

**37th Annual  
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- A Theory of the Event Horizon: A New Way of Producing Macro PK Phenomena
- Was Kant a Sceptic?

## **Mapping the Characteristics of Out-of-Body Experiences**

**Carlos S. Alvarado, *Department of Psychology, University of Edinburgh***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

One of the aspects investigated by those concerned with the study of out-of-body experiences (OBEs) is the characteristics of the experience. This includes such features as sensations of floating, travelling to distant places or to other dimensions, seeing themselves in a replica of their physical body or with no body at all, seeing the physical body, tunnels, lights and spiritual entities, and, more rarely, obtaining information about events happening at a distance. Studies of OBE features have uncovered many other interesting characteristics too numerous to discuss here (e.g., Alvarado, 1984; Green, 1968; Giovetti, 1983; Osis, 1979; Poynton, 1975; Twemlow, Gabbard, & Jones, 1982). As Blackmore (1982) says: "A great deal can be learned about the conditions under which the experiences occurred, how long they lasted, and what they were like" (p. 45). However, little systematic work has been conducted about the phenomenology of the experience. This includes the study of the incidence and variety of OBE features and the study of the features as a function of such variables as cognitive and personality correlates, or induction factors.

An OBE research program sensitive to the experience's phenomenological richness is essential not only to define an OBE, but to gain a more complete understanding of the OBE because it would let us see the fine-grained picture of the experience that is lost in more general studies. This more sensitive approach would allow us to construct and test theories of

OBEs, such as Irwin's (1985) synesthetic theory. It would also eventually lead us to better understand both the constancy and dissimilarities of OBEs between and within individuals. Such an understanding would lead to a development of empirical taxonomies and typologies of the OBE, and to clear distinctions between the OBE and other analogous phenomena (at least phenomenologically, if not in terms of causal mechanisms).

In what follows I will review some of the work conducted along these lines with spontaneous OBEs and will suggest some areas in need of further research.

### **Synesthesia and Claims of Psychic Experiences: An Exploratory Study**

**Carlos S. Alvarado** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Synesthesia, or cross modal processing (e.g., hearing colors, seeing tastes), has been speculated to be related to some claims of psychic phenomena. In this exploratory study I reanalyzed data collected from fifteen students that were taking a parapsychology class a few years ago at the University of Virginia. The students filled a questionnaire asking for selected psychic experiences that emphasized aura vision. In addition, the students were asked to fill Tellegen's Absorption Scale, which has a factor-analytically derived subscale of synesthetic experiences. It was predicted that those participants having psi and psi-related experiences would obtain higher synesthesia scores than the non-experiencers. The results for four experiences with enough replies to conduct meaningful analyses were evaluated through a median test assessed by the Fisher Exact Probability Test. There were positive associations between the synesthesia scores and mystical/spiritual experiences ( $p = .07$ ), apparitions ( $p = .05$ ), out-of-body experiences ( $p = .03$ ), and dream ESP ( $p = .03$ ). These results were associated with the following values of the phi estimated coefficient, respectively: .38, .42, .48, .50. In addition, there were also positive correlations between synesthesia scores, an index of experiences, and frequency of individual experiences. The low number of experiencers and the lack of descriptions of the experiencers in question are a methodological limitation of the present study.

### **Do Quantum Mechanical Concepts Help to Understand Psi Phenomena?**

**Michel-Ange Amorim** *LPPA - Collège de France - CNRS, Paris, France*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Concepts inherited from Quantum Mechanics (QM) may prove useful in order to help structure parapsychology modeling. The basic starting point of the Observational Theory (OT) is indeed an alleged isomorphy between the structure of quantum and psi phenomena. The heuristics and limits of this analogy or knowledge structure-mapping from QM domain to parapsychology are presented. Using analogies where nomadic concepts from other scientific disciplines are mapped onto OT formalism may provide falsifiable versions of OT unfalsifiable "core theory". Analogies derived from concepts like nonlocality, consciousness

atom, and self-reference are given as examples. Finally, psi phenomena are presented as consciousness- and context-dependent self-organizing meaningful nonlocal correlations.

### **The Skeptical Position: Is It Tenable?**

**John Beloff** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

A distinction is made between the de facto skeptic who demands stronger evidence for paranormal claims and the absolute skeptic who dismisses all such claims as inherently preposterous and incredible. It is with the former that we are here mainly concerned. It transpires that the sticking-point for the de facto skeptic is an insistence on repeatability-on-demand, a position which enables the skeptic to ignore the entire corpus of historical evidence to which parapsychology has given rise. Whether parapsychology will ever be in a position to meet such a criterion remains doubtful. In the meanwhile the skeptical position, so defined, will remain tenable. Whether it is reasonable, still less compelling, is, however, another matter.

### **An Automated Free Response Self-Test in the Subject's Own Environment: First Results with Security Measures and a Selected Subject**

**Dick J. Bierman** *Chair of Parapsychology, University of Utrecht* and **Johan L. F. Gerding** *Parapsychological Institute, Utrecht*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The implementation of an automated free response experiment that allows for unattended self testing is described. The 80 visual targets are stored on disk. One of them is randomly selected as the target while another one is selected as the decoy. Two ASC induction procedures, hypnosis and EEG entrainment, are also implemented and integrated into the free response procedure.

The safety measures are discussed, most notably a remote login to the University network that might result in a practically fraud-resistant protocol. The description of this system and especially the security aspects are the focus of this paper. Some recommendations for further work along these lines are given.

A first pilot experiment with this set up was conducted with a promising subject. Feedback was provided for 13 trials of the 22 trials. Overall scoring was non-significant (hit rate was 45.5% while MCE = 50%). There were 5 trials with ratings 50% or more of the maximal rating, i.e. where the subject showed some confidence. These trials had a 80% hit rate.

Mean rating difference between target and decoy was +1.27 ( $t = 0.45$ ,  $df = 21$ ; n.s.). For sessions with feed-back the rating difference was +1.23 versus +1.33 for non-FB sessions. The non-significant mean rating difference following the EEG-entrainment induction was

+0.8 (N=5), following hypnosis -18.0 (N=2) while for the trials where the subjects used his own ritual the mean rating difference was +4 (N=15). The subject suggested some improvements that are discussed.

### **Geomagnetic Activity and PK on a Low and High Trial-Rate RNG**

**Dick J. Bierman** *Chair of Parapsychology, University of Utrecht* and **Willem J. M. van Gelderen**, *University of Amsterdam*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Sixteen subjects did two sessions of 16 runs of micro-PK. There were 8 high trial-rate and 8 low trial-rate runs randomly mixed in one session. It was expected on theoretical grounds that the scoring rate on the low speed runs would exceed the scoring rates on the high speed runs. The two sessions, 'a' and 'b', were done about a week apart so that subjects were tested under two different conditions of geomagnetic activity. It was speculated that the difference in geomagnetic activity would correlate positively with the difference in average scoring on the PK-tasks.

