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Message to our Readers

Welcome to the sixth volume of the *European Journal of Parapsychology* to be produced from Edinburgh. This is something of a bumper issue, so much so that outlining the contents on the front page of the journal proved to be extremely problematic.

We are delighted to be able to offer such an international collection of papers and book reviews, including contributions from Australia, Sweden, Holland, USA, and the UK. We are grateful to our readers for their continued support, and remind you that without your contributions there would be no journal.

As in previous years, we are very proud to be able to provide for each article abstracts translated into six foreign languages. This is completely due to the generous help of certain individuals who, each year, have rapidly responded to our last-minute requests for translation. We are therefore extremely grateful and indebted to: Massimo Biondi (Italian); Carlos Alvarado (Spanish); Michel-Ange Amorim (French); Fátima Regina Machado and Wellington Zangari (Portuguese); Gerd Hövelmann (German); and Hans Michels (Dutch). We hope our international readers find this service helpful.

We are also pleased to be able to continue the feature introduced in the last volume of *EJP*: English language abstracts from two European journals: *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* (Germany) and *Quaderni di Parapsicologia* (Italy).

Our appreciation goes out to all the referees whose careful considerations have improved the quality of the articles we publish. Finally, of course, we thank all the authors who have contributed their work and without whom the journal would not exist.

The *European Journal of Parapsychology* is jointly produced by an Editorial Team. For Volume 13, Caroline Watt coordinated the team, did copy editing, and assisted with the desktop publishing. Fiona Steinkamp has made a substantial contribution in terms of maintaining the subscription list and also doing most of the desktop publishing. Deborah Delanoy and Robert Morris have assisted in the handling of articles and Helen Sims handled the financial side of the journal. The journal is printed by the University of Edinburgh. ISSN: 0168-7263.

We hope that this journal will stimulate interest in parapsychology and will promote communication between parapsychologists.

An Empirically Derived Typology of Paranormal Believers

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Abstract: This study undertook an empirical exploration of the existence of a typology of paranormal believers. Substantial research effort has previously been devoted to the discrimination of different types of paranormal belief, but the possibility of drawing empirically-founded distinctions among believers themselves has not received due consideration.

On the basis of a mail survey of Australian adults, data on the paranormal beliefs of 228 participants were subjected to a hierarchical cluster analysis. A four-cluster solution was identified and shown to have internal validity. In terms of the profile of paranormal beliefs presented by each of the four clusters, a typology of paranormal believers is proposed to comprise what may be termed Traditional Religious believers, Tentative believers, Skeptics, and New Agers. Scores on an index of dissociative tendencies provided some testimony to the external validity of this typology.

Researchers of paranormal beliefs are urged to make greater use of cluster analysis so as to elucidate characteristics of qualitatively different types of believer rather than confining research outcomes to degrees of belief as a continuum.

Over recent years a substantial body of empirical data has accumulated in relation to the correlates of paranormal belief (see Irwin, 1993, for a review). This has been associated with the formulation by parapsychologists, skeptics and other social scientists of different models of the development of paranormal belief in all its various guises (Alcock, 1981; Irwin, 1993; Lawrence, Edwards, Barraclough, Church & Hetherington, 1995; Wuthnow, 1976; Zusne & Jones, 1982). Additionally, there has been vigorous debate over the conceptual and factorial construction of the domain of paranormal beliefs (Lawrence, 1995; Tobacyk, 1995). For example, some researchers have construed such beliefs to

relate only to parapsychological phenomena such as telepathy, clairvoyance, precognition, and psychokinesis, whereas others have cast the net much more widely to include all manner of magical, superstitious, religious, supernatural, occult, and mystical notions.

Notwithstanding the apparent diversity of approaches to the investigation of paranormal beliefs, the empirical literature is almost completely dominated by reports of the correlates of *degrees* of such belief. That is, each paranormal belief is studied basically as an indivisible continuum of intensity. Although this approach undoubtedly has generated a good deal of instructive data, there is an underlying assumption that people themselves differ quantitatively rather than qualitatively in their endorsement of paranormal beliefs. The fundamental objective of this paper is to query the (often implicit) view that paranormal

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believers simply vary on a continuum ranging from ardent protagonists through disinterested agnostics to belligerent antagonists. The latter perspective might well be serving to blinker researchers to the possibility that paranormal believers differ importantly in kind and not merely in the intensity of their beliefs.

The change of emphasis proposed here entails at least a partial shift of the research focus from paranormal beliefs to paranormal believers. This notion is more than mere sophistry. Among other things, the existence of distinct types of paranormal believer may have major theoretical implications. Thus, contemporary models of the developmental bases of the intensity of paranormal beliefs across the general population could not simply be assumed to apply to each and every type of paranormal believer.

To some degree researchers previously have implied the existence of distinct types of paranormal believer. At the most rudimentary level, in the literature there is frequent mention of 'believers' and 'nonbelievers'. Rarely, however, are these terms defined empirically; the presumption is simply that believers are those who score highly on an index of paranormal belief and nonbelievers are those with low scores. Again, the underlying difference here might be merely one of degree rather than of kind.

Another typology of paranormal believers might be presumed by way of a generalisation from the dimensions of paranormal belief. If belief in witchcraft, for example, were one of the factors of paranormal belief, some people may be inclined to think of believers in witchcraft as a discrete type of believer. It is most unlikely, however, that there would be a simple one-to-one correspondence between the factors of paranormal belief and the types of paranormal believer. Among other considerations, reported correlations between purported dimensions of paranormal belief (Tobacyk & Milford, 1983) do not encourage any such expectation. Types of paranormal believer, if they exist, are more likely to be distinguished by *patterns* in their endorse-

ment across the range of dimensions of paranormal belief.

Other investigators have remarked that people suffering from schizophrenia, for example, may have paranormal beliefs that are intimately bound up with delusional systems (Greyson, 1977; Neppe, 1982; Thalbourne, 1994). This raises the possibility that there are some people with functional paranormal beliefs and others with dysfunctional paranormal beliefs. Indeed, Williams (1995) reports evidence that the notion of causality associated with the paranormal beliefs of schizophrenic patients may differ from that associated with the paranormal beliefs of members of a psychical research society. Although Williams' finding is suggestive, stronger evidence may be required in order to demonstrate that the paranormal beliefs of people with psychiatric diagnoses differ in kind from those of people from the non-clinical population.

Some commentators have sought to delineate types of paranormal believer on the basis of their representation as a social organisation actively involved in debate and dialogue on the paranormal. Thus, Hess (1993) identifies three sectors of what he calls the American 'paraculture'. One group comprises parapsychologists and is defined vocationally as well as in organisational terms by its professional body, the Parapsychological Association. A second group comprises scientists and others with a strongly skeptical view of the paranormal, and its role in the paracultural dialogue is orchestrated by the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). The third element of the paraculture, according to Hess, is a loosely organised popularist movement he terms the New Agers, a group that emerged from the 1960s counterculture and promotes extremely diverse beliefs and practices ranging from crystal healing to shamanic voyages.

Hess (1993) employs this trichotomy of paranormal believers as an effective expository device in his analysis of the debate on the paranormal in American society. On the other hand, there are insufficient data to

demonstrate that these three groups may be defined not only in terms of the intensity of their beliefs but also on the more qualitative basis of the profiles of their endorsement of the fundamental dimensions of paranormal belief. Additionally, it might be argued that there are many other social organisations that are founded on paranormal beliefs and that thereby contribute to the cultural dialogue on the paranormal. Might not distinct types of paranormal believer equally be identified with orthodox religious institutions, spiritualist unions, Eastern mystics, reincarnationists, satanists, witches' covens, psychical research societies, dowsers' groups, astrological associations, tarot card readers, theosophists, Swedenborgians, Fortean, ufologists, cryptozoologists, and all manner of cults that exist in any given society?

To avoid dilemmas such as these, the investigation of possible types of paranormal believer should be pursued by means of objective statistical procedures rather than through purely conceptual analysis. Empirical study of this question in turn has two basic requirements. First, there must be a measure of paranormal belief that unequivocally captures the fundamental dimensions of this domain. It is doubtful that there is such an ideal instrument available at this time (Lawrence, 1995). Tobacyk's (1988) Paranormal Belief Scale was chosen for the present survey, principally because it is the multifactorial index of paranormal belief most commonly used by researchers and it is based on the broadest of conceptualisations of the paranormal. The second basic requirement of the study is a statistical technique for identifying discrete types of paranormal believer.

One such technique is taxometric analysis (Meehl, 1992). This set of statistical procedures is designed to determine whether a given psychological dimension comprises a true continuum or, alternatively, various classes or 'taxa'. Although this approach is highly promising, its procedures still are in the formative stage of development and as yet are not available in the standard statistical software packages. Another, more accessible and widely used

method of identifying discrete types or classes is cluster analysis (Hair, Anderson, Tatham & Black, 1992). This group of multivariate statistical procedures in some respects is similar to factor analysis, except that whereas factor analysis searches for patterns of similarity among variables, cluster analysis searches for patterns of similarity among experimental subjects or cases.

