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REANALYZING A META-ANALYSIS ON EXTRASENSORY PERCEPTION
DATING FROM 1940, THE FIRST COMPREHENSIVE META-ANALYSIS
IN THE HISTORY OF SCIENCE

HOLGER BÖSCH

ABSTRACT: The book *Extra-Sensory Perception After Sixty Years (ESP-60)*, published in 1940, is the first meta-analysis in book format. *ESP-60* provides a comprehensive and balanced review of 145 reports on ESP experiments published from 1882 to 1939. The authors discuss the quality and reliability of the experimental data and provide an in-depth discussion of arguments questioning the data altogether. They are the first meta-analysts to take into account publication bias and calculate a “fail-safe N ” in order to assure the reliability of their analyses long before such sensitivity analyses became standard practice in meta-analysis. All statistical analyses provided in *ESP-60* are based on z -score statistics. The purpose of this paper is to reanalyze the data using an effect-size based approach. Altogether 139 independent effect-sizes measures could be calculated. The distribution of effect-sizes dramatically deviates from the expected funnel shape around the overall mean $\pi = .57$. A striking small-study effect was found. An analysis of sample-size quartiles illustrates the highly visible connection between effect size and sample size. The smallest studies (Q_1) in the sample ($M = 36$ trials) have an effect-size of $\pi = .99$, indicating that on average the hit probability of these trials is 99% when MCE is 50%. The largest studies (Q_4) in the sample ($M = 113,716$ trials) have an effect-size of $\pi = .52$, indicating that at 52% the hit probability of these trials is just above MCE . An explanation for the dramatic small-study effect cannot be directly derived from the data. Several factors besides publication bias, such as true heterogeneity, data irregularities, and chance, must be considered. However, these data are especially susceptible to publication bias because the early experimental approach to ESP evolved from case studies that principally aimed at demonstrating ESP. Although the authors of *ESP-60* have done everything to ensure the completeness of their data, they have underestimated the problem of publication bias. That studies are published independently of

their p -value is an ideal that, so far, no empirical science has accomplished. Research in ESP is especially affected because ESP studies are generally not very cost and time intensive, factors that are clearly related to publication bias. It is therefore suggested to implement registers for ESP studies and to accept only registered trials for publication. This would minimize the impact of publication bias in future meta-analyses and help to provide a balanced perspective on ESP research altogether.

Institute of Environmental Medicine and Hospital Epidemiology

University Hospital Freiburg

Freiburg, Germany

EXPLORING THE RELIABILITY OF THE "PRESENTIMENT" EFFECT

RICHARD S. BROUGHTON

ABSTRACT: This project extends a series of experiments begun by Radin that appears to demonstrate an autonomic nervous system (ANS) response to future emotionally arousing experiences. This experiment used skin conductance as the ANS measure and was designed to examine test-retest reliability in the "presentiment" effect, also known as "prestimulus response" (PSR). The experiment also looked for individual differences in PSR responding using the Myers-Briggs Type Indicator and the NEO-FFI personality inventories. Volunteer participants completed two sessions of viewing 40 calm and arousing images from the International Affective Picture System (IAPS) while SC was monitored. The PSR window was defined as 3 s before stimulus onset, and the measure of PSR was the area between the mean relative SC levels for the two classes of stimuli within the prestimulus window. Significance was determined using a Monte Carlo method. A novel analysis technique of de-trending the SC data immediately before the PSR analysis window was used to counter the possible effect of expectancy and other artifacts. Eighty planned participants were tested. Sixteen were eliminated from further analysis because of lack of any SCRs, leaving 64 participants in the final data pool. The experiment did not produce overall evidence of a presentiment effect, nor did it demonstrate test-retest reliability. Because this experiment deviated from prior methods of analysis, the data were examined without de-trending and automatic artifact removal, but there was still no evidence of a presentiment effect. Of three personality factors previously associated with better ESP scoring, MBTI Extraversion, MBTI Intuition, and NEO Openness, the last two were positively and significantly correlated with individual mean PSR. The data were explicitly tested for the presence of an expectancy artifact by correlating the PSR prior to arousing stimuli with the time since the last arousing stimulus. The correlations for both the de-trended data and the

original method of analysis were negligible and nonsignificant, providing no evidence that an expectancy artifact was present.

Intuition Laboratories, Inc.
Durham, NC, USA

RULING OUT ITEMS IN THE JUDGING SET:
A NOVEL PROTOCOL FOR DETECTING PSI IN THE GANZFELD

JEZZ FOX AND CHRISTINE SIMMONDS

ABSTRACT: This paper considers whether receivers may find it easier to identify items in the judging set that are not the target rather than taking the more traditional approach of identifying which of the items is the target. The inspiration for this idea came from a study performed by one of the authors (Fox, 2002) in which he acted as receiver in a series of 12 trials without a sender. He felt that he could rule out some of the items in judging sets but not necessarily identify which of the remaining items was the target. The study consisted of 32 ganzfeld trials with novice receivers. In all trials CS acted as sender and JF as experimenter. The study was designated as being exploratory in nature prior to performing the trials and therefore should not be included in meta-analyses. Of the 32 trials, 10 were direct hits (31.25%), the target was ranked second on 7 occasions, third in 13 trials, and fourth in the other 2 (MCE = 8 for all categories). In addition to awarding a rating of similarity between the items in the judging set and their imagery during the trial period, the participants were asked to rule out any items that they thought could *not* be the target for the session. Of the 32 trials there were 5 in which 0 items were ruled out, 21 in which 1 was ruled out, 5 in which 2 were ruled out, 1 in which 3 were ruled out, and 0 in which all 4 were ruled out. In the case of 1 of the items being ruled out, participants seemed successful (i.e., the target was ruled out on only 2 of the 21 trials, MCE = 5.25) and the number of direct hits was elevated (7 out of 21, 33%). The low frequencies of ruling out in the other categories make meaningful comments about them difficult to justify. It is argued that if it is possible to successfully rule out items in the judging set (as suggested from these findings and those of the prior study) then there may be important implications for researchers. For example, if it is possible to successfully rule out 1 item in the judging set, participants are then left to guess among fewer items (3 instead of 4) and that this would be reflected in the percentage of direct hits observed in studies (33% instead of 25%). If such a process is in operation, it would explain why such protocols yield rates of hitting that are only marginally above chance. Furthermore, it is suggested that a change in emphasis from identifying the target to successfully ruling out items that are not the target may have a positive impact on participants. This study used a digital autoganzfeld system (DigiGanz) to coordinate the trials.

Some suggestions are offered to other researchers who are considering using such systems.

*Psychology, Liverpool Hope University College
Liverpool, England, UK*

EFFECTS OF FEEDBACK CONTROL ON SLOW CORTICAL POTENTIALS AND RANDOM EVENTS

THILO HINTERBERGER*, JOOP M. HOUTKOOPER**, AND BORIS KOTCHOUBEY*

ABSTRACT: As known for more than two decades, humans can learn to achieve self-control over their brain activity such as the polarity of slow cortical potential (SCP) shifts referred to as positivity or negativity. This learning process is supported by the visual feedback of the SCP in a time-locked trial structure. On the other hand, it has been repeatedly shown that humans are able to regulate the random distribution of events produced by an electronic random event generator (REG) as a psychokinetic effect. This procedure also entails feedback of the distribution of binary random events to the subject; however, contrary to the feedback of SCP, there is no known physical connection from the subject to REG. In both cases, the to-be-controlled function should be changed in one of two alternative directions ("bidirectional control") by use of two different cognitive strategies or states of consciousness. In the present experiment the effect of a self-chosen strategy was examined for the regulation of a feedback signal in a pseudorandomized predefined direction on both the SCP and the REG. Therefore, the system, called "Thought Translation Device" (TTD), provided feedback of the SCP or the REG. This modality was changed every block of 300-400 trials of 4.5 to 5 s duration each. The task requirement was assigned pseudorandomly. A correctly produced SCP or REG shift was rewarded with a smiley face. The simultaneous recording of the electroencephalogram (EEG) and the REG signal allowed investigating psychophysiological correlates of psychokinetic effects. This study focused on the differentiation between the two tasks of the REG or SCP signal when feeding back one of them. Four subjects performed in total 3,500 trials with SCP feedback and 3,500 trials with feedback of the REG. The average feedback value of all trials was analyzed and tested for being different from a baseline value taken before the start of the feedback in each trial using a *t* test. The previous finding that human subjects can self-regulate their SCP within the first sessions was replicated. Highly significant SCP control was achieved only by the highly motivated subjects (S 2 and S 3) who attended more than one day. S 2 attained a constant high correct response rate of 70 to 80% during the second and third training days. It was also shown that a temporary "false feedback" given by the REG did not necessarily disturb the acquisition of SCP self-control. Task-specific lateralization of the SCP (which

was not fed back) was not significant. The highly motivated subjects achieved higher t values in the REG control than S 1 and S 4. When considering both feedback modes together, a significant correlation between the predefined task requirement and the deviation from chance expectancy produced by the REG ($p = .02$) was produced. This can be interpreted as a psychokinetic effect. The correlation between task and REG result produced by the system when running the same number of trials was far from significance. Feedback of SCP seemed not to disturb the positive correlation between task and REG. Despite these similarities between the behavior of the REG and the SCPs, the differentiation of the REG signal did not significantly correlate with SCP amplitudes or SCP lateralization.

**Institute of Medical Psychology and Behavioral Neurobiology
University of Tübingen
Tübingen, Germany*

***Center for Psychobiology and Behavioral Medicine
University of Giessen
Giessen, Germany*

EXPLORING VOLITIONAL STRATEGIES IN THE MIND-MACHINE INTERACTION REPLICATION

JOOP M. HOUTKOOPER

ABSTRACT: Volitional strategies in PK experiments have been reported by experimenters acting as their own subjects, mainly in the middle decades of the twentieth century but also by the PEAR group. A study by Gissurarson in which he obtained volitional strategies from the participants after the PK task put this on a broader basis. His work finds a continuation in the present experiment, conducted as part of the Mind Machine Interaction (MMI) collaboration. This study involved 74 participants who took part in 271 PK (or MMI) sessions of about 1 h. A session consisted of 30 short or 3 long runs, balanced between the intentions "High," "Low," and "Baseline." The overall PK scoring was in the intended direction, that is, the difference of the RNG output between High and Low intentions was positive but fell short of significance ($p = .24$). However, the salience (U-shaped) pattern during the sessions revealed some indication of PK ($z = 2.35$, $p < .02$). A novel aspect was that the participants recorded their volitional strategy before each PK run, from a list of 5 choices derived from the inventory by Gissurarson, namely "Imagery," "Relaxed," "Confidence," "Resonance," and "Guessing," as well as the option to employ their own strategy. The consensus in the literature that a strategy involving "effortless effort" or "resonance" would be the most successful was confirmed ($p = .03$). Furthermore, it appears that the choice of a volitional strategy is related

to several psychological variables. Participants who rated themselves high on the Luckiness scale of the NEO-FFI more often chose the resonance strategy or their own strategy. They also obtained significant above-chance PK scores on runs in which they used the resonance strategy ($p < .03$) or their own strategy ($p < .03$). On the other hand, those with a high ability to visualize chose their own strategy less often but scored significantly on those runs ($p < .01$). Participants who scored high on the Conscientiousness scale chose the resonance strategy less often but scored very significantly ($p < .001$) on the runs in which that strategy was employed. An item in the questionnaire relevant for absorption showed a positive correlation with the preference for the resonance strategy. Therefore, choosing the resonance strategy more often in the experiment is related to being more absorbed generally. There are indications that successful PK performance depends more on the momentary choice of a volitional strategy and the concomitant state of mind than on a person's overall preference to choose certain strategies.