Scoring rate on the low speed runs was 50.24 % versus 49.98 % on the high speed runs ( $t=0.39$ ; n.s.) with only marginally significant scoring on the slow runs in the first session ( $t=+1.8$ ,  $df=15$ ;  $p<0.05$ ).

The correlation between geomagnetic activity and PK scores was  $-0.19$  ( $N=64$ ;  $p=0.13$ ; n.s.). The correlation between geomagnetic increase or decrease from session 'a' to 'b' and scoring increase or decrease was not significant either ( $r= -0.12$ ,  $N=32$ ; n.s.).

Unexpectedly, a secondary analysis showed that when subjects scored low on high speed runs they would score high on low speed runs and vice versa ( $r= -0.423$ ;  $N=32$ ;  $p<0.02$ ). This effect was consistent over sessions and over gender. A third order interaction between gender, trial rate and session number was found ( $F= 6.08$ ;  $df=1$ ;  $p< 0.03$ ). Both significant findings are discussed in terms of balancing of PK scoring within and between subjects.

### **A Theory of the Event Horizon: A New Way of Producing Macro PK Phenomena**

**Orjan Björkhem**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The author presents a new theory which predicts that paranormal phenomena may occur only when the subjects' belief systems change. A series of pilot studies has been made with 250 subjects, using intense group dynamics and new relaxation techniques. These studies demonstrate the predicted macro-phenomena.

## Exploring Cognition During Out-of-Body Experiences

**Susan J. Blackmore** *Department of Psychology, University of the West of England, Bristol*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Two major experimental paradigms have dominated research into out-of-body experiences (OBEs). The approach based on the evisceration theories has sought evidence for a real excursion out of the body or for signs of paranormal ability during OBEs. The evidence has been, at best, weak and unreliable. This approach also suffers the problem of distinguishing between really leaving the body and using imagination plus ESP. A second approach, based on psychological theories, has sought differences between OBEers and non-OBEers in their imagery skills, cognitive abilities or personality. Subjects have not been studied during their OBEs. Some success has been achieved but the OBE is still very poorly understood.

A new approach is suggested in which OBEers are tested for cognitive skills during the OBE. This way we might ascertain whether the OBE involves cognitive abilities the same as or different from those used in waking imagery. The method incorporates tests of paranormal abilities but its main value is in exploring whether the OBE is, psychologically, more than "just imagination".

## Probability Misjudgement and Belief in the Paranormal: Is the Theory All Wrong?

**Susan J. Blackmore** *Department of Psychology, University of the West of England, Bristol.*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

A questionnaire was printed in the *Daily Telegraph* in Britain on March 16 1994. Ten statements (e.g. I have a cat, I have a scar on my left knee) were listed and respondents were asked whether each was true for them or not. They were then asked to estimate the number likely to be true for others and the distribution of probabilities for given numbers of statements being true. "Probability misjudgement" theories of the origin of belief in the paranormal predict that people should underestimate the number of statements that would be true for others and that believers (sheep) should underestimate more than non-believers (goats).

6238 replies were received. 59% of the sample were sheep and 52% were male. There was a large sex difference, 70% of females were sheep but only 48% of males. The percentage of people claiming each statement as true varied from 10-34%. On average 2.4 statements were true for each person. Sheep claimed that more statements were true for them than goats did. This suggests a possible means by which sheep come to believe in psychic powers. The mean estimate of number true for others was 3.6. Sheep gave higher estimates but the difference between the number true for self and the estimate for others was the same for sheep and goats. Generally people were good at estimating the distribution of the number of true

statements and sheep were no worse than goats. The probability misjudgement theories are not confirmed.

### **Target Affinity**

**Douwe J. Bosga, Johan L.F. Gerding, Rens Wezelman *Parapsychology Institute, Utrecht***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

In the Utrecht Ganzfeld series of the Parapsychology Institute we analysed the relation between scoring ranks and affinity (emotional commitment) with each of the four pictures in the experimental set, as ranked by the receiver. A positive relation was predicted between ranking and affinity; secondly we predicted that trials in which subjects had a positive affinity with the target picture would result in a higher 'true' hit rate and that negative affinity with the target picture would result in a lower 'true' hit rate (corrected for call frequency). The first prediction was confirmed ( $\chi^2 = 74.6$ ;  $df=1$ ;  $p<0.0001$ ). The second prediction was not confirmed; no relation between hit rate and affinity was found ( $\chi^2 = 0.017$ ). These findings stress the importance of psychological evaluation mechanisms within the Ganzfeld choice procedure. The consequences of this processes will be discussed.

### **An Investigation of Micro-PK and Geomagnetism**

**Richard S. Broughton and Cheryl A. Higgins *Institute for Parapsychology, Durham***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Persistent reports have linked successful ESP performance with periods of lower geomagnetic field (GMF) activity. Other evidence has suggested that the opposite relationship may hold for PK, that greater evidence of PK is associated with higher GMF activity. We report an exploratory investigation of the relationship between geomagnetic field (GMF) activity and micro-PK using a computer-based test that generated a large data set (10[6] binary trials) for each of three selected subjects.

Using a subset of the data (to avoid an unanticipated potential artifact) we found a weak, non-significant negative correlation between PK scores and GMF activity on the day of testing.

### **Remotely Influenced ESP Performance in a Computer Task: A Preliminary Study**

**Kathy S. Dalton *University of Edinburgh***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

A computer-controlled psi testing system, the ESPerciser, was used in this study to examine a 'helper' effect in an ESP task. Twenty-five participants contributed two sessions, completing ten runs of ten trials in each session, for a total of 200 trials per participant. There were two conditions, 'influenced', in which a volunteer meditated on a photograph of the participant

with the intention of helping them to obtain a higher scoring rate for that session; and 'uninfluenced', in which participants received no outside psychic help. Participants experienced each condition through counter-balanced random assignment and the experimenter was kept blind to session condition for all trials for all participants. The study hypothesis, participants' ESP scores will be improved during the influenced sessions as compared with the uninfluenced sessions, was not significantly supported. Results were suggestive in the predicted direction at  $t = 1.465$ ,  $p = .078$ . The effect size between the influenced and uninfluenced groups was  $(h) = .418$ .

A comparison of hit rates for the influenced condition against MCE (.25) was performed yielding a non-significant result at  $t = 1.168$ ,  $p = .127$ . A similar test performed comparing the uninfluenced condition scores to MCE also yielded a non-significant result at  $t = -.941$ ,  $p = .178$ . A post hoc 2x2 ANOVA analysis was performed in order to look at a suspected decline in performance by the influencer. Results showed no statistically significant interaction at  $F = 1.136$ ;  $p = .298$ . Total number of hits for the study was exactly at chance. The implications of a helper effect are discussed, along with recommendations for future research in this area.

### **A Report on Informal Ganzfeld Trials and Comparison of Receiver/Sender Sex Pairing: Avoiding the File Drawer**

**Kathy Dalton University of Edinburgh**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Twenty-seven participants contributed 29 trials in an unplanned, and thus informal, series of ganzfeld sessions conducted by the author at the Institute for Parapsychology, Durham, North Carolina. The data from these sessions are presented in order to liberate them from the file drawer. The often neglected question of receiver/sender sex pairing is also considered, including relevant data from two other similar ganzfeld studies.