Because cluster analysis may be unfamiliar to many readers of the *Journal* a general outline of its procedures is appropriate at this point. The similarity of cases in a cluster analysis is most commonly operationalised as the Euclidean distance between cases, that is, the length of a straight line joining a pair of points that represent the position of cases in a multidimensional space defined by the variables on which the sample is measured. (Another popular algorithm known as Ward's Method uses the square of the Euclidean distance as its similarity measure, but otherwise the logic of that procedure is the same as for the simple distance criterion.) A type or cluster within a domain therefore is marked by highly homogeneous Euclidean distances among its members and by heterogeneous distances from the members of other clusters. In a hierarchical agglomerative clustering procedure, each case starts out as its own cluster, and then in each successive step the two closest clusters are combined. Inspection of the steps of agglomeration provides the basis for identifying the number of clusters beyond which any increase does not produce a substantial change in the sum of the squared distances between clusters. This number of clusters then is interpreted. A check is made that the various clusters do in fact differ significantly in their profile of performance on the experimental variables. It is important at this stage also to consider if the differences among the profiles make psychological sense. Speculation entailed in this process of internal validation may inevitably be rather subjective, but the process is deemed essential to the eventual acceptance of the cluster solution (Hair *et al.*, 1992). Finally, it is advisable that an attempt be made to

provide external validation of the cluster solution. That is, the researcher should select some variables that were not used to cluster the sample but that might be expected to correlate with the dimension being analysed, then test if the observed clusters actually differ on these confirmatory variables. In the present study the variables chosen for the purpose of external validation were proneness to dissociation and the demographic factors of gender and age; these variables have been found in previous research to correlate with paranormal belief (Emmons & Sobal, 1981; Irwin, 1994; Tobacyk & Milford, 1983) and thus potentially could discriminate between types of paranormal believer.

The working hypothesis of the study was that a cluster analysis of subscale scores on the Paranormal Belief Scale would reveal interpretable types of paranormal believer. Given the lack of previous empirical investigation of this issue the study is regarded as no more than an exploratory investigation.

Method

Participants

The study was undertaken as a mail questionnaire survey of adults enrolled in either of two off-campus Introductory Psychology courses taught through the University of New England, Australia. Students in these courses generally are of mature age; most are in paid employment, some are homemakers. This group thus may be deemed to be more similar to the general population than are typical undergraduate Psychology classes. At the same time, given that the participants were self-selected there remains a possibility that data from this sample might not generalise to the population as a whole.

Survey forms were mailed to the 323 students enrolled in the two courses. Forms were returned by 228 people, a participation rate of 71 per cent. The sample comprised 57 men and 171 women, ranging in age from 19 to 72 years (mean = 37.1, median = 37, $s = 9.14$).

Survey Materials

The inventory contained three questionnaires. One was a brief form asking for demographic details. The other two questionnaires related to paranormal beliefs and to proneness to dissociation.

The demographic questionnaire surveyed respondents' gender and age. These items were included not only to ascertain sample characteristics, but also because there are some reports that paranormal beliefs may vary with gender (e.g., Tobacyk & Milford, 1983) and age (e.g., Emmons & Sobal, 1981). These demographic variables therefore may be of use in the external validation of the results of a cluster analysis of paranormal beliefs.

Paranormal beliefs were surveyed with Tobacyk's (1988) Revised Paranormal Belief Scale or PBS, an amended version of the scale originally developed by Tobacyk and Milford (1983). The PBS incorporates an extremely liberal view of the scope of 'the paranormal'. Its 26 items are distributed over 7 subscales relating to belief in traditional religion, psi, witchcraft, superstition, spiritualism, extraordinary life forms (e.g., the Loch Ness monster), and precognition. The response to each item is made on a 7-point Likert scale, with a higher rating signifying stronger endorsement. Scores on the individual PBS subscales are computed as the average rating recorded on the component items and thus have a range of 1 to 7. Test-retest reliabilities of the PBS subscales are reported to range from .71 to .95 (Tobacyk, 1988). There is considerable ongoing debate over the validity of reducing the domain of paranormal beliefs to the 7-factor structure embodied by the PBS (cf., Lawrence, 1995; Tobacyk, 1995), but in psychometric respects the PBS probably remains the best available measure of belief in the paranormal as the latter is broadly conceived.

The remaining questionnaire in the survey inventory related to dissociation. A dissociative experience is one in which mental processes become separated in circumstances where these processes ordinarily would be linked. A common

example of dissociative experience is 'highway hypnosis'. At times during a long journey drivers may be so engrossed in their daydreams or other mentation that they seem oblivious to road conditions, yet their attention is immediately redirected to the task of driving as soon as a demanding traffic situation arises. During the state of highway hypnosis the mental processes associated with driving are evidently dissociated from consciousness, yet they continue to mediate the concurrent behaviour of road navigation. Proneness to dissociative experiences has been found to correlate with several paranormal beliefs (Irwin, 1994), and this variable was included in the study for specific use in an assessment of the external validity of the cluster analysis.

The measure of proneness to dissociation was Riley's (1988) Questionnaire of Experiences of Dissociation or QED. The QED comprises 26 dichotomous (True/False) items surveying experiences of dissociative phenomena. Scores thus may range from 0 to 26, with higher scores signifying a greater range of dissociative experiences acknowledged by the respondent. The QED has been standardised on nonclinical samples. The reliability of the QED is satisfactory (Cronbach's $\alpha = .77$; Riley, 1988), and the scale has been validated both through application to clinical samples with dissociative disorders (Dunn, Ryan, Paolo & Miller, 1993) and by comparison with other similar measures (Gilbertson *et al.*, Torem, Cohen, Newman, Radojicic & Patel, 1992; Ray, June, Turaj & Lundy, 1992).

The order in which the questionnaires appeared in the inventory was as follows: QED, PBS, and demographics. There was, of course, no way to control the order in which respondents actually completed the inventory.

Procedure

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

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

Because the data analysis proceeds through a series of steps and in many instances the outcome of one step needs to be interpreted before the succeeding analysis is reported, an integrated Results and Discussion section will be presented.

Descriptive statistics (mean and standard deviation) for the experimental variables are given in Table 1. In this context note that data on the PBS subscales might most readily be interpreted in relation to the fact that values may vary from 1 (strong disbelief) to 7 (strong belief), with a rating of 4 corresponding to a noncommittal position (neither belief nor disbelief).

Hierarchical cluster analysis was employed to investigate the existence of a typology of paranormal believers based on their scores on the seven subscales of the PBS. Prior to clustering, participants' paranormal belief scores were transformed to z-scores in order to equate the variables in measurement scale. Ward's minimum variance cluster analysis was employed with dissimilarities between participant profiles being defined by squared Euclidean distance.

Visual inspection of the dendrogram produced by the clustering procedure suggested the presence of at least two clusters and possibly as many as six clusters. (Because of the large sample size the dendrogram can not be reproduced here.).

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Table 1

Mean scores (and standard deviations) on each experimental variable for the full sample and for each of four clusters

	Full Sample (N = 228)	Cluster 1 (N = 23)	Cluster 2 (N = 106)	Cluster 3 (N = 74)	Cluster 4 (N = 25)
	\bar{X} (s)	\bar{X} (s)	\bar{X} (s)	\bar{X} (s)	\bar{X} (s)
PBS subscales					
Traditional Religious Belief	4.40 (1.89)	6.47 (0.84)	4.61 (1.48)	3.12 (1.74)	5.40 (1.04)
Psi Belief	3.98 (1.52)	3.05 (1.22)	4.79 (1.12)	2.75 (1.14)	5.10 (1.15)
Witchcraft	3.69 (1.73)	4.75 (1.25)	4.30 (1.39)	2.05 (1.08)	5.00 (1.48)
Superstition	1.40 (0.60)	1.09 (0.25)	1.19 (0.38)	1.21 (0.47)	3.19 (1.02)
Spiritualism	3.73 (1.71)	2.91 (1.34)	4.67 (1.26)	2.14 (0.98)	5.18 (1.27)
Extraordinary Life Forms	3.56 (1.12)	2.87 (0.92)	4.05 (0.97)	2.75 (0.84)	4.47 (0.62)
Precognition	3.39 (1.46)	2.42 (0.88)	4.02 (1.11)	2.18 (0.97)	5.20 (0.75)
QED	9.79 (4.68)	7.56 (2.79)	10.37 (4.90)	8.71 (4.39)	12.60 (4.26)
Age	37.1 (9.14)	39.1 (9.31)	35.9 (8.66)	38.4 (9.81)	36.2 (8.53)

To clarify the number of clusters, two scree-type plots were constructed. On the basis of the agglomeration schedule of the hierarchical cluster analysis, the aggregate squared Euclidean distances for the last ten cluster merges were plotted; this graph was suggestive but not conclusive for the identification of the number of clusters. In the next stage of the analysis, a plot of the successive differences between the last ten cluster merges revealed the first large increment in squared Euclidean distance (the first plotted point off a scree line through the 'flat' section at the bottom of the graph) occurred at the merging of four clusters into three clusters, indicating that four was an appropriate number of clusters to interpret (see Figure 1). The choice in this case seems well defined. Nevertheless, in some instances there may be an element of subjectivity in discerning the number of clusters from a scree-type plot, and for this reason the two plots were independently

assessed by a colleague (Dr. Ray Cooksey) who has extensive experience in cluster analysis. He, too, identified a four-cluster solution as the one to interpret.

A post hoc one-way multivariate analysis of variance then was undertaken in order to internally validate the four-cluster solution. This analysis showed that the four-cluster solution accounts for 58.1% of the multivariate variance in PBS subscale scores (Wilks lambda = .074, $p < .0001$).

Figure 2 shows the mean standardised score profile of PBS performance by each of the four clusters. Additionally, descriptive statistics for each of the four clusters are given in Table 1. The cluster profiles in Figure 2, in conjunction with the numerical data in Table 1, serve to characterise the typology of paranormal believers. Thus, Table 1 provides information on the absolute levels of belief for each cluster, and Figure 2 depicts relative performance across clusters and across subscales.