*Center for Psychobiology and Behavioral Medicine
University of Giessen
Giessen, Germany*

DISTANT PSYCHOPHYSIOLOGICAL INTERACTION EFFECTS BETWEEN RELATED AND UNRELATED PARTICIPANTS

MARIOS KITTENIS*, PETER G. CARYL**, AND PAUL STEVENS*

ABSTRACT: The aim of this study was to investigate possible remote psychophysiological interactions between sensorially isolated participants using a protocol of photic stimulation and EEG measurements. It was an attempt to conceptually replicate past findings suggesting the presence of such interactions and to clarify the role (if any) of an existing emotional relationship and pre-session interaction between participant pairs. Forty-one unpaid volunteers were assigned to one of three groups. One of these consisted of 13 related pairs of participants who reported sharing an empathic relationship, another of 5 unrelated pairs (i.e., randomly matched strangers), and the last of 5 single participants. Related pairs spent some time alone together before testing whereas unrelated pairs did not know each other and did not meet until after the session; single participants were told they would be paired with someone they didn't know but were not matched with anyone. Pairs of participants simultaneously listened to a recording of a progressive relaxation procedure including suggestions aimed to induce a hypnagogic-like state, which was followed by 15 min of continuous drumming; this procedure was intended to induce a similar alteration of consciousness in both participants. During the drumming period the EEG of one person of the pair ("receiver") was recorded while

the other ("sender") was occasionally stimulated with randomly timed single photic flashes. For the single participants group the same procedure was followed but there was no sender to observe the flashes. EEG epochs that were time-locked on photic stimulation of the senders were taken from the continuous EEG record of the receivers. Similar randomly sampled epochs were taken from periods of no stimulation to serve as controls. According to the null hypothesis no difference would be expected between these samples, as sensory stimulation of the receivers was homogenous throughout the experimental period. Event-related evoked alpha power measures revealed a tendency for samples from "remote" photic stimulation periods to show larger deviations from prestimulus baseline than control samples; these deviations were in the same direction as normal responses to direct photic stimulation. This difference between "remote" photic stimulation and control periods was found to be significant for the related pairs group at $p < .023$ (Wilcoxon signed-ranks test, two-tailed; $N = 13$). Deviations of similar direction and magnitude were found in unrelated pairs ($p < .007$ when combined with related group, $N = 18$), whereas recordings from single participants (when no other person was stimulated) showed no such effect. Further patterns identified in the results and possible interpretations are discussed.

**Koestler Parapsychology Unit
University of Edinburgh
Edinburgh, Scotland, UK*

***Psychology Department
University of Edinburgh
Edinburgh, Scotland, UK*

THE INVISIBLE GAZE: THREE ATTEMPTS TO REPLICATE SHELDRAKE'S STARING EFFECTS

EVA LOBACH AND DICK J. BIERMAN

ABSTRACT: Sheldrake has reported a large number of studies on the feeling of being stared at from behind, mostly conducted in school settings with children aged between 8 and 18. Almost all these studies show that people guess consistently above chance. We did three studies to attempt to replicate Sheldrake's staring studies under conditions of sensory shielding. Participants input their responses into a computer. In total 188 sessions resulted in 4,784 trials. The overall hit rates were 50.6% ($N = 53$), 52.1% ($N = 45$), and 49.7% ($N = 37$), respectively. Because response bias is believed to confound results for stare and nonstare trials, these are not analyzed separately here, in contrast to Sheldrake's reports. In Study 1 two skeptics and two believers acted as starrer. Participants never met the starrer, who was

behind a one-way screen in an adjacent room. The hit rate was marginally significant only for skeptic starers. Extraversion of the participant was irrelevant. It was observed that the most extraverted starrer, who was a skeptic, produced the best results. In Study 2 participants were being looked at through a hidden camera. Participants never met the starrer. The overall hit rate of 52.1 % was not statistically significant. In this study, skin conductance level of the participant was also used as a dependent variable. Initially, when participants were not informed of the staring, skin conductance level showed no difference between stare and nonstare trials. After informing the participants, skin conductance level was shown to be marginally higher during stare trials. Study 3 compared hit rates for bonded pairs (friends) with nonbonded pairs (strangers). All participants acted as starrer and staree at either side of a one-way screen, once with a friend and once with a stranger. In neither condition could the slightest sign of a staring effect be established. From the results of these three studies we conclude that the staring paradigm is not easily replicable as it is claimed to be. Apart from one internal effect all hit rates were very close to chance. Simulations with target sequences identical to those used in earlier studies involving feedback to the starees showed that results of these earlier studies can be explained by a combination of response bias and response strategies rather than psi. Other possible explanations of the failure to replicate concern differences in participant population, type of experimental setting, and rigor of the experimental procedures.

*University of Amsterdam
Amsterdam, The Netherlands*

WHO'S CALLING AT THIS HOUR? LOCAL SIDEREAL TIME AND TELEPHONE TELEPATHY

EVA LOBACH AND DICK J. BIERMAN

ABSTRACT: Can we guess who is calling us on the phone before picking up, and does local sidereal time (LST) affect how often we guess right? Reviews of anomalous cognition studies have shown that effect sizes are highest around 13.30 LST (Spottiswoode, 1997). A post-hoc analysis of telephone telepathy data of Sheldrake (2003) also showed a peak at that time. LST (peak or nonpeak) was an independent variable in our prospective telephone telepathy study. Six women who indicated they often experienced telephone telepathy were selected to participate. Each participant chose four close friends or relatives to act as callers. All completed a total of 36 trials; six sessions of six trials each, three sessions at peak time (between 8:00 and 9:00 local time) and three at nonpeak time (between 17.30 and 18.30 local time). One of the experimenters was at the participant's home during the sessions. The experimenter made sure no irregular communication was

going on and logged times of the calls and responses of the participant. At a different location another experimenter used a die to select a caller about 5 min before the scheduled trial. Then he or she contacted the caller, who was asked to call the participant in 5 min and to concentrate his or her thoughts on the participant for the last 2 min before the call was made. When the phone rang at the participant's home, the participant guessed who she thought was calling before picking up. Analyses show a significant overall scoring rate of 29.4% ($p = .05$). Almost all of this effect originates from the sessions at peak time with a scoring rate of 34.6%. Exploratory analyses show that a stronger emotional bond between participant and caller is associated with a higher hit rate. It is concluded that results provide tentative support for the hypothesis that Local Sidereal Time is related to a phenomenon like telephone telepathy. In addition, the results support the existence of telephone telepathy. Other explanations of the anomalous effect cannot be ruled out, such as precognition, retropsychokinesis by the experimenter or the participant so the die throw would coincide with the particular caller the participant would guess, or clairvoyance of the die throws. Future studies should aim at teasing apart the supposed effects of LST and local time on "telephone telepathy."

*University of Amsterdam
Amsterdam; The Netherlands*

PREDICTIONS OF THE MODEL OF PRAGMATIC INFORMATION ABOUT RSPK

WALTER VON LUCADOU AND FRAUKE ZAHRADNIK

ABSTRACT: The model of pragmatic information (MPI) is applied to RSPK phenomena and leads to several predictions. The first prediction is that RSPK phenomena show two clusters, which can be considered as structural and functional anomalous RSPK phenomena. RSPK-phenomena are considered as a kind of "external psychosomatic" reaction, expressing a hidden problem that cannot be recognized by the persons concerned. The second prediction is that the development of RSPK cases contains four phases, which are called "surprise phase," "displacement phase," "decline phase," and "suppression phase." In the surprise phase the RSPK activity starts rapidly with strong effects, but they are not attributed to the focus person. This happens in the displacement phase wherein the phenomena usually change in an unpredictable way. In the decline phase the "message of the poltergeist" is understood and the phenomena are expected; therefore the phenomena disappear. The final suppression phase can be understood as a kind of reaction of the society. These phases can be derived from a fundamental equation of the MPI, which describes the RSPK phenomena in complementary terms of "autonomy" and "reliability" (from the point

of view of the RSPK system) and of "novelty" and "confirmation" (from the point of view of the external observer). The dynamics of RSPK are described as the dynamics of pragmatic information within a hierarchically nested system that is created by the persons involved (focus person, naïve and critical observers) and the reaction of the society. The third prediction is that observers can control the RSPK activity by their observation or documentation. This is the result of a kind of "uncertainty relation" of the MPI, which says that the effect size of the phenomena is limited by the quality of their documentation. This also holds for so-called sitter-group experiments. In a single case it was possible to demonstrate that the system theoretical approach of the MPI leads to different predictions than the usual psychological interpretation of the elusiveness of PK phenomena. The fourth prediction is that we have to expect two types of RSPK cases, which we called the active and the passive, respectively.

*Parapsychological Counseling Office, WGF
Freiburg, Germany*

ANTICIPATORY SKIN CONDUCTANCE RESPONSES: A POSSIBLE EXAMPLE OF DECISION AUGMENTATION THEORY

EDWIN C. MAY

ABSTRACT: Two recent skin conductance response studies have provided significant evidence of an effect. In both studies the dependent variable was a proportion difference between prestimulus intervals prior to acoustic stimuli and prior to controls that contained a fully formed nonspecific skin conductance response (ns-SCR). The null hypothesis was that the proportion difference should be zero. Both studies showed significant nonzero proportion differences. These studies have been examined with regard to two competing hypotheses for a possible mechanism. A physiological hypothesis suggests that individuals respond in advance to randomly determined future startle stimuli. A second hypothesis suggests that the participants are simply a source of random ns-SCRs that are not due to any overt stimuli and that the observed effects arise because of the experimenters' psi. That is, Decision Augmentation Theory (DAT) holds, in this context, that the experimenters bias their decisions to initiate an experimental run such that the proportion difference will be large and thus mimic a physiological response. Circumstantial evidence against a physiology hypothesis includes: the rare anticipatory response to either an acoustic stimulus or a control is independent of stimulus position; previously certified laboratory psi participants did not perform better than unselected participants; and participants who show no or very few ns-SCRs (i.e., zombies) do not show anticipatory effects at all. Quantitative analyses do favor a DAT hypothesis. DAT predicts and the data significantly confirm

that the ns-SCR rate prior to formal controls will be less than that measured far from any stimuli (i.e., background rate). Additionally, DAT predicts and the data confirm a square root dependency of z score versus lability (i.e., the probability of a ns-SCR in a 3.5-s period). The circumstantial arguments taken together with two different types of quantitative results provide the best possible evidence in support of a DAT mechanism that can be obtained retrospectively. A prospective study, however, is needed to settle the issue formally.