Twelve of the 29 trials in this study (41.3%) had the target correctly identified from the judging set of art prints which consisted of the target and three decoys. This result is significantly above the null hypothesis expectation of 25%, exact binomial  $p = .04$ ,  $z = 1.76$ . (All p-values are one-tailed unless otherwise specified). The effect size, Cohen's  $h$  (Cohen, 1977), is .35 and the 95% confidence interval (CI) is a hit rate from 26% to 57%.

A comparison of sex pairing in the telepathy condition of this series was conducted with data from two other successful, small n telepathy ganzfeld studies by female investigators: the Schlitz study (1992), and a study by S. Cunningham (Morris, et al, 1993). The study by Cunningham was presented as one of two ganzfeld studies with Morris, Taylor, and McAlpine (1993). This comparison was conducted in an effort to examine a suspected relationship between sex pairing and the ratio of direct hits, with the receiver/sender pairings of female/female expected to produce a higher ratio of hits for female investigators. When all three studies were combined, the following effect sizes were obtained: male/female = .61; female/male = .52; female/female = .35; male/male = .30. As can be seen, the suspected

relationship was not supported, with the mixed sex pairings producing the largest effect sizes, and the same sex pairings producing the lowest.

### **Security Measures in an Automated Ganzfeld System**

**Kathy S. Dalton, Robert L. Morris, Deborah L. Delanoy, Dean Radin, Robin Taylor, and Richard Wiseman**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The past success rate of the automated ganzfeld system has brought with it both praise and criticisms from experimenters and critics alike. A new, improved approach to security measures within the ganzfeld setting is described, along with the implications that the need for such precautions entails. The specific example of the current automated ganzfeld system and its security precautions in use at the Koestler Chair of Parapsychology in Edinburgh University is covered in some detail, with recommendations for future improvements.

### **Cognitive and Physiological Psi Responses to Remote Poitive and Neutral Emotional States**

**Deborah L. Delanoy and Sunita Sah** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Cognitive and physiological psi responses to positive, happy memories and emotionally neutral thoughts were examined. Thirty-two agent/percipient pairs each participated in one session. Each session had 64 30-second periods, with 16 positive and 16 neutral emotional sending periods pseudo-randomly interspersed with 32 rest periods. Electrodermal activity (EDA) was measured for all periods, and conscious responses obtained for the first or second half of each session. Percipients showed significantly greater EDA activation during positive emotional periods, than during neutral ( $df = 32, t = -1.77, p = 0.043$ ). There was no significant psi-scoring in the conscious response measure, nor any significant differences between the two sending conditions. Exploratory analyses examining interactions between the two psi measures showed highly significant EDA psi-scoring in the first half of each session during which conscious responses were also elicited ( $df = 15, t = -4.14, p < 0.001$ , two-tailed), but not from the other combinations of conditions. Implications of these findings are discussed.

## Was Kant a Sceptic?

**Johan L.F. Gerding** *Parapsychology Institute, Utrecht*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Immanuel Kant (1724-1804) is generally seen as one of the most important philosophers of the modern western philosophical tradition. Kant explicitly denied the possibility of psi in his book *Critique of Pure Reason* (1781), one of the fundamental works of western epistemology. This denial cannot be seen apart from his positive attitude towards psi which he earlier expressed in his book *Dreams of a Spiritseer* (1766), where he interpreted psi as contact with a spirit world. In our interpretation it is this view on psi which forbade him later to see it as a possible phenomenon.

## Investigating Macro-PK in India

**Erlendur Haraldsson** *Institut fur Grenzgebiete der Psychologie und Psychohygiene* and **Richard Wiseman** *Psychology Division, University of Hertfordshire*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

This paper describes investigations of two Hindu religious leaders claiming macro-PK ability. The first study involves Swami Premananda (a religious leader living in Southern India), who claims to be able to materialise small objects in his bare hands. A method for testing this claim is outlined and its rationale discussed. The paper then describes how the authors first observed Premananda producing ostensible materialisations under informal, and non-evidential, conditions. Under more formal conditions Premananda failed to produce any phenomena. However, immediately following the removal of controls against trickery the authors filmed Premananda producing a small statue and vibuti. Careful analysis of this film reveals that Premananda most probably capitalised on the investigators' lapses in attention to secretly pick up small objects from his lap and, after a short while, 'materialise' them in his hand. However, no direct evidence of fraud was obtained during the investigation. The second case study centres around an allegation of fraud made against possibly the best known Indian religious leader; Sai Baba. An Indian national newspaper recently claimed to possess filmed evidence of Sai Baba engaging in sleight-of-hand. This film was obtained by the authors. Analysis of the film revealed that Sai Baba did carry out some suspicious hand movements prior to 'materialising' a gold chain, but the film does not contain direct evidence of trickery. Finally, the methods used during the investigation are discussed in the hope that they may be of help to future investigators who wish to further research the validity of ostensible macro-PK in field settings.

## **Perceptual Defensiveness, ESP, Personality and Belief: Meta-Analysis, Experimenter and Decline Effects**

**Erlendur Haraldsson and Joop M. Houtkooper** *Institut für Grenzgebiete der Psychologie und Psychohygiene*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Ten experiments (N = 462) on perceptual defensiveness (as measured by the DMT) and ESP performance were carried out in Iceland in 1977-1991. Again, the ESP-DMT relationship proved significant. There also was a sizeable correlation between ESP performance and religiosity, while religiosity shows only a negligible correlation with perceptual defensiveness. The combined variable of defensiveness and religiosity shows a strong relationship with ESP performance.

The indication of a decline-effect in the DMT-ESP correlation is explored. The only decline-effect that reaches significance in the 10 Icelandic DMT-ESP experiments is the drop in the correlation after the first application of meta-analysis to these data (called the 'Meta-Analysis Demolition (MAD) effect').

As to the subject's field of study, the degree of belief in ESP corresponds with earlier findings regarding faculty of U.S. college professors, where professors in the humanities rated highest. In our data students in the humanities show the strongest relationship of ESP with the DMT, religiosity and the sheep-goat variable.

## **Personality and Pi: Unraveling Relations Between Extraversion, Agreeableness and Openness to Experience with Ganzfeld Performance**

**Dick van Kampen, Dept. of Clinical Psychology, Free University, Amsterdam, and Dick J. Bierman, Chair of Parapsychology, University Utrecht, and Rens Wezelman, Parapsychological Institute, Utrecht**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The relations between the 5 personality factors, extraversion, neuroticism, agreeableness, conscientiousness, openness to experience and scoring in the Ganzfeld were analysed for the two Utrecht novice series. Two personality measurement instruments were used, the NEO-PI and the 4DPT. It was found that subjects who had a hit (N=22) were marginally higher on extraversion ( $p < 0.05$ ) and significantly higher on agreeableness ( $p < 0.02$ ) and openness ( $p < 0.004$ ) than subjects who had a miss (N= 54).