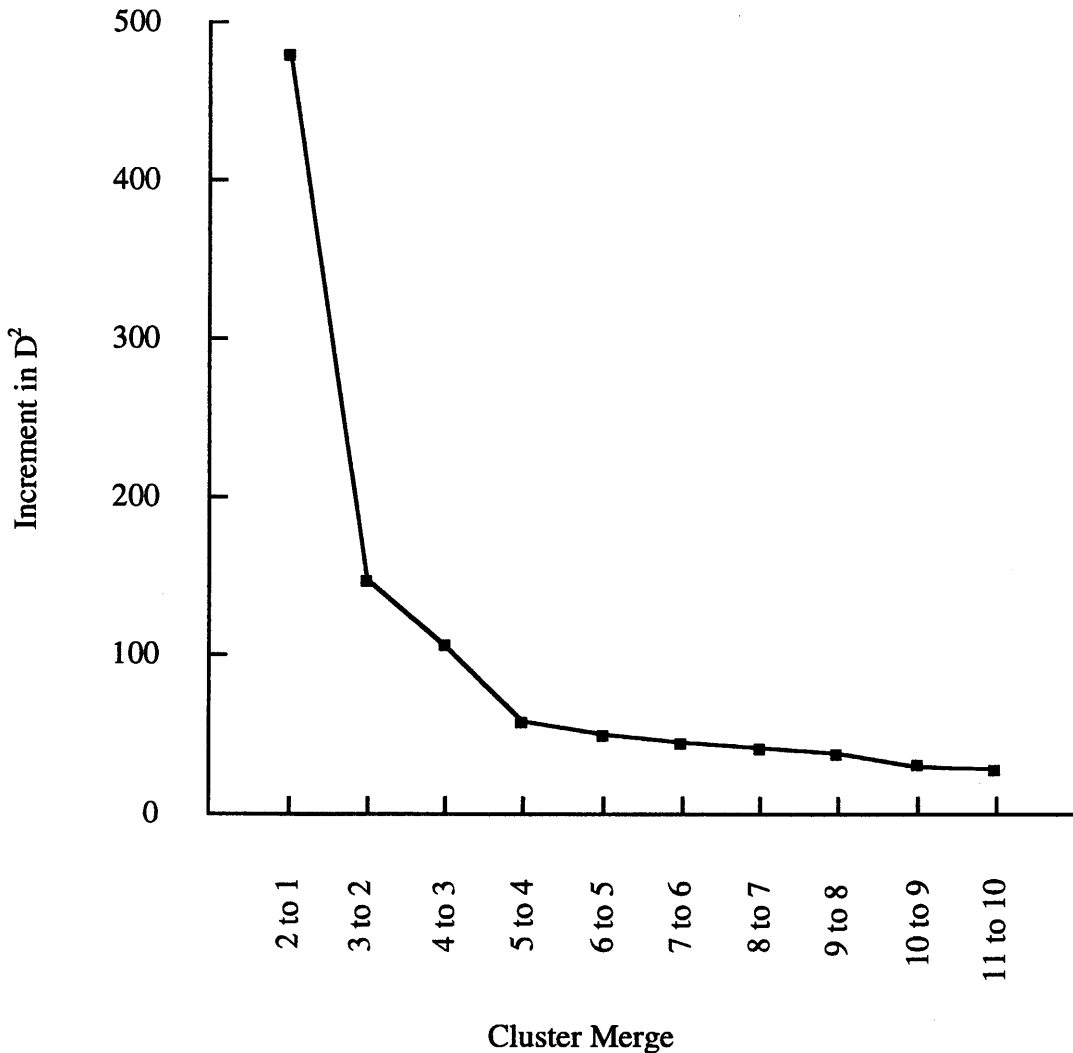


Figure 1

Scree-type plot of successive increments in aggregate D^2 for the last 10 clusters

Cluster 1 therefore may be seen to be characterised by strong belief in traditional religious concepts, moderate belief in witchcraft, strong disbelief in superstitions, and a neutral stance on other aspects of the paranormal. Disbelief in superstitions nevertheless does not distinguish this group from Clusters 2 and 3. The type of paranormal believer in Cluster 1 evidently has a profound religious orientation to life and presumably sees the devil and evil as real forces in some people (as instantiated by the practitioners of witchcraft). Members of

Cluster 1 nevertheless do not endorse other paranormal notions; perhaps they see the tenets of their religion as having no necessary bearing on parapsychological concepts. For the purpose of further exposition this group might be labelled *Traditional Religious believers*. In light of their belief in religion and in (others' practice of) witchcraft it is hypothesised that Traditional Religious believers tend to have a relatively conservative, possibly strict, religious upbringing, and that the group might include religious fundamentalists.

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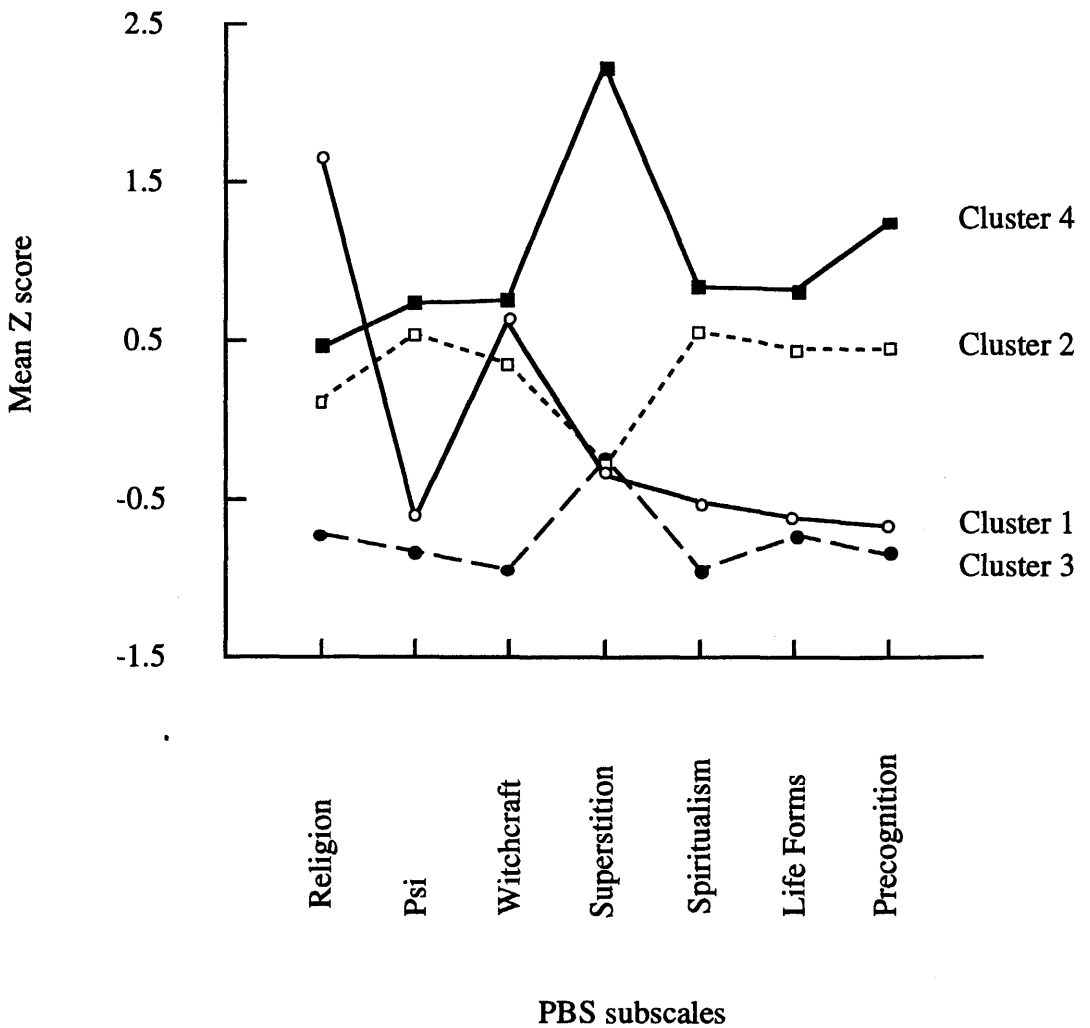


Figure 2

Mean standardised profile scores for the four-cluster typology on dimensions of paranormal belief

The profile of Cluster 2 evidences broad but tentative openness to most forms of paranormal belief, although like most of the rest of the sample, people in this cluster give little credence to superstitions. Given that an average PBS subscale score of 5 represents only 'slight' agreement the endorsement of paranormal beliefs here is rather guarded. Cluster 2 has the largest membership of any cluster, and thus this type of paranormal believer is statistically the most common (over 45% of the present sample). These believers might be charac-

terised as being open to the possibility of paranormal phenomena, but not to the extent of grounding their fundamental philosophy of life on such ideas. For convenience, this group may be designated the *Tentative believers*. I suspect many parapsychologists would fit comfortably into this group, although some parapsychologists' vigorous advocacy of the paranormal would certainly go beyond the levels of endorsement associated with the Tentative believers.

As clearly documented both by Figure 2 and by Table 1, as a group Cluster 3 is uniformly skeptical of paranormal claims, even the culturally conventional ones of religion. This group shows the lowest average levels of belief across the broad domain of the paranormal as indexed by the PBS. The only minor qualification to this trend is in regard to superstitious belief, for which Clusters 1 and 2 showed the same marked level of repudiation as did this group. Cluster 3 therefore may be characterised unequivocally as the *Skeptics*. This group formed almost a third of the entire sample (see Table 1).

