volitional than conscious thinking; it is automatic, but not impersonal. The Ubiquity Corollary applies specifically to nonlocal (psi) apprehensions of reality and asserts that they are always active constituents of the plethora of potential meaning that the mind works on unconsciously. Since they are

always available, and always accessible prior to immediate sensory information, psi may be referred to as first sight. The Integration Corollary states that all sources of potential information (extrasensory, sensory, subliminal, memorial and intentional) are available together to unconscious thought and that the processing of these sources will generally follow the same patterns. The Anticipation Corollary states that unconscious thought seeks to adequately anticipate the content of experience, and behaviorally respond in an optimal way to developing circumstances, and that different streams of potential meaning offer varying suggestions about how experience might be best constructed and behavioral choices best guided. The Summation Corollary proposes that unconscious thought works by a kind of holistic summarizing across the many implications of meaning. The Bi-directionality Corollary says that in this summarizing process each element of potential meaning is either approached or avoided, and thence it either contributes additively or subtractively to the resultant experience or nonconscious volitional behavior. The Intentionality Corollary asserts that it is unconscious intention that guides this choice of assimilating or disassimilating the particular potential meaning. This corollary spells out many patterns by which this unconscious choosing is carried out (these proposed patterns constitute testable hypotheses for research to explore). The Switching Corollary states that the intentional posture toward a given element or source of meaning may be either relatively consistent or inconsistent over time. The Extremity Corollary goes further to say that if the intentional posture is consistent, a definite addition or subtraction to the ultimate experience or behavior will be evident. If it is inconsistent and switches rapidly, no reference to that element will be evident. The Inadvertency Corollary reminds us that psi processes are intrinsically unconscious, but that their action may sometimes be seen implicitly by virtue of the anticipatory cognitive and affective associations that the mind has aroused with them. Finally, the Liminality Corollary says that if a person consciously attends with interest to those aspects of experience that most imply such unconscious prompting, he or she will be more likely to express psi information either in terms of good conscious guesses or in terms of less conscious goal-directed behaviors. It also asserts that a person's emotional state influences the degree of openness to contextually implicit (liminal) information, including psi.

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PARANORMAL HEALING, PARANORMAL BELIEF, AND PHYSICAL
AND PSYCHOLOGICAL WELL-BEING IN ARTHRITIS SUFFERERS:
A SMALL-SCALE CLINICAL TRIAL

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ABSTRACT: Background and Objective: Although a number of studies have tested different healing techniques in controlled settings, few have investigated

the role of the patient's or "healee's" belief and expectancy in their response to the healing intervention. This small-scale randomized controlled clinical trial of distance healing with arthritis sufferers aimed to address this question by using a semimasked design in which half of the participants were aware of whether or not they were receiving distance healing.

Participants: Sixty patients were recruited from a rheumatology outpatient clinic, through online support networks and blogs and via word of mouth.

Intervention: Healers from various backgrounds were self-referred and chosen based on their self-reported experience (four were members of the National Federation of Spiritual Healers and two were certified Reiki masters). Healers were expected to practice healing for each participant at least once a week and to keep a log of the frequency and duration of healing. Although healing frequency and duration varied, each participant received between 30 minutes and an hour of healing each week.

Outcomes: The primary outcome measures were the General Health Questionnaire (GHQ-12) and the Short-form McGill Pain Questionnaire. In addition, the Paranormal Belief Questionnaire and a measure designed to assess belief in distance healing were given in an effort to determine if this had an effect on self-reported change of physical and mental health. In addition to primary outcome measures, the IPIP personality scale, Spiritual Connection Scale, Satisfaction with Life Scale and a brief index of dietary habits were administered as exploratory measures.

Results: The study results found no significant main effects of healing or of knowledge of condition placement, and no significant interactions between the two. Results suggest that although generalized belief in healing seems to have little effect on self-reported pain, health, and well-being, specific knowledge about whether or not one is receiving distance healing appears to be associated with improved outcomes for those who are in the healing group. This point is shown in the effect size of GHQ change scores for the healing and no-healing groups not masked to their condition ($d = 0.76$). The effect size suggests that the expectancy or knowledge of receiving distance healing may have a positive effect on participants' general health. However, due to the low statistical power of this study, this difference was not statistically significant in the ANCOVA. For those who were unaware of whether or not they were receiving healing, there was no evidence of improved outcomes for the healing group.

Conclusions: The hypothesis that there can be health gains through distance healing alone was not supported. One area identified for future research concerns individual differences in healer efficacy. In this study healer allocation added significance to the statistical model, but due to small sample size this point calls for further investigation.

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EVIDENCE FOR SUBCONSCIOUS BUT NOT CONSCIOUS PSI
IN REMOTE STARE DETECTION AND PRECOGNITION TASKS

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ABSTRACT: To more completely examine the relationship between conscious and subconscious psi performance, data for both kinds of performance would ideally be collected simultaneously. However, studies examining two replicable forms of subconscious psi perception, remote stare detection and presentiment, are generally performed in the absence of a concurrent behavioral task. This choice is probably based on the conviction that physiological evidence for these phenomena is most easily obtainable when participants are not being asked to engage conscious psi abilities. The few studies that have simultaneously gathered both behavioral and physiological data have generally found null results for both conscious and subconscious psi.

To address this gap in knowledge, we set out to test three hypotheses: (1) conscious remote stare detection is possible and evidence for it can be obtained via the performance of a two-interval forced-choice (2IFC) task during the concurrent measurement of physiological data, (2) remote staring produces physiological changes in the individual being stared at; these changes are apparent as tonic and/or phasic effects in pulse periods and/or skin conductance across individuals, and they are present even when individuals are simultaneously asked to consciously determine when they are being stared at, and (3) stimuli that produce different levels of arousal after their occurrence also produce different levels of arousal before their occurrence; these differences are apparent as tonic and/or phasic effects in pulse periods and/or skin conductance across individuals, and they can be measured even when individuals are simultaneously asked to consciously predict the identity of a future stimulus.

To test these hypotheses, we collected behavioral and physiological data from a group of 20 Northwestern University undergraduates who each participated in a 1.5 to 2-hr session in which they performed three conditions. We referred to these conditions as the remote stare-detection (RSD), precognition, and remote-stare-detection control (RSD control) conditions; these were performed in the order listed. The *RSD condition* consisted of 30 two-interval forced-choice (2IFC) trials in which the participant was asked to distinguish the 10-s interval during which s/he had been remotely stared at through a video camera (the staring period) from the 10-s interval in which s/he had been unobserved (the nonstaring period). The *precognition condition* consisted of 25 single-interval trials in which the participant was asked to guess which of four images would later be revealed as the “target” image on that trial. The *RSD control condition* was the same as the RSD condition, except the subject was unobserved throughout the entire condition. Intervals in the RSD control condition are referred to as “staring” vs. “nonstaring” periods (in quotes), to indicate that although the computer software marked the intervals as such, there was no actual observation of the participant during this condition. Note that in this condition, participants received false feedback so that

to the participant, in all respects this condition was the same as the RSD condition. Electrodermal activity (skin conductance or SC) data and pulse period (interbeat interval or IBI) data were recorded throughout all three conditions. All analyses used planned two-tailed comparisons at $\alpha = .05$.

Confirmatory and exploratory analyses supported only the two hypotheses regarding physiological or subconscious effects. Neither individual nor group data revealed behavioral or conscious performance above chance in any of the three conditions.

In terms of confirmatory analyses of physiological data, an examination of tonic effects in the *RSD condition* revealed that interbeat intervals were, on average, significantly higher during staring than nonstaring periods in the first interval, $t(16) = 2.96, p = .009; d = 0.72$, and significantly lower during staring than nonstaring periods in the second interval, $t(16) = -2.27, p = .037; d = 0.55$. Examination of tonic effects in skin conductance data revealed no significant differences between average skin conductance in staring versus nonstaring periods in either the first or second intervals (both $ps > .244$) in this condition. Analysis of phasic effects in the RSD condition revealed that average difference traces based on IBI traces from staring versus nonstaring periods showed several contiguous regions of statistical significance, including the region between about 6 and 8.5 s in the first interval (stare IBI > nonstare IBI) and two regions in the second interval: between about 0 and 1 s and between about 9 and 10 s (stare IBI < nonstare IBI). Difference traces derived from skin conductance data revealed no significant regions.