Laboratories for Fundamental Research
Palo Alto, CA, USA

WHAT IS TO BE DONE: EVALUATING THE RITUAL HEALING THEORY

JAMES MCCLENON

ABSTRACT: The field of parapsychology has been criticized for not providing sufficiently replicable experiments. Researchers have found that their claims of achieving replicable experiments have not had the impact on mainstream science that might be expected. Content analysis of introductory psychology textbooks indicates that text authors tend to emphasize failure to replicate while ignoring evidence supporting parapsychological claims. The field of parapsychology demonstrates structural characteristics suggesting that it will not gain full legitimacy should it continue to follow present strategies. The *Ritual Healing Theory* offers a means to bypass this problem. It is derived from research in the social psychology of anomalous experience, human genetics, and evolutionary psychology. It hypothesizes that dissociative abilities and the capacity for anomalous perceptions have a physiological basis. It argues that early hominids developed dissociative capacities for coping with trauma. Later hominids devised therapeutic rituals that provided greater benefits to those with dissociative ability. Shamans conducted rituals that allowed those with dissociative abilities to have survival advantages, and these individuals passed on dissociation genotypes more frequently. These processes caused the frequency of genes related to dissociation to increase. Experiences linked to dissociation (apparitions, waking and sleeping ESP, out-of-body experiences, and psychokinesis) were shaped and became more prevalent. These experiences generated beliefs in spirits, souls, life after death, and magical abilities, providing the foundation for shamanism, humankind's first religion. Shamanic healing practices, occurring over the last 30,000 years, continued selecting for dissociative and hypnotic genotypes, further shaping the physiological foundations for anomalous experience, religion, and ritual healing. Ritual healing theory hypotheses are testable within the domains of psychical research,

anthropology, archaeology, social psychology of religion, folklore, history, physiology, and medicine. Hypotheses include:

- (1) The extent of childhood trauma should be positively correlated with dissociative capacities.
- (2) Dissociative capacities should be positively correlated with propensity for anomalous experience.
- (3) Certain types of anomalous experience (apparitions, paranormal dreams, waking extrasensory perceptions, psychokinesis, and out-of-body experiences) have a biological basis and occur in all societies.
- (4) Certain types of experiences, such as waking extrasensory perception and paranormal dreams, have structural features associated with state of consciousness: waking extrasensory perceptions more often pertain to present events, lead to conviction, and provide less information than paranormal dreams, which more often pertain to future events, fail to generate conviction, and provide greater information. These features are seemingly universal, implying a physiological basis.
- (5) Propensity for anomalous experience is correlated with belief in spirits, souls, life after death, and magical abilities, and certain experiences induce belief.
- (6) Researchers should find significant correlations between frequency of anomalous experience, temporal lobe signs, transliminality, and cognitive openness, traits hypothesized to be part of the shamanic complex.
- (7) Capacity for ritual healing should be positively correlated with dissociative/hypnotic ability.
- (8) Anthropologists can observe ritual healing processes through field studies. They can detect patterns indicating a shamanic complex.
- (9) Historians of medicine can document that all ancient medical practices contain rituals based on placebo and hypnotic processes.

*Elizabeth City State University
Elizabeth City, NC, USA*

STRANGE PEOPLE—RARE EVENTS

PETER MULACZ

ABSTRACT: A number of extremely small groups within the population that possess distinct "gifts" or "abilities" such as absolute pitch, synesthesia, and mental calculations skills, are identified and paralleled with the likewise small group of "sensitives" and "mediums" in parapsychology. The widely discussed question whether "psi" is "democratically" distributed is touched upon as it

appears that these other abilities are definitely not equally distributed. (This is a touchy subject in our society: whether all humans are in a certain sense equal or whether there are some differences.) Some parallels (and differentiations, too) between the two groups—absolute pitch, synesthesia, and mental calculation skills on one hand and sensitives and mediums on the other—are examined, for example, the fact that these properties can hardly be trained because they are either present or they are not. Absolute pitch and mental calculations are “composite” functions: in both cases the ability to memorize plays an important role. The question arises whether psi is perhaps also a cluster of different abilities, apart from the problem that the entire notion of psi as an ability is highly questionable. Another question is the consistency of performance, be it the performance of one individual at different times (intrasubjective) or within several individuals (intersubjective) as in the case of comparative studies of sensitives and mediums. The emphasis of this paper, however, is on the fact that mainstream psychology and physiology carry out research into the particular abilities of very special persons who are clearly different from the vast majority and who form an extremely tiny minority of the population (in the case of the Mathematical Wizards just a handful individuals all over the world at any one time). From the viewpoint of philosophy of science, this research may serve as a precedent for the legitimacy of research into the likewise rare “gifted” people called sensitives or mediums. Thus their small sample size cannot be used as an argument against this kind of research. The smaller the number of individuals on one hand and the more outstanding and unique their performance on the other, the more investigations will progressively shift from the “nomothetic” to the “idiographic” pole. Besides these “strange” people, the situation of rare or even unique events is discussed. Again the idiographic and the nomothetic approach are balanced against one another, viewing the “rare events” once more from the viewpoint of the philosophy of science. Thus, without going into details of methodological issues, it is argued that research into these fields, too, has some precedence in mainstream science. Not only is such research legitimate, but any challenges to it (both from the skeptics’ camp and from inside the parapsychological community) based on the sole ground of the rareness of cases must be rejected with reference to the outlined precedents in mainstream science.

*Austrian Society for Parapsychology and Border Areas of Science
Vienna, Austria*

BODY IMAGE IN RESPONDENTS WITH AND WITHOUT PRIOR OUT-OF-BODY-EXPERIENCES

CRAIG D. MURRAY AND JEZZ FOX

ABSTRACT: Although the body is an implicit aspect of out-of-body experiences (OBEs), to date bodily experience itself has been an

underresearched area in OBE research. The present study builds upon the important insights of three psychological approaches to understanding OBEs, namely the psychological theories of Palmer, Blackmore, and Irwin. Palmer presented a psychological theory of the OBE that centered on the body image of the experient. He argued that a reduction of proprioceptive information from the body resulted in changes to the "body concept" that (in some instances) in turn "triggered" the OBE. Similarly, Blackmore proposed that the brain builds up a model of reality based in large part on sensory input; when there is a breakdown in this sensory-input model, combined with other cognitive processes, an OBE occurs. Irwin provided a third theory for the occurrence of the OBE, namely that it is the result of the convergence of a number of dissociative factors. This includes high levels of "absorption" as well as a simultaneous occurrence of dissociation from somatic input. These theories of the OBE are informative exceptions to the general lack of consideration given to bodily experience in the OBE research literature. However, they have a very narrow focus on perceptual aspects of this experience. For instance, Palmer's and Blackmore's theories posit changes in the "body concept" or "body image" wherein these terms would seem to refer to conscious or unconscious changes in the sensorial topography of the body, such as might occur with a lack of somatosensory input. Irwin's study goes a little further in that it considers not just a lack of sensory input but also amplified sensory inputs. However, what is overlooked in these studies is other ways of experiencing the body. In this study we theorised that the daily bodily experiences of people with a prior OBE and those without this experience would differ along a number of dimensions. In order to test this theory a web-based questionnaire study was conducted. Of 243 respondents, 62 reported at least one prior OBE (45 females, 17 males, with a mean age of 29 years, $SD = 10.9$). The non-OBE sample consisted of 181 participants (126 females, 55 males, with a mean age of 29 years, $SD = 10.7$). Six scales on different aspects of bodily experience were administered. Respondents reporting a previous OBE were found to score significantly higher on measures of somatoform dissociation ($p < .001$), self-consciousness ($p = .035$), and body dissatisfaction ($p < .001$), and lower on a measure of confidence in their physical self-presentation ($p = .02$) than respondents without a previous OBE. There were no significant differences between these groups concerning physical self-efficacy or perceived physical ability, objectified body consciousness, or social physique anxiety. These findings lend support to our contention that there are pre-existing differences in the body experiences of those people who do and do not have OBEs that are not accounted for in current psychological theories.

ON THE FALSE HYPOTHESIS OF PSI-MEDIATED SHIFT
OF STATISTICAL AVERAGE IN TESTS WITH
RANDOM EVENT GENERATORS

FOTINI PALLIKARI

ABSTRACT: The micropsychokinesis (micro-PK) hypothesis states that intention can mentally shift the statistical average of the outcomes of an inherently random process in the desired, prestatd direction. The most recent meta-analysis based on all available to date micro-PK data testing the direct influence of human intention on the outcomes of true random number generators (RNG) does not support this hypothesis. Furthermore, a very large-scale experiment set out by a consortium of independent research groups to replicate the micro-PK hypothesis has failed to show the effect. Either micro-PK is not a real effect or the micro-PK hypothesis has been wrongly considered at its naissance to introduce mean-shifts. It is therefore proposed that the definition of micro-PK will have to change. In this work the implications of the current evidence are shown to support the second alternative as long as micro-PK prolongs the length of runs of successful and failed trials indistinguishably, a case of persistence of like binary events. The result of such persistence in the length of a run will appear as a broadening of the funnel plot, the graph that represents the scatter of size of study, N , against the proportion of successes in it, p_i . The mechanism that is compatible with the current evidence around RNG-micro-PK is shown not to constitute a real separate process mixed with the random process that either adds a fixed proportion of successes to it or shifts the statistical average by a fixed number of standard errors. This paper puts forward the hypothesis that provided there is a micro-PK effect to explain, it should be sought in the broadening of variance and not in the shift of mean. The proposed mechanism, which has been given the name *psi-gluing process* and which prolongs the length of the randomly generated runs of successes and failures, can adequately account for the shape of the micro-PK funnel plot, its convergence to 0.5 and its broadened width. It can also account for other relevant evidence such as the decline effect and the rendering of the statistical distribution of all large numbers of data in a micro-PK database to the perfect Gaussian. In the long run the statistical average of data in a micro-PK RNG test will have to converge to chance. This hypothesis is accompanied by a prediction concerning the broadened boundaries that border the scatter of micro-PK scores per study size, a prediction that further experiments can either confirm or falsify. It is also proposed that the psi-gluing process is fundamental to the mind-matter coupling mechanism and is therefore present in other related phenomena such as remote viewing and telepathy.