At the other extreme, Cluster 4 presents a profile of relatively high endorsement of all paranormal beliefs. Although in purely numerical terms this group shows 'slight' *disbelief* in superstitions (see Table 1), its members fail to repudiate such beliefs in the implacable manner evidenced by the remaining clusters, and thus even for this dimension the group can be said to be relatively credulous. Cluster 4 also is inclined to be religious, although not quite as strongly so as the Traditional Religious believers (Cluster 1). Indeed, the fact that the participants in Cluster 4 can maintain other paranormal beliefs simultaneously with their religious outlook might be taken to suggest that their religious views are rather more broadly spiritual and less orthodox than those of Cluster 1. Certainly the latter is a hypothesis warranting further empirical investigation. In any event Cluster 4's documented endorsement of the full range of paranormal beliefs indicates that the group has the general features of what Hess (1993) terms the *New Agers*, and therefore the same term will be applied here. In addition to a relatively spiritual outlook, members of this cluster are predicted to present with paranormal beliefs (such as the healing power of crystals) that are distinctively associated with the New Age movement yet are not canvassed by the PBS.

A four-cluster typology of paranormal believers therefore has internal validity and the individual clusters are readily interpretable or recognisable as types of believer. In

an attempt to establish the external validity of the typology the four clusters were compared in relation to proneness to dissociation. A one-way analysis of variance of QED scores identified the presence of significant differences among clusters [$F(3, 224) = 7.11, p < .0005$]. Post hoc application of Scheffé's test between mean QED scores (see Table 1) indicated that New Age believers had greater proneness to dissociation than both the Skeptics and Traditional Religious believers ($p < .005$, two-tailed); additionally, there was a trend for Tentative believers to be more dissociative than Traditional Religious believers ($p = .065$, two-tailed). Thus, there is evidence that the four-cluster typology is meaningful in terms of a variable previously identified as a correlate of several dimensions of paranormal belief, namely, proneness to dissociation (Irwin, 1994). Although neither gender [$\chi^2(3) = 4.98, p = .17$] nor age distribution [$F(3, 224) = 1.52, p = .21$] varied across clusters, it is fair to say that the QED data provide a degree of external validation for the typology of paranormal believers.

On the basis of these findings a quaternary or four-part typology of paranormal believers therefore is proposed, one which comprises Traditional Religious believers, Tentative believers, Skeptics, and New Agers. Some caveats nevertheless should be entered against this conclusion.

The observed set of clusters may well have been influenced by several factors that serve to limit the generality of a four-part typology. One such factor would certainly be the choice of the PBS as the index of paranormal belief. Had the selected index been a simple Sheep-Goat (ESP belief) scale, for example, it is unlikely that a four-cluster solution would have been evident; on the present evidence there would be little in a Sheep-Goat scale to differentiate Traditional Religious believers from Skeptics. At the other extreme, perhaps a greater range of clusters would be generated by the use of a measure of paranormal belief that is even broader in perspective than the PBS, that is, one that includes items about ghosts, UFOs, dowsing, and more specifically New Age practices such as crystal healing. The pro-

posed typology is not held to be one that would be found in association with any and every measure of paranormal belief. At best the typology might be representative of paranormal believers as relatively broadly conceived. In this regard the construction of an effective typology of paranormal believers necessarily presupposes the valid identification of the underlying dimensions of paranormal belief.

Additionally, sampling issues may be of some relevance. Perhaps the typology is relatively specific to an Australian context. Indeed, traditional religious believers in Australia are known to differ in some respects from those in other countries (Irwin, 1991). Such facts caution against precipitate generalisation of the present findings to other cultural settings. The typology of paranormal believers therefore should be studied further in other, particularly non-Western, cultures. Again, the present sample of the general population is unlikely to have included people with a scientific or other professional involvement in the paranormal domain. Those parapsychologists who are strong advocates of the fundamental parapsychological processes (psi) might not readily identify with either Tentative believers or New Agers. In the general population, of course, such a group of believers might well be so small that it would fail to emerge as a distinguishable cluster, but this is a matter warranting further investigation. Similarly, the survey is not likely to have canvassed people with a psychiatric diagnosis. It is possible that there may exist yet another, qualitatively distinct group of paranormal believers whose beliefs are an integral part of a delusional system. Alternatively, it may be that people from the psychiatric population are distinctive not in the profile of their paranormal beliefs but rather, in the use to which they put these beliefs. These possibilities also call for future study. The universality of the four-part typology therefore awaits independent confirmation.

If the typology did prove to have substantial generality there would remain considerable scope for its further empirical scrutiny. There is a primary need to iden-

tify correlates of the quaternary so as to characterise in qualitative terms each group more incisively. Additionally, in relation to theoretical issues, current models of the development of paranormal beliefs require re-examination so as to determine the extent to which they are applicable to each and every type of paranormal believer. It would perhaps be surprising if the developmental factors that prompt a person to become a New Ager were precisely the same as those underlying the development of a skeptical outlook. In any event, the validity of these models requires much more incisive investigation in relation both to types of paranormal belief and to types of paranormal believer. Lawrence's (1995) proposed Paranormal Beliefs and Influences Scale or PBIS may prove to be of particular value in this context, given that it aspires to index not only the endorsement of paranormal beliefs but also the personal, interpersonal, sociocultural, and educational origins of such beliefs.

By way of a general conclusion, the use of cluster analysis in the investigation of paranormal belief is strongly recommended on the ground that empirical findings in this area of study might then be linked more specifically to individual, qualitatively distinct types of paranormal believer rather than being taken to describe a monolithic continuum of degrees of belief in the paranormal.

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Een empirische afgeleide typologie van 'gelovers'

Samenvatting: Dit onderzoek is een empirische verkenning naar het bestaan van een typologie van paranormale 'gelovers'. In het verleden is veel onderzoek gedaan naar het onderscheiden van verschillende vormen van geloof in het paranormale, maar de mogelijkheid empirisch gefundeerde onderscheidingen tussen die gelovers zelf aan te brengen is onvoldoende benut.

Op basis van een enquête per post onder Australische volwassenen is een hiërarchische clusteranalyse uitgevoerd op gegevens over geloof in het paranormale van 228 respondenten. Een 4-cluster-analyse bewees intern valide te zijn. Op grond van het geloversprofiel dat elk van die vier clusters vertegenwoordigt wordt een onderscheid voorgesteld tussen: traditionele religieuze gelovers, aarzelende gelovers, sceptici en new-agers. De scores op een lijst niet-passende tendensen gaven enige ondersteuning voor de externe validiteit van de opgestelde typologie.

De auteur doet een beroep op onderzoekers naar het geloof in het paranormale om meer gebruik te maken van clusteranalyse, zodat meer inzicht ontstaat in kwalitatief verschillende typen gelovers, in plaats van onderzoeksresultaten alleen op een continuüm voor de sterkte van het geloof te plaatsen.

Una Tipología Empírica de Creyentes en lo Paranormal

Resumen: Esta es una exploración empírica de la existencia de una tipología de creyentes en lo paranormal. Existe una investigación preliminar considerable sobre los diferentes tipos de creencia en lo paranormal, pero la posibilidad de encontrar diferencias entre los creyentes de forma empírica no ha sido considerada.

Se analizaron los resultados de una encuesta por correo con adultos australianos. Los datos sobre creencias en lo paranormal de 228 participantes fueron sometidos a un "cluster analysis" jerárquico. Se obtuvo una solución de cuatro grupos con validez interna. Se propone una tipología de creyentes en lo paranormal en término del perfil de creencias en lo paranormal presentado por cada uno de los cuatro grupos. Esta tipología incluye lo que podríamos denominar creyentes tradicionales religiosos, creyentes tentativos, escépticos, y personas de la "Nueva Edad" (New Age). Las puntuaciones en un índice de tendencias disociativas presentaron evidencia sobre la validez externa de la tipología.

Exhortamos a los investigadores de creencias en lo paranormal a usar el "cluster analysis" con más frecuencia para encontrar las características de diferentes tipos de creyentes en vez de limitarnos a los resultados de investigaciones sobre los grados de creencia como algo continuo.

Eine empirisch gewonnene Typologie der an Paranormales Glaubenden

Zusammenfassung: Die vorliegende Arbeit beabsichtigt die empirische Untersuchung der Existenz einer Typologie von Personen, die an Paranormales glauben. Umfassende Forschungen haben sich in der Vergangenheit der Unterscheidung verschiedener Typen paranormalen Glaubensbereitschaften gewidmet. Dagegen hat die Möglichkeit, empirisch gestützte Unterscheidungen unter den Glaubensbereiten selbst zu treffen, bisher nur ungenügende Beachtung erfahren.

Mittels einer postalischen Umfrage unter erwachsenen Australiern wurden Daten hinsichtlich der Para-Gläubigkeit von 228 Personen erhoben und einer hierarchischen Cluster-Analyse unterzogen. Es ließ sich eine intern valide Vier-Cluster-Lösung ermitteln. Das sich aus den vier Clustern ergebende Profil paranormalen Glaubensbereitschaften legt eine Typologie paranormal glaubensbereiter Personen mit folgenden Abkünften oder Hintergründen nahe: Religiös Gläubige im traditionellen Sinne, zögerlich Glaubende, Skeptiker und New-Age-Bewegte. Scores auf einem Index für dissoziative Neigungen stützen die externe Validität dieser Typologie.

Erforscher paranormalen Glaubensbereitschaften sollten häufiger zu Cluster-Analysen greifen, um Merkmale qualitativ unterschiedlicher Typen von Glaubenden zu erhellen, anstatt

ihre Forschungsergebnisse nur als quantitative Hinweise auf lineare Gläubigkeitsgrade zu betrachten.