Support for these results may arise from a true staring effect. Confirmatory analyses of data from the *RSD control condition* revealed no significant physiological tonic or phasic effects. Averaged IBI and SC data did not differ between staring and nonstaring periods in either the first (IBI: $p = .995$; SC: $p = .686$) or second (IBI: $p = .194$; SC: $p = .656$) intervals. Further, no regions of statistical significance were found in the average difference traces derived from either pulse period or skin conductance data recorded in the RSD control condition.

In a follow-up exploratory analysis, an algorithm based on the differences observed in physiological data in the RSD condition was applied to the pulse period and electrodermal data for each participant on a trial-by-trial basis. Suggesting that the physiological differences observed between staring and nonstaring periods were consistent across individuals, this algorithm predicted which interval was most likely to be the staring interval at a rate that was, across participants, better than chance in the RSD condition, but not in the RSD control condition. RSD condition: $t(16) = 3.89, p = .001; d = 0.94$; RSD control condition: $p = .536$; paired $t(15) = 3.69; p = .002; d = 0.92$.

Regarding the *precognition condition*, confirmatory analyses revealed no evidence of tonic prefeedback effects in either pulse period or skin conductance data; paired t tests between collapsed averages across prestimulus periods from correct versus incorrect trials were not significant for either measure (both $ps > .272$). However, confirmatory analyses of phasic prefeedback effects revealed a >

500 ms region in which IBI values were significantly higher on correct trials than on incorrect trials; this region was temporally centered around 5.5 seconds preceding feedback. Supporting the validity of this result, no regions of significance were found in the control analyses of the same pulse period data sorted by correctness of the previous trial. No regions of significance were found via phasic analysis of skin conductance data.

We used exploratory analyses to examine whether such presentiment-like responses might also have occurred on correct versus incorrect trials of the RSD and RSD control conditions and found no evidence for such responses in the RSD condition. However, exploratory analyses of phasic prefeedback effects in the RSD control condition revealed two regions during which skin conductance values were significantly higher preceding feedback on correct versus incorrect trials (~7.75-8.25 and ~6.25-6.75 ms before feedback). Again suggesting a genuine presentiment-like effect, albeit different from that found in the precognition condition, there were no prefeedback differences when the same data were reanalyzed after sorting according to correctness on the previous trial.

Overall, the results do not provide evidence for conscious behavioral performance of remote-stare detection or precognition, but they do support the existence of subconscious psi effects that occur during the performance of remote-stare detection and precognition tasks. The present experiments, performed in an independent perceptual neuroscience laboratory in a mainstream scientific context, provide replications of a subset of data focusing on remote staring and presentiment and offer novel avenues for the investigation of the mechanisms underlying these and other psi phenomena. A replication attempt is currently under way and will be briefly discussed along with the results described here.

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THE HAZARDS OF REDUCTIONISTIC NEUROSCIENCE INTERPRETATION: REVISITING ANOMALIES AND SUBJECTIVE EXPERIENCE LINKED WITH THE BRAIN

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ABSTRACT: Several recent neuroscience research publications on alleged psi abilities and their brain correlates are examined. Superficial evaluations of these studies could support the model of materialistic reductionism, namely, that specific psi experiences derive solely from brain physiology. Detailed analyses in this paper dispute this conclusion.

Five different objective or subjective psi-brain situations are evaluated:

1. How stimulating focal areas of the brain produces “out-of-body experiences” (OBEs). These are in marked contrast to descriptions of spontaneous out-of-body experiences.

2. How physiological symptom complexes correlate with near-death experiences (NDEs). Specifically, the Nelson group in 2006 reported how NDEs may actually be symptoms relating to the physiological mechanism of REM intrusion.

These studies (#1-2) evaluated retrospective subjective paranormal experiences (SPEs), not psi itself, because the reports involved purely subjective experiences.

3. How functional magnetic resonance imaging (fMRI) can be used to evaluate the existence of extrasensory perception. In the well-publicized Moulton study of 2008, the objective of evaluating the neural correlates of ESP was not tested because ESP was not demonstrated. This study contrasts with several lesser known, but methodologically sound, related fMRI studies: These are all positive for the interactive role of nonconscious processes (including presentiment research) between two individuals.

These studies all involved attempted brain imaging of actual psi (OPE—objective paranormal experience).

Detailed analyses of the stimulation of focal brain areas and “OBE” (in #1), of the REM intrusion / “NDE” study (in #2) and of Moulton’s fMRI brain study (in #3) all reveal flawed methodology and/or misinterpretations.

The author suggests two other brain models. These could highlight a more appropriate, productive approach (#4 and #5):

4. How the study of reported subjective paranormal experiences (SPEs) can be correlated with detailed clinical analyses of symptoms reflecting focal brain functioning. The example used involves analyzing the links of the temporal lobe of the brain with SPE. This was done in the 1983 Nepe research and the subsequent Palmer and Nepe study performed in 2002. Effectively, these generated similar findings in retrospective controlled SPE studies with both Subjective Paranormal Experiences and Temporal Lobe Seizure patients. Subjective Paranormal Experiences have significantly more “state” and “trait” temporal lobe symptoms than Nonexperiences; and temporal lobe dysfunction patients have more SPEs than an appropriate comparative population. These findings are therefore “bidirectional.” (They involve A linked with B, and B linked with A.)
5. How future brain-psi research can be facilitated by examining anatomical and functional brain areas. As an example, I hypothesize in this paper that the frontal lobe is a brain area of relevance for motor psi phenomena (psychokinesis) and that more speculative hypotheses would evaluate whether unconscious afferent psi is linked with the thalamus, whether hormonal measures of psi are correlated with hypothalamic function, and whether unconscious motor phenomena may involve the basal ganglia.

The approaches reflected in all five of these areas suggest that analysis of SPEs constitutes a major phenomenological methodological approach to brain research. Phenomenological analyses have variable levels of application: They may be less relevant in studies where there are direct attempts at inducing psi (as in #3). Even then, detailed descriptive analyses are still relevant.

Such phenomenological analyses allow nonprejudicial evaluation of subjective interpretations of ostensibly anomalous, psychic or intuitive experiences. Effectively, they apply the medical history-taking approach in assessing psychopathology (e.g., as in analyzing auditory hallucinations phenomenologically).

The approach neither confirms nor denies the validity of the SPE itself, suspends judgments of “pathological” versus “normal,” emphasizes differentiation by phenomenological detail, and may, if extended to the lab situation, correlate subjective with objective empirical research. Specifically, detailing SPEs facilitates correlating epiphenomena with brain localization: Dichotomous descriptions of subjectively interpreted experiences require careful phenomenological differentiation because different origins and etiologies could be inappropriately interpreted as one.

In 2003, Neppe suggested eight methods to facilitate analyzing phenomenological data descriptions in the brain, namely, detailed data analysis, appropriate nosological subtype comparisons, specific pathophysiological context, limitations of single cases, literature comparisons, examination for unified brain localizations, correlations not implying causality, and the unproven origins of phenomena.

New principles can be espoused from the above research:

- The absence of demonstrating correlates of psi in the brain could imply insufficient or inappropriate methodology to elicit psi, not its nonexistence.
- The actual source of a subjective experience is not currently provable—SPEs could partly derive from exogenous (outside the brain) or purely endogenous (inside the brain) origins. These are unproven fundamental philosophical mind-body concepts.
- Correlations of SPEs neither confirm nor deny the veridicality of psi.
- Correlations are not necessarily causal, and specific interpretation guidelines for SPEs should exist.
- The medically tested diagnostic bidirectional approach can be usefully applied. Utilizing two converse SPE populations may clarify their links: Positive results would, nevertheless, fall short of implying causality but would further strengthen the link between the two events more than a unidirectional assessment when only correlations are implied.
- Methodology including anticipated interpretations of findings should be predefined: Unexpected results should not lead to rule changes.

- Methodology must be carefully justified including recognition of parapsychological theory (e.g., experimenter effects, psi conduciveness, the sheep-goat effect, and signal-to-noise ratios).
- The subjective experience model allows correlation with objective events (e.g., by EEG, fMRI, PET, clinical tests).
- Ostensible causal links reflect just one necessary but insufficient requirement for SPEs to be expressed in the brain. A functioning brain still requires other organs such as legs to walk.
- Adequate controls have to be set up to make appropriate sense of the results. These controls are sometimes very difficult to implement.
- Interpretations should not go beyond what is tested.
- Subjective experience studies have retrospective descriptive elements.
- Ecological validity is difficult to attain as each situation is different; the materials and setting of psychological, neuroscience and parapsychological studies seldom approximate the equivalent real-life situations. This information should be recognized in detailed phenomenological analyses as, when replicated, “like” may not be “like.”