Further refined analyses using the facet-scores of the NEO-PI reveals that the weak extraversion effect was restricted to the facets: 'warmth' ( $p < 0.06$ ) and 'positive emotions' ( $p < 0.02$ ). This strongly suggests that extraversion is effective through the social processes in

the experimental situation. Although all facet-scores for the openness factor contributed to the over-all effect, there were three facets which were independently significant: aesthetics ( $p < 0.008$ ), feelings ( $p < 0.001$ ) and values ( $p < 0.01$ ).

The aesthetics effect confirms earlier findings with artistic populations like the Juilliard students. The feelings effect seems to confirm earlier results with the MBTI as an instrument but the meaning of this facet is different from the one attached to it in the MBTI. The values effect is a more general form of the sheep-goat effect since it directly measures open-mindedness.

Stepwise multiple regression reveals that all relations are subsumed in the relation between 'openness for feelings' and psi. This finding may have important consequences for the interpretation of the sheep-goat effect and the apparent relevance of artistic ability. A discriminant analysis confirms the regression analysis and yields a simple recipe for selecting potential successful subjects. Applying this recipe to the current population excludes 58% of the subjects and yields a scoring rate of 47%.

### **Institute for Parapsychology Ganzfeld-ESP Experiment: The Manual Series**

**H. Kanthamani and Richard S. Broughton, *Institute for Parapsychology, Durham***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The Institute of Parapsychology has collected a database of all standard ganzfeld ESP trials using static targets in a manually operated test environment over a period of six years between 1986 and 1992 when the testing facilities were replaced. The database consists of trials from simple replications as well as the ganzfeld-ESP trials from studies examining specific hypotheses. The main purpose of the database is to permit the investigation of relationships between various psychological factors and ESP performance in the ganzfeld.

The database includes 352 trials contributed by 206 participants, as part of eight different series. The overall scoring rate by the direct hit ( $p = .25$ ) method was 27.6%, with an effect size (Rosenthal's  $p$ ) of .533 ( $z = 1.046$ ) compares well with the PRL data relating to the static targets (27% scoring rate).

Confining the analyses to novice subjects yielded better results, in agreement with earlier PRL findings. There were 182 novices who scored at 29.7% ( $p = .559$ ) in an equal number of trials. Those novices who had personal psi experiences, scored 31% ( $p = .574$ ), and those who practiced a mental discipline 32.7% ( $p = .593$ ). Considering the MBTI score, those who were in the F category scored at 33.7% ( $p = .604$ ) and those in the P category 36.3% ( $p = .631$ ). A combination of all these predictors, which has been identified as the PRL success model, isolated a sub-set of 46 participants who scored at 41.3%,  $p = .679$  and  $z = 2.286$ . Thus, although the overall effect was modest in our database, this subset fully confirms the PRL model and other subsets conform well with recent findings from other laboratories. This model suggests certain criteria that should be taken into account in replications attempts.

## **Health, Well-Being, Meaning in Life, Absorption, Temporal Lobe Symptoms, and Psychic and Spiritual Experiences**

**J.E. Kennedy, H. Kanthamani, and John Palmer** *Institute for Parapsychology, Durham, NC, USA*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

This screening survey of college students found that those reporting psychic or transcendent/spiritual experiences tended to have a greater overall sense of meaning in life. Among different factors that can give life meaning and purpose, expressing artistic creativity and observing spiritual beliefs were positively related to reports of anomalous experiences, while obtaining wealth was negatively related.

The survey also confirmed that scales for absorption and temporal lobe symptoms correlate positively with each other and with reports of anomalous experiences. The pattern of correlations among well-being measures, anomalous experiences, and other variables was consistent with previous studies with college students but was different than previous results with adults. Research on the relationship between religion and mental health has found similar positive relationships for adult populations and mixed results for college students. Also, recent studies indicate that both the temporal lobe symptoms and absorption scales are highly susceptible to experimental demand characteristics.

Very few respondents considered their anomalous experiences detrimental, and 91 percent of those reporting transcendent experiences and 46 percent of those reporting psychic experiences considered them valuable.

If anomalous experiences generally have beneficial effects, the correlations between the experiences and health measures may become more positive over time. This hypothesis appears consistent with the limited available data and offers great research potential.

### **A Pilot Study in ESP, Dreams, and Purported OBEs**

**Stanley Krippner**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

In 1966, we conducted a 4-night pilot study at the Maimonides Medical Center Dream Laboratory in Brooklyn, New York. The subject was a male student who claimed to have frequent out-of-body experiences (OBEs) at night. We used a telepathy and a clairvoyance target (art print) each night, the latter having been placed in a box attached to the ceiling of the sleep room. The subject was asked to attempt discerning the clairvoyance target if he had an OBE, and to attempt dreaming about it even if he did not have an OBE. Outside judges observed few correspondences between the transcribed dream reports and the telepathy targets, but several correspondences between the reports and the clairvoyance targets. The most provocative dream report was on the final night of the study when a print of Berman's

"View in Perspective of a Perfect Sunset" was randomly selected; the subject dreamed about a sunset, a content item that appears in fewer than 1 out of every 500 male dreams reports according to Hall and Van de Castle's normative data. The subject reported having had an OBE that night, and the EEG record disclosed an unusual pattern of slow brain wave activity interrupting REM sleep shortly before he was awakened for the dream report in which he mentioned the sunset. It is recommended that sophisticated brain scanning devices (e.g., CT, PET, MRI) be used with subject in an attempt to identify brain activity during purported OBEs. The expense and discomfort of these procedures have delayed their use by parapsychologists, but the advantages of these procedures outweigh the disadvantages.

### **Synchronicity — An Idea from Albert Einstein?**

#### **Wilfried Kugel**

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

It is shown that C.G. Jung received his basic impressions of a non-causal connection - which he later termed synchronicity - from Albert Einstein. Many years later Wolfgang Pauli also discussed this complex of problems with Einstein, and it was Pauli who motivated Jung to cast the model of synchronicity in written form. The underlying concept is identified with special properties of Hermann Minkowski's four-dimensional space-time, as have been worked out by Kurt Gödel. Jung's hypothesis of psychical relativity of space and time is reduced to relativistic effects arising only from the observer's position in four-dimensional space-time.