Una tipologia dei credenti nel paranormale definita per via empirica

Sommario: Questo studio ha intrapreso l'esame empirico della tipologia dei credenti nel paranormale. In passato molti sforzi sono stati rivolti al tentativo di discriminare i diversi tipi di individui convinti del paranormale, ma la possibilità di operare differenziazioni empiriche tra costoro non ha ricevuto la dovuta attenzione.

Sulla base di un'indagine postale compiuta tra australiani adulti i dati riguardanti la credenza nel paranormale di 228 partecipanti sono stati assoggettati a un'analisi gerarchica di cluster. E' stato messo a punto un modello a quattro cluster, del quale si è dimostrata la validità interna. In base al tipo di credenza nel paranormale presentato da ciascuna delle quattro classi viene proposta una tipologia che potrebbe venir suddivisa in quattro gruppi: Credenti Religiosi Tradizionali, Esitanti, Scettici e Seguaci della New Age. I punteggi ottenuti in una scala di tendenza alla dissociazione hanno comprovato in qualche misura la validità esterna di tale tipologia.

I ricercatori che studiano la credenza nel paranormale vengono sollecitati a fare maggior ricorso all'analisi per cluster, al fine di delucidare le caratteristiche dei caratteri qualitativamente diversi dei credenti, piuttosto che trattare i risultati delle ricerche come fossero gradi di credenza di un unico continuum.

Une typologie des croyants au paranormal dérivée empiriquement

Résumé: Cette étude a entrepris une exploration empirique de l'existence d'une typologie des croyants au paranormal. Un effort de recherche substantiel a été précédemment consacré à la discrimination de différents types de croyance au paranormal, mais la possibilité de tracer des distinctions trouvées empiriquement chez les croyants eux-mêmes n'a pas reçu la considération qui lui aurait été due. Sur la base d'une enquête par courrier parmi des Australiens adultes, les données sur les croyances au paranormal de 228 participants ont été soumises à une analyse par cluster hiérarchisé. Une solution à quatre clusters a été identifiée et a montré une validité interne. En terme de profil des croyances au paranormal présenté par chacun des quatre clusters, une typologie des croyants au paranormal est proposée afin d'inclure ce qui peut être appelé les croyants Religieux Traditionnels, les croyants Timides, les Sceptiques, et les membres du New Age. Les scores à un indice de tendances dissociatives ont témoigné d'une certaine validité externe de cette typologie. Les chercheurs étudiant les croyances au paranormal sont vivement conviés à utiliser plus fréquemment l'analyse par cluster de façon à élucider les caractéristiques de types qualitativement différents de croyant plutôt qu'à restreindre les résultats de leur recherche à des degrés de croyance tel un continuum.

Tipologia empírica daqueles que crêem no paranormal

Resumo: Este estudo empreende uma exploração empírica da existência de uma tipologia dos que acreditam no paranormal. Um considerável esforço de pesquisa já foi previamente devotado à discriminação de diferentes tipos de crença paranormal, mas a possibilidade de delinear distinções com fundamentos empíricos entre os próprios "crentes" não recebeu a atenção devida.

Com base em uma pesquisa feita pelo correio entre adultos australianos, dados sobre crenças paranormais de 228 participantes foram submetidos a uma análise de agrupamentos hierárquicos. Quatro agrupamentos foram identificados e demonstraram ter validade interna. Em relação ao perfil das crenças paranormais apresentadas pelos quatro agrupamentos

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separadamente, propõe-se uma tipologia dos que crêem no paranormal que inclua os chamados crentes religiosos tradicionais, crentes experimentais, céticos e os simpatizantes da Nova Era. Os pontos atingidos em um índice de tendências dissociativas dão algum testemunho da validade externa dessa tipologia.

Recomenda-se insistentemente que aqueles que pesquisam as crenças façam um maior uso da análise por agrupamento de modo a elucidar características de tipos qualitativamente diferentes de "crentes", em vez de restringir os resultados das pesquisas a graus de crença como um continuum.

Towards Specifying the Recipe for Success with the Ganzfeld: Replication of the Ganzfeld findings Using a Manual Ganzfeld with Subjects Reporting Prior Paranormal Experiences

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Abstract: The experiment used a manual ganzfeld technique to investigate some factors that might relate to obtaining a significant psi effect. Subjects were recruited through a newspaper advertisement, from New Age groups and from first year psychology classes with the entry criterion being the reporting of spontaneous paranormal experiences. The first series ($N=30$) was run without the auditory monitoring of subjects' responses and obtained a 20% hitrate. The two main studies (each $N=30$) incorporated the auditory monitoring facility and both obtained a 37% hitrate. The monitored studies together gave an effect size of .25 and $z=1.94$.

There was evidence of an experimenter effect throughout with the first author's scoring rate being 40% for the experiment as a whole and 43% for the two main auditory monitored studies. Analysis of the data strongly indicated this was achieved by avoiding the use of psychology students in the quota of participants he tested. The New Age ($N=30$) and Paranormal Experience groups ($N=36$) were about equally successful, but the psychology students ($N=20$) as a group produced only one hit. Participants returning for a second ganzfeld trial also appeared to be more successful. The results support the ganzfeld as a replicable technique of obtaining a psi effect with subjects from the general population who have prior paranormal experiences and suggest that the experimenter effect in the present studies may at least in part be a matter of choosing the right subjects.

The rationale behind the development of the Ganzfeld is a simple one: to lift into the laboratory what we know about the essential ingredients of subjective paranormal experiences. This is the belief that the receiver should be in a relaxed or an altered state of consciousness and that the sender should be in an emotionally involved and

aroused state. However, there appear to be many other factors that influence success with the technique and it is doubtful that using the Ganzfeld with non-selected subjects would guarantee success. Indeed, a meta-analysis of the previous studies has isolated four or five factors that would appear to influence success (Honorton & Schechter 1987; Broughton, Kanthamani & Khilji 1990). Although formal effect sizes to confirm this have not been reported, a major subject factor relating to success is the reporting of experiences having an apparently paranormal nature. Accordingly, this is one of the factors we made use of here.

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The selection criterion required subjects to have reported subjective paranormal experiences prior to the experiment.

Methodologically, in terms of excluding potential artefact, in particular that of fraud and selection of data, much attention has been given to the development of the autoganzfeld (Bem & Honorton, 1994). However, Bem recently (Bem, 1996) commented that the sophistication of the autoganzfeld technique may have only succeeded in putting parapsychologists out of business since a major problem in attempting to replicate the autoganzfeld findings is the expense of acquiring and setting up the equipment. Moreover the present autoganzfeld technique may soon become redundant since the development of multimedia computer technology will probably outdate the set-up. Given that there are apparently only three laboratories in the world currently equipped with the autoganzfeld, it may be important to stimulate replications using the effective features of a simpler successful ganzfeld set-up, designed in such a way as to exclude potential sources of artefact.

Another feature of previous work with the ganzfeld is that, despite the claims for the ganzfeld findings being replicated by different researchers in different laboratories, there are still problems with experimenter effects. Two recent Edinburgh studies found differences in success rates amongst experimenters, although the numbers tested in one study (Morris, Dalton, Delanoy & Watt, 1995) by the low scoring experimenter were too small to attain statistical significance, and the other study (Morris, Taylor & Cunningham 1993, Radin, McAlpine & Cunningham, 1994) was confounded by subject population differences. The current study was therefore deliberately designed to allow the results to be analysed in terms of possible differences in the success of the experimenters and even to investigate some of the factors that might influence any observed experimenter effect.

Other aspects apparently relating to successful Ganzfeld performance appear to be personality factors (such as openness and intuition). Scales relating to these factors were also used in this study and are cur-

rently being studied and analysed. Finally, in a third series, we re-tested some of those subjects who had had previous Ganzfeld experience since experience with prior psi-testing has been also identified via meta analysis as a predictor of success (Honorton, *et al* 1990). The overall intention behind the study was to look at the minimal requirements for obtaining a significant psi-effect with the Ganzfeld.

In using a simple manual ganzfeld, priority was given to the incorporation of precautions against artefact such as sensory isolation of the receiver, randomisation of targets, and the duplication of video recording for sender and receiver use. A usual feature of modern ganzfeld studies is the use of a facility that allows the auditory monitoring of the receiver's mentation by the sender. Due to the relocation of the Psychology Department to new premises, there was a long delay before an auditory monitoring connection could be installed between the receiver room and the sender room. This delay presented however an opportunity of evaluating the success or non-success of a ganzfeld series lacking the auditory monitoring facility. To our knowledge there has never been any evaluation of the importance of this feature in the ganzfeld. However, allowing the sender to monitor the receiver's mentation reports in response to his or her efforts, would naturally seem to be an engaging feature in the contemporary set-up. For this reason, even if we were optimistic that results with this study would still be above chance level, auditory monitoring was nevertheless seen as an important facility and the planned auditory monitored series were expected to be more successful than the non-monitored series. In order to avoid negative expectancies, the participants were not informed that we would be running this comparison and even HJ, who was the main experimenter for most of the non-monitored series, was not informed of the probable importance of this feature until most of the series was complete.

Method

Three studies, each with the pre-specified number of 30 trials, were conducted using a simple manual ganzfeld technique. The first study used the manual ganzfeld without any auditory feedback to the sender of the receiver's mentation, while the two main studies used the traditional ganzfeld procedure with auditory monitoring of the receiver's verbal reports.