*Faculty of Physics, University of Athens
Athens, Greece*

SYNCHRONICITY AND PSI: HOW ARE THEY RELATED?

JOHN PALMER

ABSTRACT: Carl Jung's interest in parapsychology was kindled by personal psychic experiences, especially an anomalous banging sound emanating from a bookcase while he was in the company of Sigmund Freud. He also had an interest in Spiritualism and communicated extensively with J. B. Rhine about experimental parapsychology. He credits parapsychology with influencing the development of his theory of synchronicity. The purpose of this paper is to compare and contrast synchronicity experiences with psi experiences. Jung defined synchronicity as "the occurrence of a *meaningful* coincidence in *time*" (italics added). Re time, Jung generally viewed the elements of a synchronicity as simultaneous, but he did allow for a temporal relationship akin to precognition. With respect to meaning, Jung insisted that to be synchronicities, coincidences must reflect the activation of "archetypes," primal themes of good and evil inherited from our ancestors, and be of psychodynamic relevance to the experiencer. Psi experiences are not so restricted. Braude has criticized Jung for erroneously claiming that events can have inherent meaning. This problem can be overcome by saying that events differ in their capacity to evoke meaning in a person. Which events have this capacity must be defined by consensus among Jungian scholars. Jung postulated that one element of a synchronicity must be an experience and the other an objective event; this would seem to exclude pure telepathic experiences as examples of synchronicity. Synchronicity is unpredictable in the same sense that ESP card-guessing subjects cannot reliably predict whether any given response will be a hit. Jung performed an astrology experiment which found that married couples shared astrological signs relevant to marriage more frequently than chance, but he said that such statistical significance was not necessary; parapsychologists would not be so generous. Synchronicity cannot be the consequence of volition, which would seem to preclude most laboratory psi results; however, one can solve this problem by postulating that volition only *accompanies* psi in experiments. Mansfield, who sees no overlap between psi and synchronicity, subsumes psi under Jung's principal of "general acausal orderliness." At the level of physical theory, Jung subsumed synchronicity under quantum mechanics as interpreted by Pauli and also saw correspondences to relativity theory. Compared to theories of psi, synchronicity theory comes closest to Stanford's conformance behavior model, but Stanford insists conformance is causal. The controversy over whether it makes sense to consider synchronicity acausal can be viewed as a semantic issue related to different definitions of causality being implicitly adopted by Jung and his critics. So long as synchronicity can be considered to some degree nomothetic, it can be tested empirically. At the physical level, testing can be considered isomorphic to tests of related psi theories such as the observational

theories. Assuming a list of archetypes and evoking circumstances can be gleaned from Jung's writings, the theory can be tested psychologically by comparing test results under synchronicity conducive and nonconductive conditions. Jung suggested that evoking trance-like states and a sense of the miraculous can evoke archetypes. One might also explore manipulation of the archetypal content of ESP targets.

*University Hospital Zürich
Zürich, Switzerland*

EXPERIMENTER EFFECTS IN LABORATORY TESTS OF ESP AND PK USING A COMMON PROTOCOL

CHRIS A. ROE*, RUSSELL DAVEY* AND PAUL STEVENS**

ABSTRACT: This paper describes a fourth study designed to explore the relationship between ESP and PK performance by testing for both using a common protocol so as to control for expectancy effects and experimental artifacts. Following our earlier work, we were particularly concerned to look for possible experimenter effects upon performance. Forty participants completed a computer-based greyhound racing game. Races occurred in two blocks of 12. One block was presented as an ESP task and required participants to nominate which of the six greyhounds had won a race that the computer had already run silently. The program then replayed the race as feedback. The other block was presented as a PK task and required participants to "will" a greyhound that was selected for them to run faster than its competitors. The greyhound's movements were determined in real time by an RNG for PK trials and by using pseudorandom data for ESP trials. Within each block half the races were in fact ESP trials and half PK trials, presented in random order. For half the trials the second author served as experimenter as in previous studies, but for the other trials the first author fulfilled this role. After chatting with the participant, the experimenter completed an interaction questionnaire to evaluate the warmth, spontaneity, and positivity of the briefing. Performance was nonsignificantly better than chance overall and significantly better for disguised ESP trials. There were no significant relationships between performances in the four conditions, although the effect sizes were of a similar magnitude and direction to those found previously. Participants who had been briefed by the first author performed better than those briefed by the second author, in line with prediction: suggestively so overall ($p = .06$) and significantly so for Disguised ESP and PK ($p < .001$ and $p < .05$, respectively). A number of the interaction measures gave promising correlations with task performance, particularly the experimenter's confidence that the session would be successful ($r_s = -.431$, $p = .007$). Further research into interaction effects is recommended.

**Division of Psychology
University College Northampton
Northampton, England, UK*

***Koestler Parapsychology Unit
University of Edinburgh
Edinburgh, Scotland, UK*

A FURTHER CONSIDERATION OF THE SENDER AS A PK AGENT IN GANZFELD ESP STUDIES

CHRIS A. ROE AND NICOLA HOLT

ABSTRACT: The authors' recent work has been concerned to evaluate whether the sender plays any active role in successful ganzfeld GESP experiments. Earlier ganzfeld research that has considered the role of the sender has suggested a modest advantage for sender over no sender conditions despite weaknesses in general design that make any sender effect difficult to detect. The present study was a replication of the authors' novel method for overcoming some of these criticisms by utilising a random event generator (REG) as a proxy receiver. During the sending period descriptive statements were "selected" from among a pool of 768 to give a 20-item "REG mentation" that may represent a more direct measure of any sender influence. Forty ganzfeld trials were conducted with novice sender-receiver pairs using a standard protocol apart from the introduction of the REG. Immediately prior to the sending period, the computer determined whether a sender would be shown the target or would engage in an alternative task. By this method 23 trials involved senders and 17 did not. Receivers registered a 25% overall hit rate, equal to mean chance expectation, with slightly better performance in sender trials than no sender trials (26.1% compared with 23.5%). The REG mentation was used by two independent judges to rank order the clips in each target set, which gave rise to overall hit rates of 30.6% and 16.7%. Considering sender and no sender trials separately, both independent judges gave higher hit rates for the sender trials than for the no sender trials (42.1% versus 17.6% and 26.3% versus 5.9%), though these differences were not significant. There was no significant relationship between the ranks awarded by the receiver and those by the independent judge using REG mentations ($\kappa = -.174$ and $-.186$) or between the independent raters ($\kappa = .202$). None of a number of individual differences measures significantly predicted receiver performance, and indeed none were suggestive ($p < .1$). There was a significant relationship between one judge's target rating and sender sending strategy, and a suggestive correlation with sender focusing method.

*Centre for the Study of Anomalous Psychological Processes
University College Northampton
Northampton, England, UK*

FIELD STUDY OF AN ENHANCEMENT EFFECT ON LETTUCE SEEDS: WORKING IN ADVERSE CONDITIONS

S.M. RONEY-DOUGAL* AND J. SOLVIN**

ABSTRACT: During the years 2000–2002 research on organic farms looked at the effect of a healer on lettuce seeds. The basic hypotheses were that the healer would enhance the seeds to produce greater yield and greater health. The first year we found a significant result for the second hypothesis as measured by looking at the fungal damage. The second year we found significant results on all the measures: greater yield, less fungal damage and less slug damage. However, doing field trials has many problems compared with doing laboratory research, weather being one of the major variables that cannot be controlled. Organic farmers are working under conditions of immense stress and for very long hours, especially during the summer season. For various reasons, in 2001 Trials 6 and 7 were not planted out until long after they had become pot-bound. The delay in planting out was so great for Trial 6 that the plants never grew properly, and Trial 7 was harvested first as those plants grew to a point at which they became big enough for sale. In the end Trial 6 plants were harvested after they had been frosted just so that some data could be collected but with no benefit to the farm. In 2002 the research took place on another farm and was a disaster. For various reasons up to half of the lettuce plants died in the seedling trays, and the people working on the farm became “spooked.” They considered the reason for the loss of plants to be that the research trials upset the delicate balance of energy needed to keep the farm running smoothly. Therefore the research was terminated after only two trials were harvested. However, in both 2001 and 2002 significant results were still found. Trials 6 & 7 in 2001 both showed first place “hits” for gross weight of lettuces in the “enhanced” (HX) condition, which, when combined with Trials 1–5, give an average rank for gross weight of 1.92, which yields $t(11) = -2.24$ and $p = .046$, two-tailed. The net weight was also significant, with rank = 1.92, $t(11) = -2.55$ and $p = .027$, two-tailed. When each harvest was ranked by group on the number of lettuces produced, the HX group had mean rank of 1.79, with $t(11) = -2.75$, and $p = .019$, two-tailed. The total yield was also significant for the HX group, which had average rank of 1.83, and $t(11) = -2.77$, for $p = .018$, two-tailed. The two trials in 2002 yielded nine experimental vs. control pairings. The nine “experiments” comparing net weight HX to another condition yielded an average effect size (r) of .21 ($SD = .31$), which is statistically significantly greater than chance expectation, $t(8) = 1.97$, $p = .042$, one-tailed. The six control experiments

(NH versus controls) yielded average effect size $r = -.02$ ($SD = .26$), which is not significantly different from zero, $t(5) = -0.20$, $p = .43$, one-tailed.

*Psi Research Centre
Glastonbury, England, UK

**Center for Indic Studies
University of Massachusetts, USA
Massachusetts, USA

THE PRECOGNITIVE HABITUATION EFFECT: AN ADAPTATION USING SPIDER STIMULI

LOUIE SAVVA, ROBERT CHILD, AND MATTHEW D. SMITH

ABSTRACT: There has been a recent trend in precognition research to examine established conventional psychological paradigms for temporally reversed effects. The *precognitive habituation* (PH) effect is a newly emerging paradigm based upon a temporally reversed *mere exposure* (ME) study. Whereas in conventional psychology the ME effect involves exposing stimuli to participants and then measuring liking for it, the PH effect involves the opposite procedure. Participants are presented with a pair of photographs and are then asked to make a preference choice between the two. Previous research has argued that precognitive exposure to one target over another results in diminished arousal and that negatively arousing targets are made less negative. The PH hypothesis is that negatively arousing targets will be preferred over the nontargets and that no effect (or a precognitive boredom effect) is expected on nonarousing (low-affect) trials. In this study, we sought to conceptually replicate and extend Bem's findings by using less ethically problematic images. In the Bem studies, many of the images were disturbing (graphic images of gunshot victims, etc.) and Bem reported that some participants did make attempts to avoid looking at the stimuli through closing of the eyes or averting the gaze. To help circumvent the problem of showing potentially disturbing stimuli to participants, the authors sought to replace the negatively arousing images used by Bem with pictures of spiders. This was based on the work of Savva and French, in which spider pictures had been used to replace more disturbing images in a number of paradigms, including the presentiment effect. Fifty participants contributed to the current study and provided a self-report measure of spider fear in which 25 were categorised as "spider fearing" and 25 as "no spider fear." The overall hit rates obtained by the different fear groups were not significant but the data did suggest that an analogous effect was to be found. A significant difference was found for the mean number of hits obtained on the spider stimuli versus the low-affect pictures and only for the spider fearing group. This effect may be interpreted as a precognitive

habituation or a temporally reversed mere-exposure effect. The results are discussed and future directions of research suggested.