### **Target and Sender Dependencies in Anomalous Cognition Experiments**

**Nevin D. Lantz, Ph.D., Wanda L. W. Luke & Edwin C. May, Ph.D. *Science Applications International Corporation, Cognitive Sciences Laboratory***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The ganzfeld experiments as summarised by Bem and Honorton (1994) suggest that using dynamic targets produces stronger results than using static ones. Bem and Honorton, however, only analysed ganzfeld studies that included the use of a sender. Since it is known that a sender is not a necessary requirement in forced-choice trials (Honorton, 1975), we designed and carried out a study to see if a sender is required in non-ganzfeld, free-response trials. In the first of two experiments, five experienced receivers participated in 40 trials each, 10 in each condition of a 2 x 2 design to explore sender and target type. We observed significant effects for static targets (i.e., exact sum-of-rank probability of  $p \leq 0.0073$ , effect size = 0.248,  $n=100$ ), chance results for dynamic targets (i.e.,  $p \leq 0.500$ , effect size = 0.000,  $n = 100$ ), and no interaction effects between sender and target-type conditions. One receiver slightly favoured the no sender condition ( $F(1,36) = 4.43, P < 0.04$ ), while another slightly favoured static targets ( $F(1,36) = 5.47, P < 0.04$ ). We speculate that these surprising results (i.e., favouring static over dynamic targets) arose, in part, because of the difference between a topically unbounded dynamic target pool and a topically restrictive static pool. In a second

experiment, we redesigned the dynamic pool to match more closely the properties of the static pool. Four of the receivers from the first study participated in at least 20 trials each, 10 in each target-type condition. No senders were used throughout this experiment. We observed a significant increase in anomalous cognition for the new dynamic targets ( $X[2] = 9.942$ ,  $df = 1$ ,  $p < 1.6 \times 10^{-3}$ ), and an increase in anomalous cognition for the static targets ( $X[2] = 3.158$ ,  $df = 1$ ,  $P < 0.075$ ). We conclude that a sender is *not* necessary requirement for free-response anomalous cognition. A rank-order analysis showed no target-type dependencies in the second study ( $X[2] = 0$ ,  $df = 1$ ,  $P < 0.5$ ), but a rating analysis revealed some difference favouring dynamic targets ( $t = 1.32$ ,  $df = 68$ ,  $P < 0.096$ ) for the significant receivers. Based on an analysis by May, Spottiswoode, and James (1994b), we believe a fundamental argument suggests that in free-response anomalous cognition experiments, dynamic targets should be better than static ones.

### **How Many Factors of Paranormal Belief Are There?**

**Tony R. Lawrence** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The author critically assesses the Paranormal Belief Scale (PBS) developed by Tobacyk and Milford (1983; and Tobacyk, 1988). This scale provides seven factors of paranormal belief; Traditional Religion, Psi Belief, Precognition, Spiritualism, Witchcraft, Extraordinary Life Forms and Superstition. The resulting revised scale consists of 26 items and has been widely used in research into the causes and consequences of belief in the paranormal. However, from the critical analysis conducted by the author, it is concluded that, in its present form, the PBS is based on less than strong methodology, and that whilst the factorial structure of paranormal belief is likely to be multidimensional, it is certainly not accounted for by a seven factor simple structure. In concluding, the author argues that a new PBS and a more appropriate definition of 'paranormal' is required.

### **The Endo-Exo-Perspective — Heaven and Hell of Parapsychology**

**Walter von Lucadou** *WGFP, Freiburg, Germany*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The results of recent psi-experiments show that the concept of an "observer influence" (mind-has-a-real-force-paradigm) may be misleading because no signaltransfer could be found which may be responsible for the measured correlations between human observers and the observed quantum physical process (usually called psychokinesis). It is argued that the effect is an emerging property of macroscopic self-referential psycho-physical systems which is phenomenologically equivalent to non-local (EPR)-correlations known in quantum physics (Model of Pragmatic Information, MPI). Since the effect includes quite different levels of description, such as physics and psychology the distinction of exo- and endodescription is of crucial importance.

Endophysics is a new and growing field of theoretical physics which has been proposed by D. Finkelstein, O. Rössler, and H. Primas. Its aim is to take into account that the observer is part of the observed world. From this point of view several conceptual difficulties concerning the interpretation of quantum theory can be avoided. In the framework of "observational theories" (OTs) psi-effects are considered as quantum-physical "observer-effects". The consequences of the endo- exo-distinction for OTs are discussed.

From the distinction of the exo- and the endo-view it becomes clear why the subjective experience of psi phenomena is so different from its scientific description.

### **Managing the Target Pool Bandwidth: Noise Reduction for Anomalous Cognition Experiments**

**Edwin C. May, Ph.D, S. James P. Spottiswoode (Consultant) and Christine L. James**  
*Science Applications International Corporation, Cognitive Sciences Laboratory*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Lantz, Luke, and May (1994) reported in the first of two studies that experienced receivers from the Cognitive Sciences Laboratory produced significant evidence for anomalous cognition (AC) of static targets, but showed little evidence for AC of dynamic targets. This result was surprising--it was directly opposite to the results that were derived from the ganzfeld database (Bem and Honorton, 1994). In Lantz, Luke, and May's experiment, the topics of the dynamic targets were virtually unlimited, whereas the topics for the static targets were constrained in content, size of cognitive elements, and range of affect. In a second experiment, Lantz, Luke, and May redesigned the target pools to correct this unbalance and observed significant improvement of AC functioning. We incorporate these findings into a definition of *target pool bandwidth* and propose that the proper selection of bandwidth will lead to a reduction of incorrect information in free-response AC.

### **Shannon Entropy as an Intrinsic Target Property: Toward a Reductionist Model of Anomalous Cognition**

**Edwin C. May, Ph.D., S. James P. Spottiswoode (Consultant) and Christine L. James**  
*Science Applications International Corporation, Cognitive Sciences Laboratory*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

We propose that the average total change of Shannon's entropy is a candidate for an *intrinsic* target property. We analyse the results of two lengthy experiments that were conducted from 1992 through 1993 and find a significant correlation (Spearman's  $r = 0.337$ ,  $df = 31$ ,  $t = 1.99$ ,  $p < 0.028$ ) with an absolute measure of the quality of the anomalous cognition. The 1993 result replicated the similar finding from the 1992 study. We describe the methodology, the calculations, and correlations in detail and provide guidelines for those who may wish to conduct similar studies. In addition, we provide circumstantial evidence which leads us toward a reductionist view of anomalous cognition.

## EEG in a Ganzfeld Psi Task

**Bruce E. McDonough, Norman S. Don & Charles A. Warren** *Kairos Foundation and University of Illinois at Chicago*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Twenty professional artists participated as receivers in a Ganzfeld psi task while their EEG was recorded. The 30% hit rate by subjects, although nonsignificant with only 20 trials, was not inconsistent with the existing Ganzfeld database; a 45% hit rate by the receivers' experimenter was independently significant ( $p < .05$ ). Relative EEG power, recorded from 19 scalp sites in 5 frequency bands, was explored in a series of t-tests. The main findings were: 1) alpha power was marginally enhanced by relaxation training, 2) missers had more power in the delta and theta bands than did hitters, and 3) hitters had more power in the alpha and beta bands than did missers. These findings were discussed in terms of brain function. It was concluded that accurate ESP performance is associated with a different functional state of the brain than is inaccurate performance.