Testing facilities

Testing and sending were carried out in separate sound attenuated rooms for the first 30 sessions, one room for the receiver and one room for the sender separated by a distance of 15 metres. For the auditory monitoring studies, a new room for sender was used with the separation increased to 30 metres. The Ganzfeld relaxation was carried out in a psychophysiology laboratory which is specially insulated for sound reduction of approximately 48 dB. (The room was purpose built 'to fulfil the normal requirement in order to ensure confidentiality, and to eliminate sound from loud human voices and noisy audio-visual equipment.') Several rooms also occupied the intervening spaces between the relaxation room and sending room. The testing rooms were visually isolated from each other.

Testing procedure

Auditory stimulation was in the form of tape recorded seashore waves and visual stimulation was via red light shone through halved Ping-Pong balls placed over the eyes. Subjects were asked to bring a partner but in those instances when this was not possible the assistant experimenter acted as sender. The main experimenter was defined as the person who introduced the Ganzfeld to the participants and attended to the receiver during the Ganzfeld relaxation.

Following an introductory orientation, the assistant experimenter accompanied the sender to the sender room and no further contact was permitted between the two

teams (experimenter and receiver, and sender and assistant experimenter) until the feedback took place. In the sender room, the sender's experimenter selected a video film from a series containing 4 video clips. Choice of series was made alphabetically moving successively through the pool as it was built up. The total pool was successively built up from 10 to 22 film series with each series consisting of a set of 4 separate video film episodes plus a composite tape containing all four. The main experimenter took and retained this composite tape during the session. When the session was complete the experimenter and receiver returned to the sender room with it in order to view it.

Video clips were between 2 and 5 minutes in duration and chosen on the basis of being emotionally engaging. Clips were put together in a series so as to maximise apparent contrast in content between them. Selection of the target video was done by five successive dice throws to gain access to a specific number in random number tables (page/block/row/column/number sequence). Table 33 of the Fisher and Yates *Statistical Tables for Biological, Agricultural and Medical Research* was used for this purpose. (Random number tables were chosen rather than computer derived numbers, for several reasons. No computers were available in the testing area that could be used for this means of generating target numbers and to have these generated in advance elsewhere would create security problems. Also many of the participants expressed a dislike for computer determined outcomes).

In the receiver room, the receiver relaxed during a 30 minute period with ganzfeld stimulation in the presence of the main experimenter and was encouraged to give a continuous voiced mentation report of spontaneous impressions and imagery. The receiver's mentation report was tape recorded and hand written records were also made during this period. During the auditory monitored sessions, the receiver's ongoing mentation report was heard in the sender's room with the aid of a microphone placed above the receiver's couch and a cable connecting to the loudspeaker in the

sender room. Following the 30 minutes of ganzfeld relaxation, the experimenter and the receiver viewed the composite tape containing all of the four potential target films in that series. During the viewing of the potential targets, the experimenter and receiver together identified correspondences between the film extracts using the experimenter's written account of the receiver's verbally reported ganzfeld mentation. Receivers then rated and ranked the films according to their similarity to the ganzfeld imagery. When this was completed and documented, all the participants in the experiment met to discuss results in an informal setting over coffee and cakes. Before entering the results into the results records, the main experimenter confirmed that they corresponded to the independent records of target selection and target rankings.

Participants

We recruited our participants primarily through a newspaper advertisement and from New Age centres in Gothenburg, asking for individuals who had had paranormal experiences. Additional volunteers were recruited by AP from the first year undergraduate student population by asking for participants who had reported having experienced something that they regarded as telepathy or a similar phenomenon. A final group was composed of three volunteer post-graduate students, and one other personal contact. In the last study (the second auditory monitored study), participants who had made good direct hits or in a few cases second rankings were asked to return as 'repeaters'. The volunteers were also asked to bring with them whenever possible a friend with whom they had a close emotional rapport.

Experimenters were selected on the basis of previous experiences with the ganzfeld (AP) and, on the basis of their social skills and positive attitude to paranormal experiences (HJ and AF).

Hypotheses and planned analyses

The main hypotheses were formulated with respect to the recent ganzfeld work which has used direct hits as the consistent psi measure. Accordingly, it was hypothesised that there would be an overall significant psi effect based on these direct hits, $P = 1/4$. The effect size was expected to be in the region of 34%. Secondary analyses were to be performed using the sum of rankings as a measure of the psi effect.

It was further hypothesised that the auditory monitored sessions would give significantly better results than the non-monitored sessions. In fact when the non-monitored series failed to give significant results, this outcome was naturally used in the planning of the future series when it was decided that they would all incorporate auditory monitoring and although formally they were part of the same experimental series, they would also be analysed separately from this first series.

Since apparent major experimenter differences had been observed in previous ganzfeld testing, it was further predicted that significant differences between the experimenters' scoring rates would be observed in terms of the direct hits of their subjects. One-tailed tests were used for all the planned analyses and directionally predicted results.

Results

Overall results

As planned, the primary analysis was in terms of direct hits ($p=.25$) and secondary analyses in terms of sum of ranks.

Series 1 (Non-auditory Monitored). In terms of the first rank hits, the non-monitoring Ganzfeld study gave a 20% direct hitting rate which is a non-significant deviation from chance level expectancy (25%).

Series 2 (Auditory Monitored). The first study using auditory monitoring gave a success rate of 37% with an effect size of 0.31.

Table 1
Overall Results

Series	Trials	Hits	Frequency	z Score
Non-auditory monitored	30	6	20%	-.42
Auditory Monitored Series 1	30	11	37%	1.69
Auditory Monitored Series 2	30	11	37%	1.69

Series 3 (Auditory-Monitored) Thirty trials were also carried out in this study. Results here were identical to Series 2 in terms of a 37% hitrate and a .31 effect size. The Auditory Monitored Series combined thus gave a consistent hitrate of 37%, $z = 1.94$ which is statistically significant ($p = .026$ one-tailed), and an overall effect size of .25.

Secondary and post-hoc analyses

Secondary analyses in terms of sums of ranks (Solfvin, Kelly & Burdick, 1978) gave statistically significant results. The sum of ranks at 199 for the 90 sessions gave a z of 2.40, significant at $p = .008$ (one-tailed).

Since differences in scoring rates were predicted to occur between the monitored and non-monitored studies, a (partially post-hoc) analysis was performed using the sum of ranks. This was significant for the two auditory monitored studies taken together (sum of ranks = 130, $z = 2.24$, $p .012$ one-tailed) but not for the non-auditory study taken alone (sum of ranks = 69, $z = 0.90$, p . n. s.).

As a purely post hoc analysis, binary scores were obtained by taking first and second rankings as hits and third and fourth ranks as misses (expected mean rank = 0.5). This gave for both the auditory and non-auditory studies, a mean rank of 0.62 and z of 2.22, significant at $p = 0.014$ level (one-tailed).

Auditory monitoring versus Non-auditory monitoring: Comparing the auditory series with the non-auditory series in terms of direct hits, shows a difference in hitrate in the order of 37% versus 20%. This

gives a t of the difference between means at 1.62 ($p = 0.055$, one-tailed).

Mentation review procedure

During the non-monitored series because of an ambiguity in instructions, in 12 sessions HJ used a procedure in which each potential target video sequence was on the first viewing given a rating which would then provide the basis for the final rankings of all four films. With the exception of these trials, the standard procedure was followed in which all the four duplicate video clips were seen in order to create a reference framework before then rating each of them and finally arriving at the rankings. It can be reasoned that the above deviation in procedure, while not an artefactual type of flaw, would render ratings vulnerable to initial impacts and position effects. Accordingly, a separate analysis was conducted in which these 12 sessions were eliminated. Although this only improves the scoring rate marginally from 20% to 22% a post-hoc analysis of the distribution of rankings did reveal evidence of what could be a displacement of hits to second ranking positions: rankings in position 2 gave $z = 2.11$, $p < 0.05$ two-tailed.

Experimenter effects:

Of the total 90 sessions in the three series, AP as experimenter accounted for 45 of the sessions, HJ carried out 37 sessions, and AF completed the remaining 8 sessions. The results for the three experimenters for the three series combined, showed fairly clear differences with AP obtaining an

GANZFELD REPLICATION

Table 2
Results by Experimenter

a) Total scores for all combined series

Experimenter	Trials	Hits	Hitrates	z score
AP	45	18	40%	2.12
HJ	37	8	22%	-0.48
AF	8	2	8%	0.00

b) Non-auditory monitored series

Experimenter	Trials	Hits	Hitrates	z score
AP	10	3	30%	0.16
HJ	20	3	15%	-0.56

c) Auditory monitored series

Experimenter	Trials	Hits	Hitrates	z Score
AP	35	15	43%	2.25
HJ	17	5	29%	0.14
AF	8	2	25%	0.00

overall 40% hitrate, HJ obtaining a 22% hitrate, and AF obtaining a 25% hitrate in her short series (table 2a).¹

The auditory monitoring series gave somewhat higher hitrates: 43% for AP and 29% for HJ. The non-monitored series gave lower rates: 30% for AP and 15% for HJ (table 2b). (AF was not involved in the non-auditory series.). These results were independently significant for AP's subjects for the experiment taken as a whole and for series 2 and 3: the two auditory monitored series (table 2c). As a planned analysis, the scoring rate for AP was compared with the other two experimenters. Based on the combined means a *t*-value of difference between means of 1.84 was obtained (*df* = 88, *p* = 0.03, one-tailed). AP's results com-

pared with those of HJ's gave a *t*-value of 1.79 (*df* = 80, *p* = .04, one-tailed).