By applying these principles to the above research (#1-3) the limitations of brain reductionism are demonstrable in these SPE and OPE studies. By contrast, approach #4, using phenomenological detail in controlled planned research protocols, demonstrates advantages for such clinical studies, producing more robust results. This is so as these studies can more easily:

- involve larger sample size
- utilize more clinical measures
- be performed as the costs are far lower, and very little, if any machinery, is required
- emphasize phenomenological neuroscience, examining symptoms and clinical features using a well-established medical model
- obtain state (objective examination or simultaneous SPE correlates) and trait (historical) data
- utilize mechanisms of modifying psi performance by manipulating the variables through, for example, biofeedback or drugs.

Neuroscience and psi evaluations are complex and the rules should be as fair for studies of psi and possible anomalous phenomena as they are for all other scientific disciplines: A baseball analogy can demonstrate how farcical misinterpretations can be, but such comparisons have their limitations when referring to psi research.

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PHENOMENOLOGICAL ANOMALISTIC PSYCHOLOGY:
ENSURING HOMOGENEOUS DATA COLLECTION FOR PRESENT
AND FUTURE RESEARCH ON POSSIBLE PSI PHENOMENA
BY DETAILING SUBJECTIVE DESCRIPTIONS, USING THE
MULTIAXIAL A TO Z SEATTLE CLASSIFICATION

VERNON M. NEPPE

ABSTRACT: Spontaneous apparently anomalous experiences are often classed together on the basis of brief common descriptions, when they may be phenomenologically and etiologically divergent. Heterogeneous results can lead to mistaken pooling together of dissimilar events with hypothesized single etiologies, even though, in actuality, they do not reflect the same type. An example is “out-of-body experiences” induced by brain stimulation in epileptic patients compared with spontaneous events in “subjective paranormal experients.”

This paper motivates detailed multiaxial evaluations of spontaneous, experimental and induced anomalous experiences. It is modeled on the successfully applied multiaxial psychopathology classification of the American Psychiatric Association, namely the Diagnostic and Statistical Manual (DSM), currently DSM IV-TR.

The same approach can be valuably and successfully applied to parapsychological research and to all subjective or objective spontaneous, induced, or experimental biopsychophysical phenomena. This implies a conceptual shift away from the attempted, and at times, impossible objectification of psi, to the detailed analysis of specific characteristics and events based on a multisystems biopsychofamiliosociocultural, anatomicophysiological and detailed physical models that allow for applying detailed criteria and descriptions.

This nonprejudicial approach of examining spontaneous and experimental “subjective paranormal/psi experiences” (SPEs) makes ostensible but unproven psi phenomena easier to tame and far less threatening. The shift in emphasis is from objectification and proof of truly paranormal phenomena to commonalities of, for example, specific cerebral function. Locating a correlative brain area or mechanism or chemical for processing of such subjective experiences becomes a legitimate alternative correlative approach to conceptualise psi. By such means, SPEs, like hallucinations, delusions, or *déjà vu*, can be measured and scientifically phenomenologically subtyped.

This detailing of anomalistic psychology research has allowed the author to extend the discipline of parapsychology from the objective approach into a second major school, phenomenological parapsychology.

Examples of the early origins of phenomenological parapsychology (1977-on) include the diagnostic entity of Subjective Paranormal Experience Psychosis; links of the physiological features of temporal lobe functioning to SPEs; demonstrable plurality of the *déjà vu* phenomenon where four different nosological subtypes were demonstrated; and biological measures of outcome such as pharmacological responsiveness and toleration differences in Subjective

Paranormal Experiences versus schizophrenics. These demonstrate that the empirical phenomenological analytical parapsychological approach is valuable.

Specifically, such research allows fruitful hypotheses that not all subjective paranormal experiences derive from or are associated with the same brain locus or are predisposed to by the same specific psychopathological or psychological conditions, states, or traits. They empirically justify the need for a consistent multiaxial classification system. This allows interpretations of like with like to occur, not like with unlike. Detailed description of subjective phenomena produces interpretable results; its neglect could produce inappropriate generalizations of the key basic range of parapsychological experiences. These principles have been critical, guiding sources for a flexible, detailed multiaxial classification analysis of alleged psi experiences.

Rare nonartifactual positive original results in experimental psi research may not be replicated because tightened or different experimental controls might remove special environmental, interpersonal, and psychological psi-conducive effects. Contradictory results become a norm as replication attempts produce declining psi phenomena, possibly because of different biopsychophysical circumstances. This leads to the paradox of the inherent nonreplicability of psi because of subtle experimental changes. In reality, epiphenomena may reflect vastly different origins: documentation of differences in experimental protocol is key for the future of the discipline. Similarly, we must detail the second major domain of parapsychology, namely investigation of spontaneous phenomena. An example of detailed phenomenological analysis—namely, the *Neppe déjà vu* study—illustrates the real-life research application of such phenomenological analyses.

Like psychiatry, parapsychology needs a multiaxial classification system. I propose a tentative 26-level description of anomalous experience called the Subjective Experience of Anomalous Trait Typology Evaluation (SEATTLE). The SEATTLE was developed from and involves a significant modification of the author's original 1985 10-axis Multiaxial System for Anomalous Events. This did not include many key features, therefore requiring amplifications.

The SEATTLE ensures that the possible errors of classifying heterogeneous phenomena into single subgroups can largely be eliminated. There are 26 SEATTLE axes running from A to Z, in a workable order, not too contrived, allowing researchers to classify in order from A to Z. The first 10 letter Axes (A-J) detail Specific Features pertaining to the data given by the subjects. Thereafter, more General Factors (Axes K-Q) examine general biopsychosocial subject characteristics and pertinent factors. Finally, attempted possible Interpretations of Phenomena (R-Z) by experts (clinicians, statisticians, parapsychologists) follow. This multidisciplinary approach can be applied to both the experimental and the spontaneous. Even retrospective data can be classified, even when there are gaps in the data so that not all of Axes A to Z will be complete, as these are still better than no comparative data.

The SEATTLE classification allows for potential worldwide collaborations and a major new funding direction. Most importantly, a more

unified multi-axial database can arise with developments like those that occurred in psychiatry with DSM can occur; neologisms will happen as they did with this process in psychiatry. Every A to Z axis is special and has ongoing developing pertinent subdivisions.

We have accumulated large amounts of data over the past 5 years of individual subjective precognitive impressions, though frequently there are information gaps. An example is given of a complex “precognitive dream” with profound dynamic elements, with the application of the classification to this.

The SEATTLE can be applied to every subtype of SPE and objective experience, whether spontaneous, experimental, or induced. Ultimately, SEATTLE data analyses allow research and clinical meta-analyses of anomalous events where important phenomenological commonalities and differences could allow significant theoretical, paradigmatic, and research advances.

The SEATTLE axes involve preliminary, novel attempts to clarify developing a multi-axial system for describing subjective paranormal experiences. Until we consistently document each and every experience in detail, we will create nonreplicability and heterogeneity, even in our experimental protocols. The SEATTLE allows us to consistently document attitudes and expectations of the experimenters, subjects, and observers and to realize that a supposed replication was not a true replication, because significant data sets were different.

Dialing a complex telephone number produces entirely divergent results when one digit is in error: In psi, we realize that no-replicability may be because exactly the same phenomenology was not researched. The SEATTLE now requires empirical testing and routine use in research.

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CONSCIOUSNESS AND THE QUANTUM WAVE-FUNCTION: EXPERIMENTS WITH AN OPTICAL DOUBLE-SLIT SYSTEM

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ABSTRACT: An optical double-slit system was used to study an interpretation of the quantum measurement problem—that consciousness collapses the quantum wave function. In randomly counterbalanced periods, participants focused their attention toward or away from an optical double-slit apparatus while the photon interference pattern was continuously recorded by a high-resolution line camera. The measurement of principal interest was the ratio between the spectral power of the double-slit versus single-slit patterns. This value was predicted to decrease during periods of remote observation by the “mind’s eye.”