## Mass ESP: A Meta-Analysis of Mass-Media Recruitment ESP Studies

**Julie Milton** *Psychology Department, Edinburgh University*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

This meta-analysis examined eight forced-choice ESP studies, representing over one and a half million individual trials, in which participants had been recruited via the mass media. The mean effect size was very small, and negative ( $r = -0.0046$ ), and the overall cumulative outcome of the studies was non-significant (Stouffer  $Z = -1.60$ ). Methodological safeguards against procedural error did not appear stronger than in those studies examined in Honorton & Ferrari's (1989) meta-analysis of forced-choice precognition studies, which obtained a much larger mean effect size.

Such a low effect size is unusual in parapsychological meta-analyses. Factors that might have been responsible for it include the use of a single target sequence for all subjects in most of the studies, requiring a method of calculating variance that tends to reduce effect size; and the high probability that an unusually large proportion of participants in the studies were unlikely to believe ESP to be possible under the test conditions, a factor known to be associated with low or below-chance scoring.

## **A Latter-Day Psychomanteum**

**Raymond A. Moody** *Anniston, Alabama*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Inspired by the psychomanteums, or oracles of the dead, in ancient Greece, I have developed a procedure to facilitate visionary encounters with departed loved ones. The central feature is a chamber with a large mirror into whose clear depth the subject gazes. Of 50 volunteer subjects guided through the procedure, 35 described vivid experiences. Other researchers, who have used this method, report similar results. The work helps to explain the reports from the Greek oracles of the dead, it provides opportunities to explore brain activities during visionary experiences, and it may be developed into a form of therapy for prolonged grief states.

## **Evaluation of a Conventional Interpretation of Helmut Schmidt's Automated Precognition Experiments**

**John Palmer** *Institute for Parapsychology*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Analyses of raw data from Helmut Schmidt's 1969 automated precognition experiments were undertaken to determine if the results could be attributed to subjects capitalizing on local biases in the target sequences. Global nonrandomness was refuted using Good's Generalized Serial Test. A computer program was developed to identify successive blocks of trials for which the singlet target frequencies were significantly diverse at  $p < .05$ . There was a strong tendency in these "biased" blocks for target and response frequencies to match on miss trials. Weaker effects in the same direction were found for doublets. When expected hits in all blocks were adjusted for this matching bias (MB), it was found that the bias, although real, could not account for all the significance. When the criterion for "biased" blocks was liberalized to .15, the MB effect could account for all the significance in the high-aim files but not the low-aim files, and it was absent in one of the three subjects. Two control tests using new random targets for miss trials gave chance results. Because there was no evidence of local nonrandomness when the proportions of "biased" blocks in the ESP files were compared to those in the control and random Monte Carlo distributions, the MB effect was interpreted as a psi effect.

## **Out of the Body in the Lab: Testing the Externalization Hypothesis and Psi-Conduciveness**

**John Palmer** *Institute for Parapsychology*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

In recent years, attempts to establish the veridicality of the out-of-body experience (OBE), like attempts to verify postmortem survival, have sought to demonstrate correlations between subjective experiences and objective psi events. Such attempts are not convincing when the psi effects also occur in unrelated contexts, which is especially true in the case of OBEs. An alternative approach is to measure possible weight loss during OBEs, as was attempted earlier in the century with deathbed patients. This approach requires the assumption that the externalized entity has weight, which may be false even if the externalization hypothesis is true. Also, the entity might not provide a vehicle for consciousness and mental processes. Because the only plausible communication mechanism for an externalized entity is psi, which is to at least some degree independent of space, there is no functional advantage for externalization, which undermines its likelihood. The weight-loss experiment might be more important for survival research, for which euthanasia patients would be an optimal population. As for OBEs, research on their psi-conduciveness is perhaps a more promising experimental enterprise, because the OBE might be one way to facilitate Batchelder's "instant belief" in one's capacity for psi.

## **Subjects' Evaluation of a Tarot Reading**

**Chris A. Roe** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

In this paper it is argued that, in many ways, the psychic reading constitutes an ideal environment for the action of the Barnum Effect, as it incorporates factors of relevance and mysteriousness which have been found to increase acceptance. It is also suggested that the traditional characterisation of the Barnum acceptor, coined the *gullibility hypothesis*, may be less valuable than one derived from the *cognitive processing artifact hypothesis*. These models were tested by presenting Barnum statements via a computer link and under the guise of a Tarot card reading, to 46 Ss. The accuracy of the reading was rated statement by statement. After a delay to allow memory decay, Ss were given a surprise recall task. Recollections were rated by independent judges for the accuracy with which Ss remembered the detail of the reading. Acceptance did not covary significantly with measures of need for approval or locus of control [ $r_s = 0.065$  and  $0.231$  respectively], thus failing to support the gullibility hypothesis. Although there was no significant difference between gross recall for accepted items versus rejected items [ $c[2] = 1.427$ ], there was a tendency for greater levels of initial acceptance to be associated with greater distortion in recall [ $r_s = -.115$ ,  $p < .01$ , 1-tail], as predicted by the *cognitive processing artifact hypothesis*. The author suggests that this latter represents a promising model through which to understand the acceptance of general statements as feedback from psychic readings.

## **A Radioactive Ghost in a Music Hall**

**Dean I. Radin** *University of Nevada Las Vegas, Nevada, USA* and **William G. Roll** *Parapsychological Services Institutes, Inc. Atlanta, Georgia, USA*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Numerous witnesses claim to have seen ghosts and episodes of possession-like behavior in a music hall in northern Kentucky. As part of the investigation of this case, we took electromagnetic and background ionizing radiation readings throughout the site to explore possible correlations between these physical factors and the reported ghost episodes. We also conducted a quasi-experimental test of the presence of a ghost by comparing levels of ionizing radiation 'inside' and 'outside' a putative ghost.

Our conclusion is that many of the ghosts in this music hall were phantasms encouraged and sustained by historical, social, religious, and economic factors. In addition, moderately strong 60 Hz magnetic fields from nearby electrical power lines may have contributed to on-going reports of apparitions. However, the quasi-experimental exploration of a ghost provided intriguing statistical evidence ( $p = .004$ ) for some sort of anomaly. And at one point in the investigation, a fleeting, phosphorescent, amorphous blob was witnessed by at least two investigators.

## **Are Ghosts Really Poltergeists?**

**William G. Roll** *Parapsychological Services Institute*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

The discovery that geomagnetic as well as local magnetic fields may be associated with poltergeists and hauntings shed light on the role the brain may play in these occurrences.