*Parapsychology Research Group
Department of Psychology
Liverpool Hope University College
Liverpool, England, UK*

INTERPERSONAL PSI: EXPLORING THE ROLE
OF THE EXPERIMENTER AND THE EXPERIMENTAL CLIMATE
IN A GANZFELD TELEPATHY TASK

SIMON J. SHERWOOD*, CHRIS A. ROE*, NICOLA J. HOLT*,
AND STUART WILSON**

ABSTRACT: The aim of this study was to examine the relationship between actual participants' pre-session perceptions of their mood and expectations of success, their rapport and the quality of the interactions with the experimenter, and the subsequent outcome of the ganzfeld telepathy sessions. A total of 38 trials were conducted by three different experimenters (NH, CR, SS) using an automated free-response testing system. Participants consisted mainly of a sample of volunteers from the local community, staff and students at University College Northampton (UCN), and friends and acquaintances of the experimenters. Overall the mean z score based upon ratings of the target relative to the dummy video clips was slightly negative (mean $z = -.015$, $SD = .81$) and did not differ significantly from zero, one-sample $t(37) = -.11$, $p = .90$, $r = -.002$, two-tailed. This prediction was originally one-tailed, but in the opposite direction to that found. The two-tailed probability is given for information only. There were no significant differences in the mean z score across the three experimenters. Based upon the participants' and experimenters' ratings, it is clear that all those involved tended to be fairly relaxed and in a positive mood at the end of the pre-session briefing and perceived the quality of the interactions to have been warm, fairly spontaneous, and positive. Neither the participants nor the experimenters rated their confidence that the session would be a success as being extremely high, though the experimenters' ratings tended to be higher than those of the participants. The findings concerning potential links between participants' and experimenters' ratings of their pre-session personal feelings and expectations and their perceptions of the rapport and quality of interaction between all parties are somewhat unclear and in some cases even contradictory, and there was no correction made for multiple analyses. Of all of the roles involved in this experiment, if there is any possible trend it is for the senders' ratings suggesting that trials were slightly more successful the more relaxed, optimistic, and confident of success they were and the greater the perceived rapport and

quality of interaction with the experimenter and the receiver. There is also a suggestion ($r = -.332$, $p = .113$, two-tailed), albeit a nonsignificant one, that the more relaxed the experimenters feel before the session the higher the ratings given to the target clip at the end of the sessions. This seems to provide further support for the argument that more attention should be paid to pre-session preparation by the experimenters. Our quantitative approach has been somewhat unsuccessful, and perhaps it is, by definition, unable to adequately tackle the complexity and richness of human verbal and nonverbal interactions. We support the endeavours of other researchers who have taken or recommended such a more qualitative approach. More qualitative analyses of, for example, filmed interactions between clearly psi-inhibitory and psi-conducive experimenters may provide more reliable indicators of performance.

**Centre for the Study of Anomalous Psychological Processes
University College Northampton
Northampton, England, UK*

***Department of Psychology
Queen Margaret University College Edinburgh
Edinburgh, Scotland, UK*

DO YOU KNOW WHO IS ON THE PHONE? REPLICATION OF AN EXPERIMENT ON TELEPHONE TELEPATHY

STEFAN SCHMIDT, SUSANNE MÜLLER, AND HARALD WALACH

ABSTRACT: Many people report that they know in advance who is on the phone when the telephone is ringing. Such reports may be explained by selective memory or expectancy effects, but there are also examples that resist such hypotheses. Thus many people believe in an extrasensory communication transfer that may be termed "telephone telepathy." Surveys show that this kind of belief is widespread and might be one of the most common beliefs regarding the paranormal. Rupert Sheldrake conducted several experiments to find out whether this effect is really due to ESP. Subjects had to determine which one of four possible callers was on the phone while the telephone was still ringing. Sheldrake reported highly significant hit rates that cannot be explained by conventional theories. He claimed furthermore that callers who were familiar to the person answering the phone were identified at significantly better rates than unfamiliar callers. We attempted to replicate both of these findings by setting up a replication experiment. Twenty-one participants were twice invited for a 2-hr session in an office-like room and were asked to preidentify the callers of 10 phone calls during each session. The caller could be either one of two persons known to the participant or one of two persons unknown to

them. With these four possible callers there is a mean chance expectation of 25% correct guesses. Participants were asked to complete questionnaires on earlier experiences with "telephone telepathy," mood, personality, and paranormal belief. Then participants spent approximately 100 min in the room together with an experimenter while the whole session was recorded on videotape. Approximately every 10 min a telephone rang and the participant had to announce his call before the experimenter lifted the receiver to check who was calling. The sequence of the four possible callers was determined by a random event generator. Overall valid responses were obtained on 397 calls, and the participants identified 106 calls (26.7%) correctly. This result is not significant ($z = .78$). However, 67 (63.2 %) of the correct calls were by familiar callers, showing that this group was identified more often than the unknown callers. But this result can be explained by a response bias in the participants because in all 397 calls they responded 242 times (61.0%) with the name of a familiar person. This resulted in a nonsignificant hit rate of 27.7% and also in a nonsignificant hit rate of 25.2% ($z = .05$, n.s.) for the unfamiliar callers. The difference between these two hit rates itself is not significant. Thus, this replication attempt failed to yield any telepathic effect. The possible reasons for the nonsignificant results are discussed.

*Department of Evaluation Research in Complementary Medicine
University Hospital Freiburg
Freiburg, Germany*

REMARKABLE CORRESPONDENCES BETWEEN
GANZFELD MENTATION AND TARGET CONTENT:
PSI OR A COGNITIVE ILLUSION?

JOAKIM WESTERLUND*, ADRIAN PARKER**, JAN DALKVIST*,
AND ANNELI GOULDING**

ABSTRACT: Remarkable correspondences between ganzfeld mentation and target content have been reported since the early start of ganzfeld experiments in parapsychology. These correspondences may be due to some anomalous information transfer (e.g., telepathy) or they may be due to a cognitive illusion on the part of the person who perceives them as remarkable. This paper presents two studies conducted in order to investigate which of these two possibilities is the more probable. Both studies were based on data collected during the first formal experiment run with a new technique called Digital Ganzfeld. In this earlier experiment the receiver's mentation was stored as a digital audio file that was synchronized with the target videoclip (as well as with the three decoy clips, as all clips were of exactly the same length). An external judge (JW) then played the mentation file together with the different clips in the set

that was used and ranked the different clips according to similarities with the mentation. The main result was close to chance with a direct hit rate of 23%. However, at the same time as the judge did this judging, he also tried to discern any correspondences between the mentation and any of the four clips (before knowing which one was the target) that appeared to him to be very remarkable (presented as Study 1 in this paper). A total of 20 remarkable correspondences were collected. Of these, only 6 (30%) were correspondences between the mentation and the target whereas the remaining 14 (70%) were correspondences between the mentation and decoys. This result is not significantly different from chance expectation. It was argued that this result gives some support to the cognitive illusion hypothesis but that the study was lacking in statistical power. In order to gain stronger statistical power, a group of 11 students rated each of the 20 correspondences on scales ranging from 0-100 (presented as Study 2 in this paper). The students did not rate the correspondences that were hits (i.e., correspondences with the target) as significantly more impressive than the correspondences that were misses (i.e., correspondences with one of the decoys). This result speaks against the psi hypothesis, but the results should be interpreted with some caution because the students could not be said to have been 100% blind. Taken together, the results of the two studies presented here help us to be more conservative about concluding that remarkable correspondences between receiver mentation and target content are due to psi when they may be due to cognitive illusions (or subjective validation).

**Department of Psychology
Stockholm University
Stockholm, Sweden*

***Department of Psychology,
Göteborg University
Göteborg, Sweden*

A TEST OF PREDICTIONS FROM FIVE STUDIES ON TELEPATHIC GROUP COMMUNICATION OF EMOTIONS

JOAKIM WESTERLUND AND JAN DALKVIST

ABSTRACT: The purpose of this study was to test a set of predictions from a previous series of telepathystudies involving 337 university students. In these studies, groups of receivers were asked to discriminate between positive and negative emotional slide pictures that were being looked at by groups of senders. The senders and the receivers were sequestered in separate acoustically insulated rooms. None of the eight predictions was confirmed by data from a replication study involving a total of 605 university students as

participants. Discussed are three explanations denying that any telepathic communication occurred, either in the original series of experiments or in the new ones, and three explanations assuming that some telepathic communication did occur. The three explanations denying the occurrence of any telepathic effect were: (1) all significant results obtained in the original experiments were caused by random variation, (2) the replication experiments were better controlled than the original experiments, and (3) the original positive results were obtained through systematic selection. All of these explanations were judged to be plausible. The three explanations assuming that some telepathic communication did occur were: (1) some of the eight hypotheses were only partly true and need to be modified, (2) the distribution(s) of some critical personal or situational variable(s) had changed during the six years of experimentation, which, in turn, has affected the results, and (3) the replication experiments were run at less favourable times with respect to some physical factors—local sidereal time (LST), an astronomical time and space measure that is indirectly related to the magnitude of cosmic radiation that reaches the earth, and disturbances in the earth's magnetic field as measured by the ap-index. On the basis of empirical tests, the two latter explanations (changing distributions of critical personal or situational variables and changing LST or ap-index) were rejected as unlikely. It was concluded that, taken together, the three explanations assuming that no telepathic communication had occurred could well account for the failure to confirm any of the predictions.