Phase I of this project involved 40 test sessions contributed by 12 unselected participants. Each session consisted of 40 randomly counterbalanced

observation versus no-observation periods of 15 s each. Analysis of the data showed that the spectral ratio measure decreased as predicted ($p = .005$, one-tailed, determined by randomized permutation analysis). Forty additional sessions conducted with no observers present to test the hardware and analytical procedures produced results consistent with chance ($p = .734$).

A planned analysis found that the spectral ratio measure in the observation condition dropped over 12 standard errors below the grand (z-score normalized) baseline mean of zero, whereas the same measure in the no-observation condition dropped 0.1 standard errors. This indicates that the differential effect obtained in this study was principally due to a statistically robust decline in double-slit spectral power during the observation condition, in accord with the hypothesis that consciousness influences the quantum wave-function.

Phase II followed a similar design with 20 preplanned sessions, 30-s observation versus no-observation periods, and 5 unselected participants. It also provided real-time audio feedback of the results to allow the entire experiment to be conducted with eyes closed. The outcome again was in the predicted direction ($p = .017$).

Across Phase I and II, 43 of the 60 test sessions (72%) produced results in alignment with the hypothesis, suggesting that the overall results were not due to a few outlier sessions. Of 11 sessions contributed by 6 participants with an active daily meditation practice, 10 (90%) were in the predicted direction. It should be noted that the results of this experiment could be interpreted as an experimenter psi effect, although the consistency of results across sessions argues against that interpretation.

A double-slit system appears to be a useful tool for studying the effects of consciousness on physical systems; it also offers the advantage of being directly relevant to an outstanding issue in mainstream physics—the quantum measurement problem. Further tests using this system are under way.

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EFFECTS OF PSYCHIC HEALING INTENTIONS ON PATTERNS OF COSMIC RAYS

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ABSTRACT: As reviewed in G. Schwartz's 2007 book *The Energy Healing Experiments* and Tart's 2009 book *The End of Materialism*, a large body of evidence exists suggesting that human intention—both individual and collective—can have local and distal effects on living systems. Numerous psychic and spiritual healing traditions posit that some sort of “Universal Energy” is invited to enter

the consciousness and body of the healer; the healer is taught to use his or her intentions to direct this energy for “the best and highest good” of the patient or client. It is typically assumed that this energy or “higher power” is of a “high frequency”; however, to the best of our knowledge, no laboratory research has been conducted to address this assumption. Using a computer controlled low light CCD camera system cooled to -77 degrees centigrade, sporadic bursts of high energy, high frequency cosmic / gamma rays are detected; these gamma bursts are typically treated as “noise” and removed prior to statistical analysis. However, we theorized that patterns of cosmic ray activity, analyzed using fast Fourier transform (FFT) images generated by ImageJ analysis software (available from the National Institutes of Health), might reflect the presence of high-frequency energies purportedly generated during psychic healing practices. After pilot studies suggested that FFTs of cosmic ray patterns changed during the practice of psychic healing, a carefully controlled experiment was conducted. The camera’s lens was focused on a stage containing white graph paper in a completely dark, light-tight metal chamber. The light-tight chamber was housed in a temperature controlled light-tight room. The computer and research assistant were housed in a separate room. Each run consisted of a 30-min baseline 512 x 512 pixel image that was subtracted from four 30-min data image trials. Eight runs involved a spiritual healing practitioner intending that the Universal Energy enter the “distant” light-tight chamber housed in the separate room; 4 runs involved the third 30-min data trial and 4 runs involved the fourth 30-min data trial. Eight matching runs had the same practitioner perform an intention meditation control where he focused his attention on imaging the stage in the chamber, but without inviting the Universal Energy to participate. Sixteen runs were conducted as “blank” trials to control for possible order and time effects. Cosmic ray images were generated for each of the 128 data trials. FFT images were calculated, and Plot Profile statistics provided by ImageJ software were performed. Analyses of variance revealed a highly significant ($p < .0000001$) condition by averaged pixel interaction for the Universal Energy compared to the Meditation and Blank Controls. Alternative interpretations of the findings, including experimenter intention and belief, are considered.

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**A STUDY TO ASSESS THE VALIDITY OF APPLIED KINESIOLOGY (AK)
AS A DIAGNOSTIC TOOL AND AS A NONLOCAL PROXIMITY EFFECT**

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W. SHADE,³ LISA TULLY,⁴ WILLIAM F. MORRIS,⁵ & GINETTE NACHMAN⁶

ABSTRACT: Applied Kinesiology (AK) is a diagnostic technique widely used within the Integrative Medical community. In essence it posits that a question can be mentally held in a person’s mind, sometimes while they are holding a

substance like a vitamin, or a food sample, and by measuring relative muscular weakness an answer as to whether the substance or the condition represented by the question is good for that person can be obtained. This AK is presumed to have a diagnostic capability. That being presumed, this study asks: (1) Is there a difference in muscular strength when an individual holds a substance that is inimical to life processes (a poison solution), as compared to a substance that is essential for life (normal saline)? (2) Is this effect a transaction involving input from both the person being measured and the kinesiologist doing the measurement, or is it only the person being measured? (3) As an extension of question 2, is the result the same when different kinesiologists take the measurement, or when no kinesiologist is involved? (4). Does belief, expectation, gender, or time cognition play a role in determining the response? To answer these questions, which would help to define the parameters of the AK process, 51 participants were tested during three trials each, first by one kinesiologist, then by another and, finally, with no kinesiologist present by grip strength indicated using a hand dynamometer, grip strength being a self-administered AK test of relative muscular strength. For each trial a pair of randomly numbered sealed vials, each pair in a randomly numbered plastic bag, was used as the objects of the trial. In each bag one vial contained saline solution while the other was filled with a slightly smaller amount of saline solution to which had been added ionic hydroxylamine hydrochloride (NH₃OH)⁺, producing a toxic solution of 9 mg/ml. Each trial consisted of a separate muscle test for each vial. All present at the trials were blind as to which vial contained the toxin. And all who prepared the vials were blind to the trials. The force used by the kinesiologists in each of their trials was measured via a pressure pad system. The hand dynamometer trials were conducted with no kinesiologist present.

Results: Of the 151 sets of trials, the toxic vial was identified correctly in 80 of them (53%), resulting in a one-tailed exact binomial p value of .258. Results for two of the kinesiologists were almost exactly at chance. For the third kinesiologist there was a one-tailed exact binomial p value of .18 (unadjusted for multiple testing). Results for the dynamometer were also almost exactly at chance. Testing whether there was a significant difference in proportions for whom the AK test worked based on belief about whether it would work resulted in nonsignificant chi-square values of 0.6 ($p = .439$) for the trials with one kinesiologist, and 2.222 ($p = .136$) for the hand dynamometer trials. The final variable examined was gender. While there was no significant difference in performance for males and females for the trials of the male kinesiologist or the hand dynamometer, the combined data for the two female kinesiologists did reveal a difference. Of the 33 sessions with females, only 15 were successful (45%) while for the 18 sessions with males, 14 were successful (78%) resulting in a chi-square statistic of 4.96, $p = .026$. However, given all of the chi-square tests performed in this section, the results must be interpreted with caution because of multiple testing. Results indicating belief in whether or not the AK test will work were not significantly related to whether or not it actually did work. A chi-square test of the relationship between time perception and correct vial choice showed no significant relationship. A chi-square test of the relationship between time perception and correct vial choice

showed no significant relationship. The chi-square statistic for the relationship using the hand dynamometer data was 0.927, $p = .629$.

The data in this study, particularly when seen in the larger context of a review of the literature from the AK field itself by Klinkoski and Leboeuf (1990), which considered 50 papers published between 1981 and 1987 by the International College of Applied Kinesiology, and the survey by Hall, Lewith, Brien, and Little, using standard evaluation criteria (QUADAS, STARD, JADAD and CONSORT) for research methodology, as well as six prior nonclinical studies, by Radin, Quintanar, and Hill; Braud, Arnett, Friedenber, and Kendler; Ludtke, and Kendler; and Keating, all together suggest: The research published by the Applied Kinesiology field itself is not to be relied upon, and in the experimental studies that do meet accepted standards of science, Applied Kinesiology has not demonstrated that it is a useful or reliable diagnostic tool upon which health decisions can be based.