## **Autonomic Detection of Remote Observation: Two Conceptual Replications**

**Marilyn J. Schlitz** *Cognitive Sciences Laboratory, Science Applications International Corporation* and **Stephen LaBerge** *The Lucidity Institute*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Two experiments were conducted to measure the extent to which people are able to unconsciously detect another person staring at them from a distance. A closed-circuit television set-up was employed in which a video camera was focused on the experimental volunteer (Observee) while a person in another room (Observer) concentrated on the image of the distant person as displayed on a color monitor; this procedure was used to preclude any conventional sensory contact between the two people. During the experimental session, the Observee's galvanic skin responses were monitored. An automated and computerized system was programmed to record and average the physiological responses of the Observee during

32 30-second monitoring periods. A random sequence was used to schedule 16 periods of remote observation and 16 control periods when no observation efforts were attempted. A within-subjects evaluation was made for each experimental session with a comparison between the mean amount of autonomic nervous system activity during the experimental and control conditions. Twenty four sessions were conducted in each of two experiments. As predicted, both experiments yielded significantly more autonomic activity during the remote observation periods as compared to control periods (Experiment 1:  $t=1.878$ ,  $p<.036$ ,  $1-t$ ,  $es=.36$ ; Experiment 2:  $t=2.360$ ,  $p<.014$ ,  $1-t$ ,  $es=.44$ ). As preplanned, the two experiments were combined to increase statistical power, yielding a significant t-value of 2.652 ( $p<.005$ ,  $1-t$ ,  $es=.36$ ).

### **Remote Viewing Replication: Evaluated by Concept Analysis**

**Russell Targ *Bay Research Institute, Palo Alto, California***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

This is the first publication of a carefully conducted series of remote viewing trials carried out at SRI International in 1979. In this formal experiment we incorporated all the revisions in methodology suggested by critics of our earlier published experiments. We worked with six inexperienced volunteer subjects, each of whom attempted to describe six randomly selected distant locations visited by the experimenters. Four of these subjects achieved independent statistical significance in their six trials, evaluated by rank ordering of the six transcripts. From these data we calculate Stouffer's Z-score for the entire experiment as 4.52 standard deviations from chance expectation, which, when divided by the square root of the number of trials (36) gives an effect size 0.75. This effect size was comparable to what was seen in our laboratory at that time.

### **Are Believers in Psi More Prone to Manic-Depression?**

**Michael A. Thalbourne\* *Department of Psychology, University of Adelaide, Australia***

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Compelling evidence already exists for a relationship between belief in psi and magical ideation -- an indicator of schizotypal personality disorder which may itself indicate proneness to schizophrenia. Evidence is now presented that belief in psi is also related to indices of manic-experience, depressive-experience, and a combined Manic-Depressiveness Scale, thus suggesting a relation to manic-depression. These relations with psi-belief are examined from two explanatory frameworks: (1) believers in psi are more likely to be crazy; and (2) belief in psi is distinct from proneness to psychosis but the various phenomena have something important in common.

\* "Wir ordnens. Es zerfällt. /Wir ordnens wieder und zerfallen selbst" Rainer Maria Rilke: Duineser Elegien (see Bauer 1989)

## **Statistical Analysis and Meta-Analysis of the So-Called "Chair Experiments" with the Dutch Sensitive Gerard Croiset**

**Ulrich Timm** *Institut für Grenzgebiete der Psychologie und Psychohygiene, Freiburg i. Br. Germany*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

A meta-analysis is calculated for the data of 15 so-called chair experiments with the Dutch sensitive G. Croiset. In these experiments Croiset tried to describe a person who would sit on a randomly assigned seat at the time of a future demonstration. The overall P-value of the meta-analysis is clearly significant ( $P < .01$ ). However, out of the 15 experiments only 4 are individually significant. Therefore, the overall performance of Croiset can be characterised as very inconsistent. Additionally, in 4 cases, the frequently reported effect that the apparently described person did not sit on the target chair (= displacement effect), could be statistically confirmed ( $P < .07$ ).

## **Anomalous Mental Phenomena Research in Russia and the Former Soviet Union: A Follow Up**

**Larissa Vilenskaya & Edwin C. May, Ph.D.** *Cognitive Sciences Laboratory, Science Applications International Corporation*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

We describe our further exploration into research of anomalous mental phenomena (AMP) in the Former Soviet Union (FSU). We visited numerous research centers in major cities of Russia and the Ukraine, met with leading researchers in the field, visited their laboratories, and participated in some experiments. In their research, our Russian colleagues emphasize studies of anomalous perturbation (AP), also termed psychokinesis (PK), and "distant mental effect" on biological systems (bio-AP or bio-PK). The experiments have been conducted in top academic and research institutions, including Moscow State University, St. Petersburg State University, and several research institutes of the Russian and Ukrainian Academies of Sciences. Although the quality of research varies considerably in different institutions, there are groups that have developed rigorous methodologies. We also consider the potential cultural impact on Russian AMP research. We conclude with a discussion of the causal model of AP studies vs. informational, perceptual model in relation to the Russian research.

## **The Set-Effect Analysis: A Post Hoc Analysis of Displacement in Utrecht Ganzfeld-Data**

**Rens Wezelman & Johan L.F. Gerding** *Parapsychology Institute, Utrecht*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Protocols of 100 Ganzfeld trials of the Utrecht Ganzfeld Research Programme were analysed in an attempt to detect set-effects: the presence of informational content in the protocols concerning one or more decoy pictures. Each typewritten protocol was judged in two independent trials according to correspondences with two sets: the target set actually used in the Ganzfeld-trial and a randomly selected control set. Analyses showed no difference between the ranking of target sets and control sets, though rating of the target sets were slightly higher ( $p = .08$ ). No final conclusions concerning the set-effect can be drawn from this study. The paper discusses some theoretical notions concerning the relevance the set-effect could have for model building in parapsychology.

## **Factors Influencing Reports of Paranormal Experience: Intolerance of Ambiguity and Frequency of Perceived Imagery**

**Carl Williams** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Two factors thought to contribute to the generation of hallucinations (ambiguity intolerance and frequency of perceived visual imagery) were explored in a computer-based task. The aim of this study was to assess whether or not these factors might also be related to reports of paranormal experiences. Two groups were compared, one consisting of students who reported a number of paranormal experiences and the other consisting of students who reported no experiences or only one experience. The task proposed to measure ambiguity intolerance involved identifying pictures embedded in visual noise. The imagery task examined the frequency of perceived visual imagery in response to viewing a display of animated unpatterned visual noise. It was found that the high experience group made significantly more guesses (correct and incorrect) in the picture identification task and tended to generate more reports of perceived images (especially of a complex nature) in the imagery task. Problems with the design of the study and inconsistencies in the description and performance measure of ambiguity tolerance are discussed.

## **Senders and Geomagnetism in the Auto-Ganzfeld**

**Carl Williams, Chris A. Roe, Ian Upchurch, & Tony R. Lawrence** *Department of Psychology, University of Edinburgh*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

A 42 trial Ganzfeld ESP study was conducted using the Koestler Chair Automated Ganzfeld Testing System. The four experimenters, acting as subjects, sought to examine the role of the sender and the effect of variations in geomagnetic activity on ESP performance. Using three sending conditions; zero, one or two senders, the experimenters tested two different models of the role of the sender. Evidence for the first model, the *additive signal energy model*, was not forthcoming. However, for the second model, the *mind guidance model*, the evidence, whilst not leading to significance, was sufficiently promising to act as a stimulus for future research. No evidence was found to support the previous research showing that ESP functioning is best at times of low geomagnetic activity (as measured by global *aa* indices of geomagnetic flux). However, a *post hoc* analysis of local measures of geomagnetic field intensity (using previously unreported F values of total field intensity) showed a suggestive negative correlation between ESP and geomagnetic field strength. Overall ESP results give a very large and significant missing effect ( $z = -2.371$ ,  $p < 0.05$ ), which the authors explain in terms of a breakdown in experimenter dynamics. It is suggested that researchers look to local measures of geomagnetic intensity for new correlations with psi, and that more research on the *mind guidance model* be conducted.