*Department of Psychology
Stockholm University
Stockholm, Sweden*

"IT'S STILL BENDING": VERBAL SUGGESTION AND ALLEGED PSYCHOKINETIC ABILITY

RICHARD WISEMAN AND EMMA GREENING

ABSTRACT: Some alleged psychics appear to be able to deform metallic objects, such as keys and cutlery, by thought alone. This paper describes two studies that examined whether one aspect of these demonstrations, often referred to as "after-effects," could be created by verbal suggestion. An after-effect occurs when a metal object is placed on a table but apparently still continues to bend by a small but noticeable amount. Some individuals believe that such effects cannot be the result of trickery because the alleged psychic is no longer in contact with the object and therefore view eyewitness reports of this phenomenon as strong evidence for the paranormal. In the first study, participants ($N = 46$) were shown a videotape in which a fake psychic placed a bent key on a table. Participants in one condition

(Suggestion) heard the fake psychic suggest that the key was continuing to bend, whereas those in the other condition (No Suggestion) did not. All participants were then asked to complete a questionnaire regarding the degree to which they believed the key continued to bend once it had been placed on the table. Participants in the suggestion condition were significantly more likely to report that the key continued to bend. A second study ($N = 100$) replicated these findings. In addition, participants were asked to provide a short verbal description of the events depicted on the videotape. These descriptions were rated by two judges, and the results revealed that participants who believed that the key had continued to bend were significantly less likely to recall that the fake psychic had suggested the continued bending of the key. Both studies also examined the levels of confidence expressed by participants in the accuracy of their recall. In the first study participants in both the Suggestion and No Suggestion conditions displayed a high level of confidence in their recall of this aspect of the video. In the second study participants who reported that the key continued to bend displayed a significantly higher level of confidence in their testimony than others. Both studies also examined the possible relationship between belief in the paranormal and suggestion. In both studies participants were asked to complete a questionnaire measuring the degree to which they believed in ESP and PK phenomena. Neither experiment revealed any differences between participants who expressed a prior belief in the paranormal compared to those who did not. The paper discusses the implications of these results for the psychology of suggestion, testing individuals claiming macro-PK abilities, and the assessment of eyewitness testimony for anomalous events.

*Psychology Department
University of Hertfordshire
Hatfield, England, UK*

MEASURING SUPERSTITIOUS BELIEF: WHY LUCKY CHARMS MATTER

RICHARD WISEMAN* AND CAROLINE WATT**

ABSTRACT: A large body of research has attempted to develop theories about the function and origin of superstitious beliefs on the basis of the psychological correlates of such beliefs. Most of this work has measured superstitious belief using the Paranormal Belief Scale (PBS) and has tended to find that superstitious belief is associated with poor psychological adjustment such as low self-efficacy and high trait anxiety. However, the PBS refers solely to negative superstitions (e.g., breaking a mirror will cause bad luck) and omits items referring to positive superstitions (e.g., carrying a lucky charm will bring good luck). Positive

superstitions may serve different psychological functions than negative superstitions. Indeed, as with other forms of "positive illusions," beliefs in positive superstitions may be psychologically adaptive. This paper reports two studies investigating this neglected aspect of the psychological correlates of superstitious belief. If positive and negative superstitious beliefs serve different psychological functions, then we might expect, using analysis of variance, to find interactions between superstition type and various relevant individual difference measures. Study 1 was a large-scale internet-based study that investigated the relationship between endorsement of superstition type, gender, and a single-item measure of neuroticism. Participants were asked to indicate the degree to which they endorsed three negative and three positive superstitious beliefs using five response options (anchored with Definitely Yes and Definitely No). The three negative items were: "Have you avoided walking under a ladder because it is associated with bad luck?"; "Would you be anxious about breaking a mirror because it is thought to cause bad luck?"; and, "Are you superstitious about the number 13?" The three positive items were: "Do you say 'fingers crossed' or actually cross your fingers?"; "Do you say 'touch wood' or actually touch or knock on wood?"; and, "Do you sometimes carry a lucky charm or object?" Study 1 included 4,339 participants. The highly statistically significant results found interactions between gender and endorsement of superstition type, and between neuroticism and superstition type. Study 2 was conducted by mail and sought to replicate and extend the findings obtained in Study 1 by administering validated questionnaire measures of neuroticism and life satisfaction alongside positive and negative superstition items. This study included 116 participants. As with Study 1, there was a significant interaction between gender and superstition type, but no interaction was found for neuroticism. A significant interaction was found between superstition type and life satisfaction. Overall, these findings indicate that the psychological correlates of superstitious belief vary depending on whether the belief is in positive or negative superstitions. These findings have important implications for theory development, demonstrate that the PBS is an incomplete measure of superstitious belief, and highlight the need for future measures to include items referring to positive superstitions.

**Psychology Department
University of Hertfordshire
Hatfield, England, UK*

*** Koestler Parapsychology Unit
University of Edinburgh
Edinburgh, Scotland, UK*

TESTING ALLEGED MEDIUMSHIP: METHODS AND RESULTS

RICHARD WISEMAN* AND CIARÁN O'KEEFE**

ABSTRACT: Mediums claim to be able to communicate with the deceased. Such claims attract a considerable amount of public interest and, if valid, have important implications for many areas of psychology and parapsychology. For over 100 years, researchers have tested alleged mediums. This work has obtained mixed results and provoked a considerable amount of methodological debate, with some researchers arguing that some mediums possess genuine psi abilities and others arguing that such alleged abilities are the result of psychological rather than parapsychological processes. This paper reviews the key issues in this debate, noting that this past methodological debate has tended to cluster around three important issues: the need to control for sensory leakage, the need to assess the generality of mediums' statements, and the need for blind judging. The paper then describes how the authors devised a method of testing that prevented the problems that have hindered past research and how they then used this method to test several professional mediums. This test involved five mediums giving readings to five sitters. For all of the readings, the sitters were located in a different room from the mediums, and neither the mediums nor anyone who came in contact with the mediums knew the identity of the sitters. In addition, the time of each reading was counter-balanced across several days in order to minimize the possibility of any temporal cues. The resulting readings were then broken up into separate statements and given to the sitters for evaluation. The sitters were not informed whether the statement had been made during their own reading or the reading of another sitter. The ratings assigned by each of the sitters to each of the readings were then assessed using a form of Monte Carlo analysis. The results of this work did not support the existence of genuine mediumistic ability as none of the mediums obtained significant results. Competing interpretations of these results are discussed, including the notion that the previous work reporting significant results may be methodologically flawed, that the mediums employed in the present study did not possess psi abilities, and that this study was carried out under conditions that were not psi conducive. The authors conclude by urging other researchers to adopt the methodology reported here to investigate other mediums and psychics and also explore ways in which the methodology presented in the paper could be used to assess conceptually similar but nonparanormal, claims made in clinical, occupational, and forensic contexts.

**Psychology Department
University of Hertfordshire
Hatfield, England, UK*

***Psychology Department
Liverpool Hope University
Liverpool, England, UK*

PANEL: PERSPECTIVES IN THE STUDY OF MEDIUMSHIP

CHAIR: CARLOS S. ALVARADO

CARLOS S. ALVARADO, RUTH REINSEL, PETER MULACZ,
ROSEMARIE PILKINGTON, AND ERLENDUR HARALDSSON

ON TRANCES AND SPIRIT COMMUNICATORS: RESEARCH IDEAS
FROM THE OLD LITERATURE

CARLOS S. ALVARADO

ABSTRACT: There are many aspects of mediumship we can study from the psychological perspective. These include consideration of cognitive, psychosocial, and psychopathological variables. I will discuss the topic using suggestions and observations from the old psychical research literature. To this day we do not understand the nature and functions of trance. There is much research to do with the stages and depth of trance. Cesare Lombroso argued that the most striking physical phenomena with Eusapia Palladino took place in the deepest trance. Eleanor Sidgwick documented the existence of stages of trance and the variety of phenomena accompanying Mrs. Piper's mentation. Just as modern parapsychologists have studied ESP in relation to aspects of altered states of consciousness (e.g., depth, changes in sense of time, and body image) we may study psi in mediums in relation to specific features of trance. There is also much to do regarding the imagery obtained in mediumistic mentation. We may attempt to replicate James H. Hyslop's studies of the role of visual imagery and its distortions on the generation of veridical and nonveridical mentation. There are probably many individual differences in the content of the mediumistic mentation. But whether or not the mentation shows common patterns it would be worthwhile to explore the flow of imagery, its symbolism, and its salient features such as the repeated use of specific images in veridical messages, as documented by Charles Drayton Thomas in his study of Gladys Osborne Leonard. Also important is the psychosocial study of the content of mediumistic statements and the development of trance personalities. Williams James (1890) emphasized that the *Zeitgeist* was influential on mediumistic productions. The writings and studies of Théodore Flournoy, Pierre Lebeidzinski, and René Sudre show the importance of indirect suggestions, beliefs, and demand characteristics on the development of trance personalities and the stories of the communicators. Most of the previous discussions have been theoretical and after the fact, but there is

much to do to induce or manipulate specific ideas to explore the plasticity of the medium's psychological resources. These manipulations could involve the production of psi effects such as communications from the living. Positive results would place ESP explanations of mediumship on empirical footing. We also need to return to the old question of the relationship of mediumship to psychopathology. In the old days the psychopathological nature of mediumship was defended both by those skeptical of its psi components, such as Pierre Janet, and those, such as Morselli, who believed in psi aspects such as physical phenomena. Some mediums seem to show unstable behaviors or a tendency toward instability. Perhaps we should study the issue considering Joseph Maxwell's suggestion that the nervous system of mediums is liable to many changes and fluctuations that do not necessarily become pathological. This is consistent with some contemporary ideas of schizotypy, which postulate that some people are more creative or hallucinatory than others due to differences in the inhibitory mechanisms of the nervous system. Assuming this is the case with mediums we should expect to find more adjustment and productive use of mediumistic phenomena in some than in others, according to different developmental and situational variables.

*University of Virginia
Charlottesville, VA, USA*

PHYSICAL MEDIUMSHIP, MACRO-PK, AND THE AUTONOMIC NERVOUS SYSTEM

RUTH REINSEL

ABSTRACT: The accounts of séances held with several physical mediums of the nineteenth and early twentieth century provide tantalizing clues to extreme bodily states during the production of PK effects. Observations of mediums such as Eusapia Palladino, Franek Kluski, and Rudi Schneider give evidence that macro-PK phenomena were produced at a substantial physical cost to the medium. Symptoms that were commonly observed during macro-PK included pallor, increased heart rate (tachycardia), hyperventilation or irregular breathing (dyspnea), hoarseness of voice, and increased perspiration. After séances in which macro-PK phenomena were apparently produced without fraud, many physical mediums experienced severe physical and mental sequelae, including, in some cases, exhaustion, headache, extreme muscle weakness, vomiting, and long-lasting disturbances of digestive function and sleep. These symptoms from the séance room share a common basis in that they are produced by competing branches of the autonomic nervous system (ANS) that exert opposing effects on bodily organs. The sympathetic branch has a stimulatory effect and produces arousal, whereas the parasympathetic branch produces relaxation. Normally

both branches are active at the same time to keep the body in an optimum state of functioning. Braud reviewed the evidence that the autonomic nervous system may modulate psi performance. He concluded that GESP is generally facilitated by calm, quiet states, and PK may be facilitated by states of arousal. Roll and Persinger's observations with poltergeist agents support the role of arousal in macro-PK. The symptoms listed above during production of macro-PK are symptoms of activation of the sympathetic branch of the ANS. The post-séance sequelae are typical of activation of the parasympathetic branch of the ANS. Most of the cardiovascular and respiratory effects and alterations in level of arousal seen during physical mediumship are under the control of the vagus nerve (cranial nerve X) and the insular cortex. The insular cortex (insula) lies directly under the temporal lobe. It controls the regulation of bodily functions by the ANS. Sympathetic activation of the insula results in increased heart rate and blood pressure, respiration, salivation, and dilation of the pupils, as well as gastrointestinal activity. There seems to be substantial overlap between these functions of insular cortex and the responses of physical mediums during PK production. It is postulated here that at the end of a prolonged sympathetic "storm" associated with the production of macro-PK phenomena a compensatory rebound in parasympathetic activity occurs. This sudden decrease in sympathetic activity and increase in parasympathetic activity may cause the symptoms of muscle weakness, headache, dizziness, nausea, and fainting (syncope, in medical terminology). If macro-PK is indeed produced by hyperstimulation of sympathetic neurons in the ANS, controlled by insular cortex and brainstem regions, then it is likely to be a relatively primitive function from an evolutionary standpoint. Because, in this view, the control centers are not located in the cerebral cortex, PK (and perhaps ESP?) is likely to be not under conscious control; it would be nonverbal and characterized by visceral sensations ("gut feelings" and vague "malaise" or formless anxiety). This description fits well with what we know about the functioning of psi. We may need to look beyond (beneath?) the cerebral cortex to find the brain centers that facilitate macro-PK.