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ASSOCIATIVE REMOTE VIEWING: THE NEXT CANDIDATE FOR THE PARADIGMATIC PSI EXPERIMENT?

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ABSTRACT: Ray Hyman has issued a challenge, that parapsychology has no “paradigm experiment” that can be replicated by students and others to reliably demonstrate some core finding of the field. Though various candidate experiments have been offered, many think that we still await a full answer to his challenge. In this paper I propose a likely candidate, the little-known associative remote viewing protocol (ARV), which embodies both cognitive information transfer and predictive elements. In the ARV protocol, each of two possible outcomes of a future binary event is associated with a standard-type remote viewing target (for example, an object, a geographical location, or a photo), thus yielding a target set of two orthogonal targets. This allows the remote viewer to use typical remote viewing procedures to predict the future event without having to rely on cognitive “guessing” strategies that generally lead to only chance results. In the ARV procedure, the viewer describes which target he or she will be shown at a future time after the event outcome has been decided. Before event culmination, a judge compares the remote viewing response to the two possible targets and decides which target best matches the response. The selected target is matched to the event outcome with which it is associated, thus indicating which of the event’s outcomes

is predicted. In this paper I consider the requirements a paradigm experiment should be expected to satisfy. Among these requirements are (1) that it should require as little specialized equipment and training as possible; (2) that it should be relatively simple in concept, execution, and analysis; and (3) that it should produce reasonably reliable results on a consistent basis when executed correctly. I further consider how the ARV protocol meets these criteria. In the course of my discussion, I additionally explain how the ARV protocol is executed, and examine weaknesses and vulnerabilities in the process (for example, variations in perceptual skill between judges), while further entertaining considerations of its advantages and disadvantages. I point out factors that impact the quality of ARV results, and areas where it is not vulnerable to some of the conflating factors that affect other sorts of ESP research. My overall argument is supported by a survey of results from a collection of formal, informal, and pilot studies which show high statistical significance and demonstrate the value of the ARV protocol. Properly conducted ARV experiments have produced results ranging from 52% accuracy to 80%, when only 50% would be expected by chance. Two long-term experiments with many trials have, at a minimum, shown a consistent statistically significant hit rate. The first of these experiments produced odds against chance of one in 5,000; odds against chance for the second were one in 90,000.

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CONTEXT, INDIVIDUAL DIFFERENCES, AND MEDIA TYPE IN THE EVALUATION OF PHOTOGRAPHIC ANOMALIES

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ABSTRACT: The causes and interpretations of putative photographic anomalies captured at reputedly haunted sites remain the subject of much debate. This study examined the roles played by photographic expertise, context, prior paranormal belief, tolerance of ambiguity, and media type in the identification of anomalies in photographs. Three groups of individuals (professional photographers, paranormal enthusiasts, and controls) were randomly assigned to one of two conditions in which they examined an online catalog of photographs consisting of prints from five different media types (black and white, color, infrared, Polaroid, and digital) taken from an alleged haunt site and a control site. In the informed condition, participants were told that the photographs were taken within the context of a parapsychological investigation of an allegedly "active" haunting and debriefed on the circumstances of the case prior to examining the catalog of prints. In the uninformed condition, participants received no such briefing. Participants rated the anomalousness of each print and completed measures of paranormal belief and tolerance of ambiguity.

The manipulation of context failed to influence anomaly ratings, though this may have been due to pre-experimental associations of "photographic

anomalies” and the paranormal rather than lacking the influence of the contextual informational prime. Anomaly ratings for prints taken at the target site were suggestively greater than ratings for prints taken at the control site, but only ratings for inactive areas of the target site (i.e., those areas in which no phenomena were reported: $M = 1.31, SD = 0.21$)—not active areas of the target site ($M = 1.26, SD = 0.12$)—were significantly greater than ratings at the control site ($M = 1.27, SD = 0.16$). Paranormal enthusiasts and controls exhibited comparable levels of paranormal belief, but controls assigned greater anomaly ratings to the print catalog than the other two groups (controls: $M = 1.40, SD = 0.38$; paranormal enthusiasts: $M = 1.24, SD = 0.25$; photographers: $M = 1.21, SD = 0.24$). Across all groups, anomaly ratings were most strongly predicted by endorsement of traditional paranormal beliefs. Although photographers were found to exhibit greater tolerance of ambiguity than controls and paranormal enthusiasts, this did not appear to influence their assessments of the prints. Years of photography experience correlated negatively with anomaly ratings, underscoring the importance of photographic expertise in the evaluation of putative anomalies. The research replicated previous findings that anomaly ratings covary with media type. Infrared prints yielded the highest anomaly ratings across groups and sites (infrared: $M = 1.56, SD = 0.10$; black and white: $M = 1.15, SD = 0.00$; color: $M = 1.26, SD = 0.04$; Polaroid: $M = 1.20, SD = 0.02$; digital: $M = 1.25, SD = 0.10$). Additionally, the type of anomaly identified by participants differed across media types. Density spots were found to be more common for infrared and digital prints, light streaks were more common for black and white and Polaroid prints, shadows were more common for color prints, and fogging was more common for infrared prints. The results are discussed within the context of the practical implications for the utilization of photographic equipment and expert consultants in haunting investigations.

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THE PUBLIC TESTING OF AN ARTIFICIAL INTUITION DEVICE USING PICK 3 LOTTERY

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ABSTRACT: This paper presents the results of public testing of the Artificial Intuition Device. Artificial Intuition is commonly viewed as a special algorithm or collection of algorithms capable of replicating some properties of human intuition. Within this approach, Artificial Intuition is a part of the Artificial Intelligence domain. Unfortunately, in spite of Artificial Intelligence research progress, the vast and intriguing area of human intuition (intuitive forecasting of future events, lottery predictions, stock market, etc.) cannot be replicated on software-simulated Artificial Intuition.

The Artificial Intuition Device (AID) employs a hardware solution to the problem of Artificial Intuition and replicates some predictive abilities of human intuition on specially designed scientific equipment. The results of AID tests performed in 2006 were presented at the 51st Convention of the Parapsychological Association in Winchester, UK, in August 2008. At that conference I also announced that AID testing was being made *public* because I programmed AID to predict results of daily Canadian Pick 3 lottery and to post the predictions on the Internet 3 hours prior to the lottery draw (web page <http://www.intuitiontester.com/summary.html>).

The public availability of AID predictions makes experiment 100% clean and free from any possible manipulation. In addition, since Oct. 28, 2008 Goldsmiths College at the University of London has developed a daily download process from my website and has been downloading the AID's predictions onto their computer. This happens every day *after* predictions are posted on the Internet, but *before* the lottery draw happens. The public availability of AID predictions provides a great opportunity for everybody to check the ability of AID to predict the future and for me to prove that AID works even in such 100% controllable conditions.

Here is a summary of the results produced by the AID public testing prior to Mar. 25, 2009:

1. Artificial Intuition Device works and is profitable. Since the start of the public testing, AID has generated a profit of \$1,440 with Return On Investment (ROI) = 42.9%. In the null hypothesis, when all AID's predicted numbers are random, the Return On Investment should be negative (-10%) and profit should also be negative and equal (-\$336).

2. Significance of accumulated material during the public testing is $p < .036$.

3. The graph of profit accumulation is nonlinear. There are some periods when accumulated profit grows faster and other periods when it grows slower or even falls. This means that AID's performance is nonconstant.

4. The Return On Investment appears to grow when we consider groups with higher AID rank.

5. The Return On Investment is much higher on days with low Geomagnetic Activity. On geomagnetic quiet days ($A_p < 5$) ROI is 63%, as compared to ROI = 8.4% for the days with $A_p \geq 5$.

6. AID's performance continued to be almost the same during the public testing as it was before in private lab conditions. What this means is that the presence of independent observers and downloading of predictions to independent computers did not influence the quality of AID predictions.

7. Many psychics state that they lose their abilities when they attempt to get profit from their predictions. Contrary to that, AID allows everybody to use its lottery predictions for profit and continues to work fine, predicts lottery outcomes, and generates a profit of 42.9% on all days and 63% on geomagnetic-quiet days.

8. All the observations above were confirmed in the independent material accumulated between the start of the experiment (May 23, 2006) and the start of public testing (before Aug. 13, 2008).