Subject source

There are some very clear differences between contributions of the subjects according to their recruitment sources. For all three series (monitored and non-monitored series) considered together, the paranormal experiences group (PE) (subjects from the general public responding to the newspaper request) gave a hitrate close to the 37% level achieved by those recruited from the New Age groups (NA). By way of contrast, psychology students scored only a single hit. This reaches statistical significance when the student group is compared with the PE group (*df* = 54, *t* diff = 2.69, *p* < .01, two-tailed) and with the NA group (*df* = 48, *t* diff = 2.70 *p* < .01 two-tailed). An additional 4 subjects recruited through personal contacts obtained 3 hits.

¹ These differences between experimenters are slightly less than previously reported (Parker 1996) because of one session that was problematic as regards allocation of roles. AP introduced the session but functioned as sender. We report here the more conservative analysis.

Table 3

Results by Subject Group

a) All three series combined

Subject Group	Trials	Hits	Hitrates
New Age	30	11	37%
Paranormal Experiences	36	13	36%
Students	20	1	5%
Others	4	3	75%

b) Main (auditory monitored) series

Subject Group	Trials	Hits	Hitrates
New Age	26	11	42%
Paranormal Experiences	20	8	40%
Students	11	1	9%
Others	3	2	67%

Repeaters

Nine subjects returned for a second session and four of these obtained direct hits in their second session. Seven of the nine had previously obtained direct hits and two had previously obtained second ranking of the targets. All of the four who got direct hits in their second session had previously obtained direct hits in their first session.

Discussion

The results here suggest that the success rate of a standard Ganzfeld procedure is a replicable finding with subjects having prior paranormal experiences. Some comments are first needed concerning the differences in scoring rates between the non-monitored study and the standard monitored studies.

A critic might argue that such differences are indicative of some form of artefactual transfer of information associated with the microphone. The presence of the microphone was of course an essential procedural difference between the non-monitored and monitored series. The technicians responsible for the setting up of the connections assured us that information

could only be transferred by this means one way: from the receiver to the sender. (It should also be pointed out that the video and television system was a separate electrical system so no leakage was possible from this system.) Nevertheless to check the hypothesis experimentally, we turned the video-television player to full volume and looked for any hypothetical backward effect through the loudspeaker to the electrical output of the microphone. There was no evidence for this. The microphone's output varied within the range of 0.1 millivolts in accordance with the breathing and movements of the person doing the measurements and showed no effect of alterations in sound from the video and television equipment.

If sensory cueing is ruled out as a feasible causal explanation, are there any other normal explanations for these results? The first consideration is, whether or not the results actually deviate from chance expectancy. In carrying out the experiment, the first series became essentially exploratory in determining the importance of the auditory monitoring feature. The lack of success of this initial study dictated that future studies would employ auditory monitoring and would be analysed separately. It can be

argued that our results should be pooled in an overall analysis and as such they lie at the 31% level which does not reach statistical significance. However, a sole focus on this analysis would ignore the near significance of the hypothesised different scoring rates between the monitored and non-monitored studies, the overall significance of the sum of ranks for the experiment as a whole, the independent significance of AP's results, as well as the joint significance of direct hits in the two auditory monitored series. Indeed, if post hoc analyses are allowed, then excluding the psychology students from the experiment, raises the overall scoring rate to 39% ($z = 2.49$) and to 43% for the two main studies ($z = 2.89$).

Is it conceivable that experimenter fraud could explain these results? It should be first said that the experiment was not designed as a fraud proof experiment (supposing there is such a design) but it is thought that reasonable precautions were taken against this and other sources of error. Separate independent records of target rankings and target selection were maintained together with supervision of recording of the results at feedback. The design for the experiment was briefly reviewed by a well-known critic, Nils Wiklund, who pointed out the main weakness would lie in the choice of the target video. If this could be manipulated so as to correspond with a supposed bias in the receiver's choice towards that of choosing popular targets, then this could produce spurious hits. Accordingly, in the later (auditory monitored) series, each outcome for the five casts was recorded for the dice entry points in the random number tables. This would then enable the choices to be reconstructed and checked and random checks have confirmed the choices. The dice casting itself was carried out by the subject (or else in the subject's presence) and could not therefore be easily manipulated. When the receiver was unable to be accompanied by a sender, one of the three experimenters functioned in this role. When working alone in the sender role, our scores were not impressive: a total of 6 hits out of 19 trials with HJ obtaining 4 out of 12

trials, AP obtaining 1 hit out of 6 trials, and AF obtaining 1 miss with her 1 trial. The biasing hypothesis is moreover inherently unlikely since the video library was put together by both AP and HJ, balanced when possible against popular choices, and gradually extended. This meant that the assistant experimenter often did not know what was in the particular series being used since the other experimenter had put it together. On three occasions, HJ operated as main experimenter and an assistant other than AP was used to accompany the sender. The sessions all produced misses.

Since the manual Ganzfeld does not, unlike the autoganzfeld, enable any automatic registering of trials, it should also be clearly said that no selection of data has been made. Only three non-completed sessions were excluded from the those reported. The sole criterion allowed for this exclusion was that the receiver was unable to make a choice of the target sent (because of lack of meaningful imagery). All the trials in which this was done are included in the 90 presented here.

Returning to the main findings, whilst it is tempting to conclude that the results give some support for the superiority of the auditory monitoring set-up, it should be noted that the subjects were not randomly allocated to these two contingencies. The success of the auditory monitored series could therefore have been a learning effect on the part of the experimenters. By the time of the monitored series began, we were placing a much greater emphasis on creating a positive psychological atmosphere, in particular giving much more time to feedback. The average time for testing increased from one and half hours to well over two hours. Another complicating factor is the uneven distribution of the low scoring psychology students between the studies: 9 in the 30 session non-auditory monitored study and 11 across the two 30 session monitored studies. It should also be noted that the procedural deviation (see results section: mentation review procedure) in the non-monitored series may explain the deficit of hits (and the presence of an significant excess of second position

rankings) in the series. Nevertheless, all things considered, it was our strong impression that the use of auditory monitoring improved the sense of involvement and excitement of participants in the study.

There is also some indication of an experimenter effect in the form of the different hitting rates for the experimenters. However, the experimenter effect, at least as evident here, may be a case of knowing or not knowing when and which subjects to test. AP would appear to have obtained his higher success rate by testing almost exclusively the New Age and the Paranormal Experience subjects and avoiding psychology students. Only two of the twenty psychology students were tested by AP and one of these produced the single hit that the psychology students obtained. Of the remaining students, 14 were tested by HJ and 4 by AN. There was actually no explicit intention of biasing the testing to this extent. On reflection, AP was vaguely aware of wishing to avoid testing the students for which he had been or was still a course director, but he was surprised to learn the extent of this bias. It is interesting to note that the MacAlpine and Cunningham study (in Morris *et al* 1993 and in Radin *et al* 1994) arrived at similar findings and conclusions.

If we attempt via a post-hoc analysis to correct for this bias in HJ's testing, and examine only the non-psychology students, then although the number of trials are small, her results reach a level much closer to AP's: 8 hits of 23 trials, that is 35%, for all three series; 3 hits out of 10 trials for the non-monitored series; 5 hits out of 13 trials for the monitored series. AF's results are too limited in number of trials to permit any such analysis but it is of interest to note that her current Ganzfeld work is now producing about a 40% hitrate.

Why did the undergraduate psychology students perform so poorly on this task? In approaching first year classes in order to recruit psychology students, AP had specifically asked for only volunteers who had had subjective paranormal experiences. Yet these students seemed to differ from the other participants in their attitudes to their experiences and to the experiment as a

whole. Generally, they appeared more sceptical towards their apparent psi-experiences, indeed some of them on closer scrutiny would be deemed not to have had any potential psi type experiences and as a group they appeared to be more analytical towards their experiences during the course of their ganzfeld sessions. We are currently analysing their mentation reports and other test scores to find some objective basis for these differences. Another possibility, which would require GRS measures, concerns how responsive in terms of relaxation this group is towards Ganzfeld stimulation.

In conclusion, these results support the view that the manual ganzfeld with auditory monitoring can give a reliably significant psi-effect if used with subjects from the general population who have previously reported spontaneous paranormal experiences. Using successful subjects on subsequent trials would also appear to be a way of enhancing the efficiency of the procedure. It should also be added that one of the necessary ingredients is the involvement of the subjects in the experiment. This could be one of the clues as to the differential success of the New Age and Paranormal Experience groups who appeared to regard the experiments in a very positive way related to their belief systems and to our surprise seemed to welcome scientific investigation. Many of them volunteered to help us and filled in our many questionnaires without complaint. Some measure of their co-operation is given by the 100% response rate of 40 of the participants who were followed up by mail for a questionnaire study (requiring a further 30 minutes of their time).

Obviously there are many other factors than the ones reported here that potentially influence the outcome of ganzfeld experiments (other measures relating to intrapersonal and interpersonal factors will be reported later). Despite the efforts to specify the requisite conditions for success, perhaps it still needs to be said that one cannot run a parapsychology experiment like a physics experiment.

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Naar een succesformule voor Ganzfeld:

Niet-geautomatiseerde Ganzfeld-replicatie waarbij
proefpersonen subjectieve paranormale ervaringen beschrijven

Samenvatting: In het experiment werd een handmatige Ganzfeld-procedure toegepast om enkele factoren te testen die met een significant psi-effect kunnen samenhangen. De proefpersonen waren respondenten op een krantenadvertentie, aanhangers van New-Age en eerstejaars psychologiestudenten. Het criterium voor deelname was het verhaal over spontane paranormale ervaringen. De eerste serie (N=30) van het onderzoek, waarin de antwoorden van de proefpersonen niet op geluidsband werden vastgelegd, resulteerde in 20% treffers. In de twee

hoofdsessies (elk N=30) werden de antwoorden wel geregistreerd. Elk van die sessies leidde tot 37% treffers, een gecombineerde effectgrootte van 0,25 en $z = 1,94$.