*The NeuroScience Laboratory
Hillsdale, NJ, USA*

PHYSICAL MEDIUMSHIP: OPEN QUESTIONS FROM THE PAST, A CHALLENGE FOR THE FUTURE

PETER MULACZ

ABSTRACT: The Rhinean paradigm has proved extremely successful and has gained scientific respectability for the field of parapsychology. Not only was its approach very simple—an experiment that can be replicated at any place and any time using average people without the need to search for specifically

gifted ones—but it echoed the demand for replicability in natural sciences and thus paved the way for the acceptance of the field in academia. Yet there is a reverse side to this success story. Investigating specifically gifted individuals (sensitives, mediums) got out of the focus of “scientific parapsychology,” and much of what had been achieved by earlier research fell into oblivion. (Admittedly, for the last 30 years there has been a certain upsurge in the research on gifted individuals in the context of the CIA-sponsored research in RV.) Nonetheless, research in physical mediumism in particular became out of fashion and was at best left to amateurs. Taking into account the potential relevance of (ostensible) phenomena of physical mediumism, the present state of affairs is a deplorable one. However, research in paranormal metal bending was a first little step in the right direction of reversing that process. The difficulties in investigating physical mediumism are twofold: firstly, finding gifted subjects and keeping them motivated, and secondly, applying appropriate research methodology. What must be demanded from an appropriate methodology is also twofold: automatic registration of data and safety against mediumistic fraud. Galileo at the very onset of natural science some 400 years ago is credited with saying “to measure what is measurable, and what is not, to make it measurable,” and the same still applies to research in physical mediumism. Visual observation (a prime example is the account of Princess Metternich on her observations of D. D. Home), preferably by several witnesses, is good: however, automatic continuous recording of quantitative data is better. This is the standard since the 1870s (Crookes’ experiments with D. D. Home, recording the readings of a spring balance) and there is no way of going below this level. It should be added that automatic recording of data as such is not necessarily fraud-proof and proper safeguards needs to be taken in any case. The gold standard of experiments in physical mediumism is beyond any doubt the series of experiments with Rudi Schneider carried out by Eugène and Marcel Osty in 1930. Not only was the methodology of recording the absorption of an infrared beam flawless (at least has it not been called into doubt by fellow parapsychologists), but the results were impressive: the correlation of the oscillation of the absorption rate to the respiration rate of the medium. The nature of this correlation remains an open question (one of the many in the field). The later experiments with Rudi Schneider by G. A. Schwaiger employing an early TV set were discontinued due to the turn of events during World War II. Every leading edge of scientific research needs to utilize state-of-the-art equipment. At the time of Schrenck-Notzing this was Amereller’s electrical medium control apparatus applied in experiments carried out in the dark or in extremely reduced light conditions. The equivalent present level would be video recording such experiments by using light amplifier devices. Any experiment falling short of this standard (e.g., the Scole Group) cannot be regarded as conclusive.

THE MYSTERY OF ECTOPLASM

ROSEMARIE PILKINGTON

ABSTRACT: Most people consider the production of ectoplasm by physical mediums to be fraudulent. Many charlatans took advantage of the darkness of the séance room and the desire of believers to communicate with the dead. Many were unmasked and physical mediumship was ever after suspect. However, there are still instances that seem genuine. My purpose here is to reexamine some of the evidence for these cases and to encourage researchers not to "throw out the baby with the bathwater" but to look into a phenomenon that might teach us much about human mind/body capabilities. Ectoplasm, if it exists, by its very nature strains the credulity of even those whose "boggle thresholds" have been stretched nearly to infinity. It is supposedly made up of organic elements, especially albumin, yet it appears in various forms from a vapor or clear liquid to a plastic, white solid or semisolid. It is exuded from various orifices of the medium's body but can dissipate and/or be reabsorbed by the medium. In addition it is also subject to the psychological idiosyncrasies of individual personalities and may at times be influenced by what Jung called the "joker" or "trickster" aspect of our psyches. Its many forms are as varied as the beliefs and unconscious mental images of the mediums who produce it. The phantom "Katie King," produced by Florence Cook, was at times life-like, seemingly warm blooded; had a measurable pulse; spoke and interacted with observers but did not always appear fully formed and disintegrated before the eyes of witnesses under the controlled conditions of her chief investigator, Sir William Crookes. Ectoplasm may also have electrical or photoelectrical properties and sometimes appears as lights or luminous animate objects. These were particularly pronounced in the emanations of D. D. Home, Franek Kluski, and recently the Scoble mediums. The phenomena have been widespread with credible investigators reporting on cases throughout Europe and America beginning in the nineteenth century and continuing throughout the twentieth. Many photographs have been taken of ectoplasmic forms. These would be unconvincing except for the accompanying information provided by investigators and corroboration by witnesses. Of interest are the findings of W. J. Crawford, a lecturer in mechanical engineering who examined the mediumistic work of Kathleen Goligher in the early 1900s. Among his theories and discoveries were ectoplasmic "rods" that seemed to cause the levitation of objects. He also found relationships between physical manifestations, including raps and levitations, and the weight not only of the medium but of the other participants in the séances. Crawford was also able to trace the origins and workings of the ectoplasm. However, his engineering model did not explain other related phenomena such as luminosity and the seeming suspension of the gravitational field, such as the adhering of objects to a tilted table or the tilting of a candle's flame

when the candle was at an angle. However, his experience may illustrate the concept of ideoplasty, in which the experimenter's theory is confirmed because his beliefs affect the medium, who in turn shapes the phenomena. Physical mediums, although out of fashion, still exist. I encourage seeking out those who might lend themselves to investigation. I also want to urge investigators to attempt séances as the "Philip" group in Canada did.

Staten Island, NY, USA

A SURVEY OF MEDIUMS IN ICELAND

ERLENDUR HARALDSSON

ABSTRACT: We contacted and interviewed all persons we were able to find with experiences of trance or automatisms (involuntary speech or writing) at least a few times. These were 31 persons, 17 men and 14 women, ranging in age from 19 to 70 ($M = 45$). Eighteen of them had fallen into trance more than 100 times, so most were practicing mediums, either professionally or in private home circles or organised groups like healing groups. About half of them admitted receiving pay for their psychic work, and for two it was their main income. These mediums could be divided into three roughly equal-sized groups: (a) spiritists, in which the emphasis was on communication with the deceased; (b) groups seeking healing from spirit helpers and deceased doctors who continued their healing work after death; (c) a group exclusively found in Iceland, "nyalssinnar," who believe that after death we are reborn on other planets in other solar systems and can then communicate with people on earth through either dreams or trance. The main purpose of this survey was to learn about how the mediumship started and developed in these individuals. About half of them first fell into trance at home (four of them being alone) or in the homes of friends and did so unexpectedly and involuntarily, whereas 40% experienced mediumship as a result of trying to fall into trance or after training. For some the first trance took place unexpectedly and involuntarily at a seance when someone else was in trance. About 41% were fully conscious when they experienced their first trance, which consisted of involuntary speech during which they felt that some entity had taken control of their organs of speech. Another 40% knew nothing about what happened and had full amnesia about it, and were told about the incident by those who had been present. The rest, 20%, were in between, being partially conscious and observing what happened and partially unaware of what took place. Of the total number, 77% felt that a distinct personality took over when they fell into their first trance. In most instances this personality was unknown to the individual; was from distant times or was a foreign person, such as an Indian; or was a contemporary person generally known (such as a physician) but had not been known to the individual. With time the relationship with this distinct

otherworldly personality became quite close, but we had the impression that with time little further knowledge was obtained about the life of that personality who became the medium's control. Very few experienced the trance as unpleasant; mostly it was experienced as neutral or pleasant. All of our interviewees looked upon these personalities as deceased persons; none considered them a fiction of their mind or a part of their unconscious. For them these were external beings distinct from themselves.

*University of Iceland
Reykjavik, Iceland*

PANEL: COUNSELING PERSONS WITH EXCEPTIONAL
EXPERIENCES: THE EXAMPLE OF IGPP

CHAIR: EBERHARD BAUER

EBERHARD BAUER, MARTINA BELZ-MERK, WOLFGANG FACH, NIKO KOHLS,
AND HARALD WALACH

INTRODUCTION: COUNSELING AND MENTAL HYGIENE- THE
APPROACH OF THE IGPP

EBERHARD BAUER

ABSTRACT: Since its foundation in the year 1950 by Hans Bender (1907-1991), the pioneer of German post-war parapsychology, the IGPP has provided the public with an information and counseling service covering the whole spectrum of parapsychology, fringe sciences, and anomalistic phenomena. Bender, who had training in psychology as well as in medicine, had always stressed that research into paranormal phenomena should also consider psychological and social problems connected with popular forms of spiritism or occultism. Back in the 1950s, Bender had already published several case studies that dealt with what he called spiritistic or mediumistic psychoses. Therefore, according to Bender's legacy, the IGPP always had to offer information and psychological help for people having to cope with occult or paranormal experiences that were causing them and others emotional distress. In a more general sense, "Mental Hygiene" (or "Psycho Hygiene"), as defined in the bylaws of the Institute, comprises "the application of medical, psychological and parapsychological findings with regard to diagnostics, counseling, intervention and prevention in connection with those scientific questions and psychosocial problems which derive from or are related to anomalous and/or paranormal phenomena." In order to realize this ambitious programme and after substantial new funds became available, the IGPP started in 1996, in collaboration with the Institute of Psychology of Freiburg University, a special research project, "Counseling and Help for People Claiming Exceptional Experiences," which was directed between 1998 and 2001 by Dr. Martina Belz-