Between May 23, 2006 and Aug. 12, 2008,

- a. Estimated profit was \$4,755 and Return On Investment (ROI) was 47.8%. In the null hypothesis, the ROI should be negative (-10%) and profit should also be negative and equal (-\$994).
- b. Significance of accumulated material is $p < .00037$.
- c. The graph of profit accumulation is also nonlinear.
- d. The Return On Investment also grows when we consider the groups with higher AID's rank.
- e. On geomagnetic quiet days ($A_p < 5$) ROI is 100.9%, as compared to ROI = 20.7% for the days with $A_p \geq 5$.

The results obtained in this stage of testing indicate that modeling artificial intuition on software and hardware is indeed possible. In addition to that, the testing results suggest that the AID can also be used to improve the quality of forecasting in other areas where people use intuition (planning, investments, stock market, etc).

Toronto, Ontario, Canada

PANEL: THE PHENOMENOLOGY
OF THE OUT-OF-BODY EXPERIENCE

CHAIR: VERNON M. NEPPE

MODELS OF CAUSALITY FOR THE OUT-OF-BODY EXPERIENCE:
THE MULTIETIOLOGICAL PHENOMENOLOGICAL APPROACH

VERNON M. NEPPE

ABSTRACT: Current out-of-body experience (OBE) models have attempted to explain OBE through utilizing a single major explanation or approach, though frequently recognizing the lack of generalizability for all OBEs. These approaches are here classified into four main groups of *unitary* hypotheses: psychological, brain, psychopathological, and experiential.

These several diverse models could imply different etiologies in different subpopulations. This logically leads to focusing particularly on a proposed new multi-etiological phenomenological approach that does not limit the model to any single etiology. By so doing, this differentiates OBE phenomenologically into the many unitary approaches.

A: The psychological models:

The most well-known psychological models include:

1. *Blackmore's reality distortion*—OBEs involve attempts to regain control of one's external realities and a subjective OBE may be a misperception that never occurred.
2. *Palmer's body concept model*—OBEs involve changed proprioceptive feedback; they threaten the self-concept and activate

- unconscious processes by trying to reestablish the sense of identity. This uses both motivation and psychodynamic models.
3. *Irwin's psychological absorption model*, later *somatic dissociation model*—reflecting pathological dissociation or a nonpathological absorption with fantasy proneness, implying correlations of OBEs with a certain related trait or personality phenomena and somatic features.
 4. *Murray's dissociation model*—OBEs differ along several dimensions, for example, somatoform dissociation, self-consciousness and body dissatisfaction.
- B. The brain model empirical approaches:
1. *The pathology model of OBEs deriving from brain stimulation*. Rare empirically induced "OBE" descriptions on single epileptic subjects undergoing intracranial brain stimulation presurgery have produced nonidentical loci, for example, *Penfield* (temporal cortex), *Blanke* (right angular gyrus) and *De Ridder* (parieto-temporal area). Occurrence across anatomical loci and absence of state-specific OBEs are problematic in these tiny samples. Phenomenologically, naming them OBEs is disputable. These induced Subjective-OBEs (S-OBEs) variably produced distorted body image, depersonalization and derealization, visual perceptions of specific unchangeable loci, and associated other parieto-temporal state or trait features. These descriptions differ markedly from thousands of spontaneously reported S-OBEs in ostensibly "normal" individuals, as these frequently involve subjectively extracorporeal consciousness with locality dependent perceptual experiences, clear imagery, polymodal perceptions and profound cognitive awareness. These dichotomous epiphenomena of subjectively interpreted "out-of-body experiences" require careful phenomenological differentiation—the induced S-OBE apparently greatly differs from the spontaneous S-OBE. Using one term for both endpoint expressions could produce incorrect clustering of entirely different phenomena with different origins and etiologies, inappropriately interpreted as of common basis.
 2. *The "psychocerebral" models* refer to explanations involving specific anatomical or physiological brain models. Three examples are:
 - a. *Persinger's vectorial hemisphericity*
 - b. *Wettach's model* correlating near-death experiences with midbrain involvement, and
 - c. *Nelson's physiological REM intrusion model*: Are NDEs relevant? A controversy.
 - d. *Neppe's temporal lobe model* as the integrator of polymodal perceptual experience.
- C. The psychopathological psychiatric perspective:
1. *Neppe's portrayal of psychiatric interpretations*: extreme ego splitting, with marked derealization and depersonalization, and delusional out-of touchness with reality.

D. The experiential descriptive scientific subjective paranormal experient approach is epitomized by:

1. *Whiteman's levels of separative experience*, based on 10,000 documented OBEs.
2. *Alvarado's correlation of OBEs with psi experiences* (not a model but emphasizing the psi base).

The presenter's proposed multi-etiological phenomenological model of OBEs accommodates the multiplicity of causes and different subpopulations. It motivates detailed multi-question OBE screening. Like must be classified as like. Discrete population sample analysis of form, content, circumstance, and predisposed populations is an empirically viable method in many other related areas such as déjà vu, olfactory hallucinations, and temporal lobe symptomatology. Analyses by multidimensional scaling or correspondence analysis may not be attainable by a single screening question on OBEs.

Not all epiphenomena have common origins. Multifactorial etiologies and epiphenomena expressed could produce, for example, four nosological subtypes based on the four unitary perspectives above, namely:

- A. *subjective paranormal nonexperiencers* reporting psychological experiences; the general population may deny spontaneous OBEs and have different perceptual input.
- B. *epileptics or those with brain pathology* who may experience distinct distorted cerebral-linked OBEs.
- C. *the psychiatric population* whose experiences may differ in content and process.
- D. *subjective paranormal experiencers* reporting qualitatively distinct subjective paranormal experiences (SPEs) including S-OBEs.

The possible phenomenological distinctiveness of these populations should be studied and can be subjected to appropriate correspondence analysis, multidimensional scaling, or statistical review.

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A COMPARISON OF RECENT RESEARCH
IN BRAIN STIMULATION AND VIRTUAL REALITY
WITH PSYCHOLOGICAL AND PARAPSYCHOLOGICAL
RESEARCH ON OUT-OF-BODY EXPERIENCES

ARTHUR HASTINGS

ABSTRACT: Recent research in brain stimulation and virtual reality (VR) has claimed to create elements of an out-of-body experience (OBE). Ehrsson et al.

induced a VR arrangement using goggles. When the experimenter touched the participant's chest with a rod, he simultaneously held another rod so it would appear in the goggles as if it were at the front of the illusory body. The participants felt the prodding as if the sensation was in the illusory body.

A study by Lenggenhager et al. also filmed participants from the back, and displayed the virtual figure in goggles as if it was 2 m in front of the participant. Experimental subjects were stroked similarly to the previous study. The participants were then blindfolded and moved backward. Asked to move back to where they were, the experimental participants moved closer to where the illusory body appeared to have been, compared with control participants. The research conclusion was that the sense of the self had moved outside of the body boundaries.

These studies were published in *Science* and an editorial heralded them as "Out-of-Body Experiences Enter the Laboratory." A third study by DeRidder et al. stimulated the posterior part of the superior temporal gyrus on the right side of the brain, with the patient reporting a state of disembodiment, and feeling that he was 50 cm behind the body and to the left. PET scans showed activity in the right angular, precuneus, posterior thalamus, and superior vermis. The paper was titled "Visualizing Out-of-Body Experience in the Brain."

This paper will compare the results of the above (and other such research) with reports from psychological and parapsychological studies, using phenomenological thematic analysis of the experiences. Without disregarding neuroanatomical correlations and dynamics of the experienced self, and acknowledging the intrinsic interest of the above results, the reported phenomenology of the "traditional" OBE as an exceptional human experience shows a coherent whole that is not accounted for by the research.

A preliminary phenomenological analysis shows several differences between the VR and brain stimulation results and studies of subjective elements of OBEs by Gabbard and Twemlow, and others. Elements of OBEs that are not found in the experimental research above include a visuospatial perspective from the apparent externalized location of the self, lack of awareness of the physical body, and voluntarily being able to move the externalized point of consciousness and perspective. There is also pilot research (e.g., by Krippner and Tart) that otherwise nonevident visual information can be obtained as if from the externalized point of self. An element that is found in the VR research, but not commonly in spontaneous OBEs, is that the person experiences physical sensations in the virtual body. The differences in subjective awareness of these elements suggest a need for the integration of qualitative phenomenological data in the studies of OBEs. Suggestions for the integration of qualitative method research on OBEs will be presented with the paper.