## **Assessing Possible Sender-to-Experimenter Acoustic Leakage in the PRL Auto-Ganzfeld**

**Richard Wiseman, Matthew Smith & Diana Kornbrot** *Department of Psychology, University of Hertfordshire*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Bem and Honorton (1994) have recently presented data that appears to support the existence of extra-sensory perception (ESP). A major part of their argument rests upon a set of parapsychology experiments known as the 'autoganzfeld' studies. In these studies one participant (a sender) attempted to psychically communicate the contents of a film clip (the target) to a second participant (the receiver). This paper presents a critical reappraisal of these studies. It first describes the studies and then outlines a normal (i.e., non-psi) mechanism that could potentially account for their results. The paper notes that it was vital that the experimenter was acoustically isolated from the sender, but that this may not have been the case. Although senders were instructed to remain silent, there is no guarantee that they followed this instruction. The measures taken to acoustically isolate the sender may not have prevented subliminal sounds reaching the experimenter. The paper then discusses some of the evidence relating to whether this potential artifact actually occurred. Finally, the paper outlines the need for increased methodological and reporting improvements in future work of this type.

## **Sheep/Goat Differences: Evidence for Cognitive or Motivational Biases?**

**Richard Wiseman & Matthew D. Smith** *Psychology Division, University of Hertfordshire*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

Previous research into the psychology of paranormal belief has shown that believers in the paranormal (Sheep) perform differently to disbelievers (Goats) on a wide variety of tasks. However, few studies have examined whether these differences are caused by cognitive or motivational factors. This paper presents two experiments which address this question. In Experiment One, Ss were asked to assess four fictional horoscopes. Two 'target' horoscopes were apparently based on their birth sign, whilst the other two 'control' horoscopes were apparently based on a different birth sign. Ss were asked to rate how accurate and general they found each horoscope. It was hypothesised that Sheep would rate the 'target' horoscopes as significantly more accurate and less general than Goats. This hypothesis proved correct. If this Sheep/Goat difference was caused by cognitive factors (e.g., Sheep being more creative than Goats and thus seeing more correspondences between the horoscopes and their lives), one would expect Sheep to rate the control horoscopes as significantly more accurate and less general than Goats. In contrast, the difference could be caused by motivational factors (i.e., Sheep wanting to find correspondences between horoscopes and their lives to support their belief in astrology). If this were the case, one would expect the Sheep and Goats to give similar ratings of accuracy and generality to the control horoscopes. Results clearly supported the notion that the Sheep/Goat differences were caused by cognitive, and not motivational, factors. In Experiment Two, Ss were asked to help assess the outcome of a fictional two trial free response ESP experiment. For each trial, Ss were asked to rate the similarity between some sketches (apparently drawn by an individual attempting to divine a concealed picture) and (i) the actual target picture and (ii) a 'control' picture. It was predicted that Sheep rated the target picture as significantly more similar than Goats. This hypothesis was confirmed. Again, if cognitive factors caused this Sheep/Goat difference one would expect Sheep to rate the control picture as significantly more similar than Goats. In contrast, if the differences are caused by motivational factors one would expect the Sheep and Goats to give similar ratings to the control picture. Again, results clearly supported the notion that the Sheep/Goat differences were caused by cognitive, and not motivational, factors. Finally, all Ss were asked to complete shortened measures of both visual and conceptual creativity. There were no differences between Sheep and Goats on these measures. The importance of these results for work in this area is discussed and future research suggested.

## **A Further Look at the Detection of Unseen Gaze**

**Richard Wiseman & Matthew D. Smith** *Psychology Division, University of Hertfordshire*

*Abstract from the 37th P.A. Convention, August 7-10, 1994, University of Amsterdam.*

This paper suggests that research into ostensibly paranormal detection of unseen gaze may prove to be a useful direction for psi research that aims to be replicated by researchers outside of parapsychology. Two experiments concerned with the paranormal detection of unseen gaze are reported. In Experiment One groups of 15 participants (starers) were located on one side of a two-way mirror, whilst another participant (the staree) sat on the opposite side of the mirror. Appropriate lighting conditions ensured that the starers could see the staree, but not vice versa. All Ss participated in two types of randomly ordered trials. During 'stare' trials the starers were asked to look directly at the staree. During 'non-stare' trials the starers were asked to close their eyes and/or look away from the staree. At the end of each trial the staree was asked to consciously guess whether (s)he believe (s)he had been stared at by giving a number between 1 (definitely not being stared at) to 7 (definitely being stared at). In addition, all starees (N=60) also completed questionnaires relating to their belief in the paranormal, level of perceived luckiness and degree of shyness. Results showed that starees were not able to detect when they were being stared at, and that a measure of ostensible 'psi ability' did not correlate with any of the three questionnaire scores. In Experiment Two starees' Galvanic Skin Response (GSR) activity replaced conscious guessing as the dependent variable. In addition, starers and starees were placed into completely separate rooms linked by closed circuit television. At randomly ordered times the starers were asked to look at the starees image on a TV monitor. Starees' (N=30) GSR activity during these 'stare' trials was significantly greater than their activity during 'non-stare' trials. Re-analysis of the experiment revealed that the supposedly 'random' order of 'stare' and 'non-stare' trials was biased, and that this bias could have caused spurious evidence for psi. The methodological lessons which should be learnt from these experiments are discussed, along with their ramification for the assessment of previous studies of this type.

## **Incidence and Social Relevance of Brazilian University Students' Psychic Experiences**

**Wellington Zangari, Fatima Regina Machado** *Instituto de Investigações Científicas em Parapsicologia, São Paulo*

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The main objective of this paper is to report the incidence and sociological relevance of psychic experiences in the daily lives of Brazilian university students; and to bring to the attention of researchers, especially those in Brazil, the promising opportunity for productive field studies that Brazil offers. The present study is comprised of the analysis of data obtained from the administration of a 72-item questionnaire, in part translated from Palmer's (1979) 46-item questionnaire, with some adaptations for Brazilian culture. The remainder of the questionnaire is comprised of 27 questions from the Dissociative Experience Scale, developed by Bernstein and Putnam (1986). These questions were also translated and

included in the questionnaire to provide data for an analysis to be conducted at a later date. The results were very interesting: 89.5% of the respondents claimed to have experienced at least one psychic experience. Descriptive details of the questionnaire results are presented. In a future paper we intend to analyze all the items of the questionnaire, comparing them to the findings of others. We also intend to extend the study to a quantitatively representative sample of the Brazilian population for further analysis.