Merk. The goal of the project was to develop, implement, and evaluate a special counseling and treatment concept for people who felt distressed or burdened by exceptional experiences (EE). In accordance with current regulations and standards of basic documentation in psychotherapy, a special documentation system ("DOKU") was developed by the research group to record systematically sociodemographic, anamnestic, and phenomenon-specific data. Using this documentary system, it was possible for the first time to record continuously and systematically, as well as to evaluate statistically, the number of IGPP counseling cases. According to an on-going process of data collection and evaluation, the DOKU system was modified and optimized several times (Belz-Merk, 2002). There exists now a carefully documented database of counseling cases that can be used for different research strategies (see the panel contributions by Martina Belz-Merk and Wolfgang Fach). In October 2003, the IGPP team organized for the first time a special seminar on practical and theoretical aspects of counseling persons with EE whose audience consisted primarily of medical and psychological therapists and counselors. The IGPP counseling team is made up of trained psychologists with a clinical-therapeutical background; the counselors meet each other on a weekly basis to discuss incoming cases. Psychotherapeutic treatment can be offered to clients. Although the necessity for a specific information and counseling service in the field of parapsychology has been increasingly recognized in the last 20 years, especially among the representatives of scientific parapsychology, as exemplified by the PA community (Solvin, 1995) and other parapsychological organisations, professional counseling services dealing with such experiences are still extremely rare. In Holland, Wim Kramer, trained as a clinical psychologist and parapsychologist, had run in Utrecht between 1986 and 1991 in cooperation with the now defunct Parapsychology Laboratory of Utrecht University his pioneering "Parapsychologisch Adviesburo" (Parapsychological Counseling Center) (for his approach see Kramer, 1993). In 1989, the New York-based Parapsychology Foundation had organized in London an international conference on "Psi and Clinical Practice" (later published by Coly & McMahon, 1993). In the same year, Dr. Walter v. Lucadou founded in Freiburg, Germany, his "Parapsychologische Beratungsstelle" (Parapsychological Counseling Center), which was later funded by the state of Baden-Wuerttemberg and became well known in Germany (for his approach see Lucadou & Poser, 1997). In Argentina, the "Instituto de Psicología Paranormal," run by Alejandro Parra, has organized special discussion groups for people with conflictive psi experiences (Montanelli & Parra, 2000). In 2000, as another promising sign, the American Psychological Association (APA) published the volume *Varieties of Anomalous Experience* (edited by Cardena et al.), which tried to integrate psychological and parapsychological findings related to exceptional human experiences into the larger corpus of psychology and behavioural sciences.

Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP)
Freiburg, Germany

THE ROLE OF INCONSISTENCY AND INSTABILITY FOR THE ORIGIN OF EXCEPTIONAL EXPERIENCES

MARTINA BELZ-MERK

ABSTRACT: Results of numerous surveys show that paranormal phenomena and exceptional experiences (EE) belong to a common human body of knowledge (Bauer & Schetsche, 2003), so it can be assumed that basically psychological models are relevant for the understanding of the cognitive-emotional functioning of people with EE. Paranormal phenomena may represent the surface structure of a broad spectrum of EE. Being able to describe these phenomena may be a necessary but not a sufficient precondition to understand the underlying intrapsychic and interpersonal processes related to the origin and development of EE. What we know from the empirical literature as well as from our own data (i.e., results of 858 advice-seeking persons reporting EE to the IGPP) is that EE are often preceded by a state of substantial instability based on special life events, traumatic experiences, or phases of change in life. From a neuronal network point of view, this is a central factor for new experiences. The basic hypotheses we are testing are the following: Whenever people experience exceptional phenomena they are and remain in a very tense and unstable state for a longer time than would be expected. Usually people fall from one state with strong tensions directly into another attractor. People with EE seem to differ from others just with respect to this point. As reasons we see their special ability to remain in a dissociative state of consciousness and their special style of information processing. In order to develop a better understanding of the dynamics involved in the structure and psychological functioning of people claiming EE, the so-called Plan Analysis was used. Plan Analysis is a method that serves to analyse and describe conscious and unconscious instrumental strategies starting from the level of concrete behaviour up to superordinate general needs. Different aspects of psychological functioning such as behaviour, emotion, and cognitive schemata as well as motivational conflicts can be clearly arranged and reflected as far as their significance in the dynamics is concerned. Then the generated typical plan structure is used as a basis for neural network (connectionist) computer simulations of these individuals. Network models can represent and illustrate the described phenomena and help to shed light on the underlying mechanisms. Simulations that are based on plan-analysis from intensive interviews with 10 selected cases representing different patterns of EE, additional questionnaire data (SCL90; PSSI; FAMOS) are shown. They model EE from a reactive and instrumental point of view. The use of such models and their implications for research, counseling, and therapy will be demonstrated and discussed.

*Department of Clinical Psychology (University of Freiburg) and
Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP)
Freiburg, Germany*

THE PHENOMENOLOGY OF EXCEPTIONAL EXPERIENCES: AN ANALYSIS OF IGPP COUNSELING CASES

WOLFGANG FACH

ABSTRACT: There is a great variety of exceptional experiences (EE). Different kinds of specific phenomena often occur jointly and build up to a complex pattern. The purpose of this analysis was to explore if there exist systematic correlations between specific categories of such phenomena. Based on a sample of 652 clients who had contacted the counseling services at the IGPP between 1996 and 2001, six basic patterns of EE could be extracted by using a principal component analysis:

(1) *Internal phenomena/feelings of being influenced:* Somatic phenomena and/or voices are experienced. The phenomena are localized physically or inner-psychic, and are often attributed to influences originating from external powers (e.g., by magic, spirits, or ghosts).

(2) *Apparitions/altered states of consciousness:* Visible apparitions (e.g., light, shadows, figures) and/or the presence of invisible entities, powers, or beings (ghosts, deceased persons) are experienced in the external world. The phenomena sometimes happen together with sleep paralysis and altered states of consciousness described in terms of "trance" or as "mystic."

(3) *Poltergeist phenomena:* Inexplicable kinetic phenomena (objects move, appear, or disappear) and/or acoustic sounds (e.g., knocking, taps) are heard in the environment.

(4) *Extrasensory perception (ESP):* Past or present events (clairvoyance) are known without usual sensory information transmission; unpredictable future events (precognition), cognitions, and emotions of other persons and living beings are known or foreseen.

(5) *Mediumship:* Experiences connected with occult and spiritistic techniques such as automatic writing, glass sliding, or channeling are experienced as contacts with external powers (ghosts, deceased persons).

(6) *Precognitive dreams:* Dreams in which future events, unpredictable by existing knowledge, are more or less distinctly or symbolically anticipated. Using these EE patterns specific types of clients can be characterized. A cluster analysis based on the Ward technique yielded six clusters:

(1) *Internally influenced type:* 114 persons exclusively reported internal phenomena/influence, the first EE pattern listed above.

(2) *Apparition type:* 146 persons reported apparitions/altered states of consciousness. About 50% of them were additionally affected by

internal phenomena/influence, and more than 40% reported poltergeist phenomena.

(3) *Poltergeist type*: 102 persons reported poltergeist phenomena. Approximately 30% of them described internal phenomena/influences in addition.

(4) *ESP type*: 162 persons reported ESP. More than 30% of them were also affected by internal phenomena/influences, almost 30% were affected by apparitions/altered states of consciousness, and more than 20% were affected by poltergeist phenomena.

(5) *Precognitive dream type*: Typical for 84 persons were experiences of precognitive dreams. Also 40% of them reported ESP, almost 30% reported apparitions/altered states of consciousness, and about 25% reported poltergeist phenomena and internal phenomena/influence.

(6) *Mediumistic type*: The smallest group with 44 persons had exceptional experiences in the context of occult techniques and mediumship, and 20% to 30% of them reported internal phenomena/influence, poltergeist phenomena and ESP.

The obtained types of clients show significant differences with respect to sex, age, employment status, general stress, specific stress due to EE, experience with psychiatric treatment and assessment of psychological disruption. Future work has to clarify if the obtained typology could serve as a starting point for specific counselling and treatment concepts.

*Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP)
Freiburg, Germany*

EXCEPTIONAL EXPERIENCES AND MENTAL HEALTH-RESULTS AND PROBLEMS OF A QUESTIONNAIRE STUDY

NIKO KOHLS AND HARALD WALACH

ABSTRACT: Clinical psychology and psychiatry have in general regarded exceptional human experiences as psychopathological in nature, interpreting them mostly as destabilising events. During the last three decades this point of view slowly began to change under the influence of striking research results within the field of salutogenesis and transpersonal psychology. It was discovered that certain types of exceptional experiences can have positive effects on the mental and physical health of individuals. However, the relevant research results, which are mainly based on questionnaire research, are in summary quite heterogeneous, and as a result of this the question arises whether quantitative research methods are appropriate and valid research methods for the scientific investigation of exceptional experiences and their aftereffects. To investigate this unsolved question the Department of Evaluation Research in Complementary Medicine (Harald Walach, director) at the Institute of Environmental

Medicine (University Hospital Freiburg) conducted a study (Freiburg Survey of Exceptional Experiences) supported by the IGPP in which we combined quantitative and qualitative research strategies. We included a clinical sample ($N = 56$), a sample of practitioners of spiritual or religious techniques ($N = 350$), and a sample of people who did not practice spiritual techniques ($N = 299$). In the quantitative method part of the study we used a questionnaire for the measurement of exceptional experiences developed by ourselves, which has already been revised, in addition to standard instruments for the measurement of sense of coherence, social support, mental distress, and transpersonal confidence. A factor analysis (principal component analysis with varimax rotation) clearly assigned the 57 items of our scale to four factors, accounting for a total of 48% of variance explained. The first factor contains positive mystical experiences (e.g., "I am in contact with everything"), the second factor describes experiences of ego loss and deconstruction (e.g., "My world-view is falling apart"), the third factor includes psychopathological experiences (e.g., "I am controlled by alien forces"), and the fourth factor pertains to dreams (e.g., "I dream of future events which occur afterwards"). After six months the retest reliability of the scales ranged between $r = .66$ (Factor 3) and $r = .89$ (Factor 1). The analysis of correlations between our questionnaire and other scales, as well as SEM models (Structural Equation Models, AMOS), confirm the hypothesis that spiritual and psychopathological experiences represent different classes of experiences and that they can be phenomenologically separated by questionnaires. Although the effects of exceptional human experiences on mental health show quite ambivalent outcome effects, a lot of spiritual practices techniques (e.g., meditation, contemplation) seem to adjust the focus on positive outcome effects, whereas negative impact is apparently suspended.

University Hospital Freiburg

Department of Evaluation Research in Complementary Medicine

at the Institute of Environmental Medicine, in cooperation with the

Institut für Grenzgebiete der Psychologie und Psychohygiene (IGPP)

Freiburg, Germany