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WHERE AM I? (WHO AM I?) THEORIES OF OUT-OF-THE-BODY AND IN-THE-BODY EXPERIENCES

CHARLES T. TART

ABSTRACT: Theories of what I have called “classical” out-of-the-body experiences (OBEs) (experiencing oneself as elsewhere than where one’s physical body is, while concurrently having a clear, lucid state of mind) tend to take our ordinary experience of being located in our bodies for granted and then postulate either that OBEs are a hallucinatory artifact of brain functioning or that a “nonmaterial” something temporarily separates from the physical body. By considering the rapid and skillful ways mind adapts to modern computer-generated virtual reality (CGVR) environments or telepresence environments, however, the way we could say mind readily “incarnates,” we see there may be a variety of types of both OBEs and in-the-body experiences (IBE), mixtures of the degree to which some aspect of mind may really be “out” of the body interacting with the processes that create the feeling of being located somewhere.

The implicit or explicit feeling of being located somewhere means you have a consistent and practically useful schema for organizing incoming information and acting on it in consistent and useful ways. Mind and/or brain creates a virtual reality (VR), a world-simulation process (WSP), that represents what the world we are currently in is like, where we are in it, predicts likely consequences of our intentional motor actions, and gives feedback on the results of such actions. The purest form of the VR-WSP is a nocturnal dream: a world, a self located in that world, said self acting and being acted upon, and experienced consequences of such actions. Modern brain research suggests that essentially the same VR-WSP process is operating in our waking state, but now the experienced world the VR-WSP creates must account for massive sensory inputs from our exteroceptors and interoceptors, so the experienced virtual reality, the simulated world, matches the external one to a high degree. If the match is poor (“There’s no cliff ahead of me in this fog.”) you may die. Altered states of consciousness (ASCs) and OBEs are major pattern alterations in the VR-WSP. A classical OBE involves an experience of consciousness functioning pretty much as it normally does (seemingly not an ASC) except for lack of connection to one’s physical body, but mental functioning feels as clear and lucid as ordinary consciousness or even clearer.

In the latter case, experiencers are tempted to think this is their true mind or self, freed from ordinary physical limitations, but since some OBEs seem to involve both correct psi perception of distant locations and errors about these locations, it is more likely that consciousness is still a VR-WSP, not a simple, straightforward perception of reality. With a high degree of distortion/alteration of the WSP construct from the actual reality where consciousness is now located, we might have a genuine OBE (in the sense of something potentially detectable by others or instruments at that distant location) with quite inaccurate perception of the distant location.

Theories of OBEs, then, must take account that our ordinary IBE is not as simple as it seems and the VR-WSP may function in OBEs that are just as complex as in IBEs.

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BEYOND THE BODY BUT NOT OVER THE LINE:
EXPERIENTIAL DIFFERENCES BETWEEN
THE NEAR-DEATH EXPERIENCE AND OUT-OF-BODY EXPERIENCE

KIMBERLY CLARK SHARP

ABSTRACT: Research has given scant interest to the differences between a near-death experience (NDE) and an out-of-body experience (OBE). What little exists on the subject in scientific publications is written entirely by authors without personal perspective in either phenomenon.

The exact definition of what constitutes an NDE is disputed. However, closeness to death is certainly a sufficient though arguably not necessary requirement. The presenter will differentiate how NDEs should be distinguished from what could be called "near-death-like experiences" occurring in non-near-death circumstances.

There is a literature on this, including that of Greyson, Ring, Alvarado and Gabbard. Based on the literature, the presenter is using the following operational criteria: NDEs are mainly subjective events that occur when our physical bodies are at or inexorably approaching clinical death, including coma. These events can include peace and a sense of well-being; the ability to hear but not communicate with one's surroundings; the sounds and sights of unearthly environments; finding oneself in a void or traveling through a tunnel; meeting others, including deceased loved ones and spiritual beings; encountering a brilliant light; a life review or preview; and, occasionally, frightening situations. Additionally, the International Association for Near-Death Studies (IANDS) describes four phases of an NDE: disassociation from the body, perception of the natural world, perception of a supernatural world, and return to the body.

Of course, every NDE is an OBE, which, simply put, is the ability to comprehend one's surroundings without benefit of our body's physical operating system. But it is the presenter's contention that differences abound between the NDE and the OBE.

This presentation compares the NDE to OBEs from the vantage point of personal experience, laced with the author's several decades' worth of clinical interviews from both adult and child populations.

Bases for comparison between NDEs and OBEs include:

- proximity to physical death
- sense of threat
- spontaneity

- perception of time
- perception of space
- sense of connection to the physical body
- architectural elements
- visual distractions
- integration of the experience
- lifestyle changes
- fear of death
- need for validation and inclusion

The presenter's personal experiences include her NDE during citizen CPR when the resuscitation was observed; multiple spontaneous OBEs since her NDE, including a veridical OBE while on EEG in an inpatient hospital setting; the validation of a tennis shoe on a remote hospital ledge observed by a patient in cardiac arrest; and anecdotal reports from people who have had NDEs and nonlife threatening OBEs.

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PANEL: PSI, THE SOUL, AND PRESENTLY KNOWN
LAWS OF PHYSICS

CHAIR: CHARLES T. TART

PSI AND PHYSICS: RECONCILIATION IN AN EXPANDED PHYSICS
OR NEW PARADIGM?

CHARLES T. TART

ABSTRACT: Psychical research and parapsychology got their historical impetus from an interest in religion, in the widespread beliefs that there was some sort of spiritual world that our souls were destined (hopefully) to go to after death and which had real effects on psychological and physical events in the ordinary material world of the living. These ideas were rejected wholesale with the rise of science and its concurrent fight to liberate itself from the historically authoritarian control of religion. The founders of the SPR came up with the brilliant idea that instead of believing religion and ignoring science wholesale, or vice versa, why not apply the *method* of science (rather than being stuck in the current *corpus*, the accepted findings) to the phenomena of religion and see what had evidential backing and what didn't? As a result we now have, as I summarize in my recent book *The End of Materialism: How Evidence of the Paranormal Is Bringing Science and Spirit Together*, excellent evidence for five major phenomena—telepathy, clairvoyance, precognition, PK, and psychic healing—as well as highly suggestive evidence for more exotic phenomena like OBEs, postmortem survival, and reincarnation. I

argue that the evidence for these phenomena was obtained using the methods of essential science, but they do not fit in with the corpus of classical, materialistic Newtonian physics. Can they fit with modern quantum physics? Or what kind(s) of extension or paradigm shift in physics would be needed to accommodate the actual data?

I further ask the following questions: (1) To explain psi, does physics need to be extended beyond presently known laws? What is a "law," anyway? (2) Is there any way to empirically test any of the physics theories of psi? Could you predict, for example, that a good physics theory of psi should allow machines to be built which will produce or receive psi? (3) Have any physics theories of psi been of any practical use so far? Besides giving an experimenter general confidence through being a member of the esteemed community of physics, is this more than a psychological, experimenter effect? (4) Wouldn't any explanation of an immaterial soul necessitate a major addition to physics? What does an "explanation" mean in this sense?

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EXPLANATIONS OF PSI, SPECULATIONS ON SOUL

RICHARD SHOUP

ABSTRACT: The most critical concepts relating psi phenomena and fundamental physics are *causality* and *randomness*. I will argue that current quantum physical theory is sufficient to explain most if not all psi phenomena described by the (classic but outdated) terms telepathy, clairvoyance, precognition, and psychokinesis IF one crucial assumption in the theory is sensibly challenged and modified—that of the fundamentally random "collapse" of the wavefunction. Adopting instead the *decoherence* view of quantum mechanics allows complete time symmetry, and thus correlations due to past or *future* interactions. A simple canonical thought experiment (forced-choice, subject guess compared against randomly generated target) is described and analyzed in terms of possible paths that enable correlation or information flow. It is then shown how psi phenomena can and will manifest under this slightly revised quantum theory. Several new and modified actual experiments, both microscopic and macroscopic, are proposed to test this theory and the idea that the "big 4" above are all due to the same physical mechanism. I also discuss, but can only speculate about, some more-challenging phenomena such as hauntings, mediumistic communications, and apparent reincarnation. It is suggested that these will eventually be better explained by physical means than by invoking an immaterial "soul."

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PSI AND EXPANDED PHYSICS, SOUL AND NEW PARADIGM

JEAN BURNS

ABSTRACT: There does not appear to be any explanation for either ESP or PK within presently known physical laws. For instance, many examples of ESP are known in which an operator has obtained information from thousands of miles away. Because of such examples, information transfer in ESP is commonly considered to be independent of distance. Quantum nonlocality has the property that it lacks distance dependence, so it might be thought that it could provide an explanation for this aspect of ESP. However, it is well established in quantum theory that information cannot be transferred via nonlocality. (This result is independent of which interpretation of quantum theory is used.) Therefore, nonlocality, as described in presently known physical laws, cannot provide an explanation for information transfer in ESP.

Consciousness appears to be involved in psi, for instance, through the holding of ESP or PK targets in conscious intention, and this suggests that psi occurs as part of a general interaction of matter and consciousness. In that case one can reasonably expect that an explanation of psi would be incorporated into an extension to known physics that would describe the effects of consciousness on matter. An extension of some sort would be needed, because presently known physics was developed to describe the action of matter only and was never intended to incorporate any extra effects due to consciousness. However, such an extension might be fairly simple. For instance, in the case of ESP it is possible that conscious intention allows information to be transferred through quantum nonlocality, even though it cannot be transferred without such intention. If so, this principle could be viewed as part of such an extension.

Similar considerations apply to PK. It does not appear to be explained by presently known laws of physics because the latter allow only randomness or the determinism of known laws, and PK is usually conceived to be something different from either of these. However, a possible explanation for PK is that consciousness can produce the ordering of randomness in a way that correlates to conscious intention. The latter principle could similarly be viewed as part of an extension to known physical laws that takes the capacities of consciousness into account.

The explanation of ESP and PK could conceivably consist of only a few simple principles, such as the above. However, large-scale psi effects such as poltergeist or seance-room phenomena suggest that more additions to physics than just a few simple statements will be needed. Once the relationship of psi to physics is better understood, it is likely that a whole new realm of physics will open up that describes the interaction of consciousness with matter.

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PANEL: SEPARATING THE SHEEP FROM THE GOATS:
A TRIBUTE TO THE MEMORY OF DR. GERTRUDE R. SCHMEIDLER

CHAIR: JOHN PALMER

GERTRUDE SCHMEIDLER: PSYCHOLOGIST, PARAPSYCHOLOGIST
AND MENTOR

RUTH REINSEL

ABSTRACT: This presentation will review the highlights of Dr. Gertrude Raffel Schmeidler's career, starting with her introduction to parapsychology by Gardner Murphy in 1942. Murphy, a past president of the American Psychological Association, offered her a job in the newly founded Psychology Department at the City College of New York, where he was the first chairman. Schmeidler remained at CCNY for the rest of her career, appointed later as a member of the doctoral faculty of the Social and Personality Psychology program of the City University of New York. She taught the required graduate course in Experimental Psychology for many years, as well as graduate courses in personality and perception, and parapsychology and altered states of consciousness. She retired in 1982 but continued to teach and publish as Professor Emerita for several years.

Gertrude, as she was known to all, mentored dozens of students for their M.A. and Ph.D. degrees in psychology. During her active career between 1939 and 1997, she published over a hundred papers in psychological and parapsychological journals. An analysis of these papers, many coauthored with her students, shows the scope and diversity of her contribution to both fields. Her careful experimental work provided some of the early evidence for the role of personality, attitudes, and social factors in ESP. Prominent in her later work is the groundbreaking paper on PK-induced temperature changes with psychic Ingo Swann, and her comprehensive reviews of research in psychokinesis. She developed objective methods for working with psychics and mediums, and for investigating hauntings. She published four books on parapsychology, with arguably her most important work being the careful review of correspondences between psi and normal perceptual processes contained in *Parapsychology and Psychology: Matches and Mismatches* (McFarland, 1988).

Schmeidler played a leadership role in parapsychology; present at the founding of the Parapsychological Association in 1957, she served as its first Vice President and twice as President (1959 and 1971), and she gave four years as President of the American Society for Psychical Research (1981–1985). She was unflinching in her encouragement of young investigators entering the field. She established the Award for Outstanding Student Contribution to Parapsychology, which the PA named after her. The PA honored her in 1988 with the Outstanding Career Award.

Dr. Schmeidler's legacy is her research work. Just how much she contributed to our field can only be appreciated by a thorough review of her many

published papers. Her thoughtful writings and carefully controlled experiments provide many of the building blocks on which the scientific integrity of our field still rests.

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GERTRUDE SCHMEIDLER AND THE SHEEP-GOAT EFFECT

JOHN PALMER

ABSTRACT: Although Gertrude Schmeidler's research covered a vast array of topics related to the psychology of psi, she undoubtedly will be best remembered for her pioneering research on the relationship between ESP test scores and belief in psi, which she euphemistically labeled the "sheep-goat" effect (SGE). This was the first psi research she conducted in her illustrious career. Her initial forays were conducted to satisfy her curiosity about the reality of ESP. The participants in this informal 1942 card-guessing experiment were colleagues in the Harvard psychology department and students in psychology classes at Harvard and Radcliffe. She observed that her participants who had a favorable attitude toward ESP and the experiment tended to score above chance while those with an unfavorable attitude toward ESP and the experiment tended to score below chance. She proceeded with more formal tests, first with participants tested individually ($N = 151$) and later with students from her own psychology classes over 14 semesters from 1946 to 1951 ($N = 1157$). In both sets of studies, the sheep scored significantly above chance, and the goats significantly below chance, although not to as great a degree as the sheep.

A couple points about this research are often misunderstood. First, sheep and goats were not distinguished by whether they believed in ESP but instead by whether they thought ESP was possible under the conditions of the experiment. Note that it is not whether the participants themselves would score well (those who answered this question yes were later dubbed "super-sheep") but whether the test was capable of evoking ESP in someone. Also, only firm skeptics were classified as goats; even those who doubted the existence of ESP were labeled sheep.

Schmeidler was not satisfied just demonstrating the SGE. Very much the psychologist, she wanted to know *why* sheep scored better than goats. She never accepted the simplistic view that belief was the crucial variable; it was a marker of something more fundamental. To get a handle on this something, she first took note of how individual participants reacted to the test procedure. These anecdotal data were not evidence, but they served as a rich source of hypotheses. Then she did something far too uncommon in personality-ESP research: she looked for interactions between belief and other psychological variables that she measured as predictors of ESP scores in her large classroom experiment. She found that the SGE was attributable to participants who (a) showed good social adjustment

and liveliness or over-responsiveness (as opposed to constraint or over-control) as measured by the Rorschach, (b) a theoretical value system according to the Allport-Vernon Study of Values and (c) were female.

In the final analysis, Schmeidler concluded that the SGE really reflected how participants reacted to the situation and to the person administering the test. This is very close to my own interpretation of the SGE, arrived at independently, as reflecting comfort in the test situation. I find this sophisticated quest for a deeper understanding of the psychology of psi to be her most admirable attribute as a psychologist and parapsychologist.

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GERTRUDE SCHMEIDLER: PSYCHOLOGY AND PARAPSYCHOLOGY

JAMES CARPENTER

ABSTRACT: For over 50 years Gertrude Schmeidler presided over her chosen field: the interface between general psychology and the renegade findings of parapsychology. Perhaps we should say that she was a psychologist who very intently studied parapsychology. She began with a good background in the rich mixture of humanistic approaches that characterized general psychology in New York in the 1940s. She knew gestalt psychology, and psychodynamic theory, and the New Look in perception, and Murphy's psychosocial field theory. She took the challenging findings of J. B. Rhine, as aridly conceived as any dustbowl S-R experiment out of the Midwest, and wrapped them in meaning. If ESP was real, it was something people *did*, not merely a mysterious thing that happened to them. It would have to be effected by, and be expressive of, their attitudes and beliefs and values and relationships. It would have to serve their situations and meet their needs. And it should be of a piece with all of their psychological functioning. She innovated several important lines of research, added to and enriched others, and gathered them all together and interpreted them together in light of what is known about human cognitive, affective, and social functioning. This review focuses particularly on her work on cognitive, affective, and interpersonal factors that influence the expression of ESP and PK, and summarizes some of her own conclusions about the state of the field and its relation to general psychology.

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