Over het complete onderzoek openbaarde zich een experimentatoreffect. Parker realiseerde een trefferpercentage van 40 over het hele experiment en van 43 voor de beide sessies met geluidsopname van de antwoorden. Data-analyse doet sterk vermoeden dat dit een gevolg was van relatief minder psychologiestudenten in de door hem geteste proefpersonen. De groepen 'New Age' en 'mensen met paranormale ervaringen' (samen N = 66) behaalden ongeveer even veel treffers, maar de 20 psychologiestudenten behaalden er samen slechts één. Bovendien bleken deelnemers die een tweede keer werden getest meer succes te boeken. De resultaten tonen aan dat Ganzfeld reproduceerbaar psi-effecten realiseert met proefpersonen die eerdere paranormale ervaringen rapporteren. Tevens blijkt echter dat het experimentatoreffect op zijn minst deels een zaak is van het kiezen van de juiste proefpersonen

Hacia una Receta de Éxito con el Ganzfeld: Replicación de los Hallazgos del Ganzfeld Usando el Ganzfeld Manual con Sujetos que han Tenido Experiencias Paranormales Subjetivas

Resúmen: El experimento usó la técnica de ganzfeld manual para investigar algunos factores que pueden estar relacionados con un efecto psi significativo. Los sujetos fueron seleccionados a través de anuncios en periódicos, entre grupos de la "Nueva Edad" (New Age) y en cursos de psicología de primer año. Todos habían reportado experiencias paranormales espontáneas. La primera serie (N = 30) se llevó a cabo sin registrar de forma auditiva las respuestas de los sujetos y se obtuvo una tasa de éxito de 20 por ciento. Los dos estudios principales (N = 30, cada uno) registraron las respuestas audibles de los sujetos y ambos obtuvieron una tasa de éxito de 37 por ciento. Los estudios que usaron las respuestas auditivas obtuvieron en conjunto un efecto de magnitud de .25 y una z de 1.94.

Se encontró evidencia de un efecto del experimentador a través de las puntuaciones del primer autor. Estas fueron de un 40 por ciento en relación al experimento en su totalidad y de un 43 por ciento para las dos series principales que usaron las respuestas auditivas. Los análisis de los datos indicaron fuertemente que esto se logró debido a que se evitó el uso de estudiantes de psicología entre los participantes utilizados en las pruebas. Los grupos de la "Nueva Edad" y de experiencias paranormales (N = 66) fueron casi igualmente exitosos, pero los estudiantes de psicología (N = 20) produjeron solo un acierto. Los participantes que regresaron para una segunda sesión de ganzfeld también parecieron ser más exitosos. Los resultados apoyan la idea que el ganzfeld es una técnica replicable para obtener un efecto psi con sujetos de la población general que han tenido experiencias parapsicológicas con anterioridad al estudio y sugieren que el efecto del experimentador quizás sea debido en parte a la selección correcta de sujetos.

Auf dem Weg zu einem ausformulierten Erfolgsrezept für das Ganzfeld: Replikation der Ganzfeld-Ergebnisse unter Verwendung eines manuellen Ganzfelds mit Probanden, die von subjektiven paranormalen Erfahrungen berichten

Zusammenfassung: Das Experiment verwendete eine manuelle Ganzfeld-Technik zur Untersuchung einiger Faktoren, die möglicherweise etwas mit dem Erzielen signifikanter Psi-Effekte zu tun haben. Versuchspersonen wurden einerseits durch eine Zeitungsanzeige rekrutiert, andererseits in New-Age-Gruppen und Psychologie- Erstsemestern gewonnen. Dabei galt als Zulassungskriterium das Berichten spontaner paranormaler Erfahrungen. Die erste Serie (N = 30) wurde ohne akustische Aufzeichnung der Antworten der Versuchspersonen durchgeführt. Sie brachte eine Trefferquote von 20 Prozent. Bei den beiden Hauptstudien (jeweils N = 30) wurde die Mithöranlage eingeschaltet. In beiden wurde eine Trefferrate von 37 Prozent erzielt. Bei den Untersuchungen mit akustischer Aufzeichnung ergab sich eine Effektgröße von insgesamt .25 mit $z = 1.94$.

GANZFELD REPLICATION

Es gab durchgehend Hinweise auf einen Experimentatoren-Effekt, wobei die Trefferquote beim ersten Autor auf einem Niveau von 40 Prozent für das gesamte Experiment und bei 43 Prozent für die beiden Hauptstudien mit Aufzeichnung lag. Die Analyse der Daten gibt deutliche Hinweise darauf, daß dieses Resultat auf einen weitgehenden Verzicht auf Psychologiestudenten bei der Auswahl der von diesem Experimentator getesteten Versuchspersonen zurückgeht. Die Probanden aus der New-Age-Gruppe und aus jener mit paranormalen Erfahrungen ($N = 66$) waren etwa gleich erfolgreich, während die Psychologiestudenten ($N = 20$) als Gruppe lediglich einen Treffer erzeugten. Teilnehmer, die zu einem zweiten Ganzfeld-Versuch wiederkamen, schienen ebenfalls erfolgreicher zu sein. Die Ergebnisse bestätigen das Ganzfeldverfahren als wiederholbare Technik für die Erzielung eines Psi-Effekts mit Versuchspersonen aus der Bevölkerung, die frühere paranormale Erfahrungen haben. Sie legen den Schluß nahe, daß der Versuchsleiter-Effekt zumindest teilweise eine Frage der Auswahl der richtigen Versuchspersonen ist.

Verso una ricetta di successo con il ganzfeld:

Replica dei dati del ganzfeld usando una modalità manuale con partecipanti che riferiscono proprie esperienze paranormali soggettive

Sommario: L'esperimento ha utilizzato una tecnica manuale di ganzfeld per studiare alcuni fattori che potrebbero correlarsi a effetti psi significativi. I soggetti sono stati arruolati, mediante annuncio su un giornale, tra gruppi di New Age e tra iscritti al primo anno di un corso di psicologia; requisito per l'inclusione era che riferissero di aver avuto esperienze paranormali spontanee. La prima serie di prove ($N = 30$) è stata svolta senza monitoraggio sonoro delle risposte dei soggetti e ha avuto un tasso di successo del 20%. I due studi principali (ciascuno di 30 prove) hanno avuto il controllo uditivo e hanno raggiunto entrambi una frequenza di successo del 37%. I due studi monitorati hanno complessivamente avuto un effetto di dimensione 0,25 e $z = 1,94$.

Si sono avuti segni di un effetto-sperimentatore, in quanto il punteggio del primo autore si è attestato al livello del 40% sull'intero esperimento e del 43% per i soli due studi monitorati. L'analisi dei dati ha indicato chiaramente che ciò si otteneva evitando l'inclusione degli studenti di psicologia tra i partecipanti esaminati. I gruppi di New Age e di Esperienze Paranormali ($N = 66$) hanno avuto un successo analogo, ma gli studenti di psicologia ($N = 20$) come gruppo hanno conseguito solo un successo. I partecipanti tornati per una seconda prova ganzfeld sembravano riuscire meglio. I risultati concludono a favore del ganzfeld quale metodica replicabile per ottenere un effetto psi da individui della popolazione generale con precedenti esperienze paranormali e suggeriscono che l'effetto-sperimentatore può almeno in parte consistere nello scegliere i soggetti giusti con i quali lavorare.

Vers la spécification d'une recette du succès avec le Ganzfeld:

Réplication de découvertes du Ganzfeld en utilisant un Ganzfeld manuel avec des sujets ayant rapporté avoir eu des expériences paranormales

Résumé: L'expérimentation a utilisé une technique de ganzfeld manuel afin d'investiguer certains facteurs qui pourraient être liés à l'obtention d'un effet psi significatif. Les sujets ont été recrutés via une annonce dans un journal, à partir de groupes New Age et de classes de première année de psychologie avec comme le critère d'entrée le fait de rapporter des expériences paranormales spontanées. La première série ($N=30$) a été conduite sans le contrôle auditif des réponses des sujets et a obtenu un taux de réussite de 20%. Les deux études principales ($N=30$ chacune) comprenaient l'équipement de contrôle auditif et les deux ont obtenues un taux de réussite de 37%. Les études contrôlées ensemble ont donné une taille d'effet de .25 et $z=1.94$. Il y a eu une évidence d'effet de l'expérimentateur tout du long, le taux de réussite du premier auteur

étant de 40% pour l'expérience prise dans son ensemble et de 43% pour les deux études principales contrôlées auditivement. L'analyse des données a fortement indiqué que cela a été atteint en évitant l'utilisation d'étudiants de psychologie dans le quota des participants qu'il a testé. Les groupes New Age (N=30) et ceux rapportant des Expériences Paranormales (N=36) ont réussi de la manière égale, mais les étudiant de psychologie (N=20) en tant que groupe n'ont produit qu'un seul essai réussi. Les participants revenant pour un second essai ganzfeld ont apparemment aussi mieux réussi. Les résultats soutiennent que le ganzfeld est une technique répliquable pour obtenir un effet psi avec des sujets de la population générale qui ont eu des expériences paranormales antérieures et suggère que l'effet expérimentateur dans les études présentes peut au moins en partie être une question de choix des bons sujets.

**Para especificar a receita do sucesso com ganzfeld:
Replicação dos resultados de experimentos ganzfeld
utilizando o ganzfeld manual com sujeitos
que relatam experiências paranormais subjetivas.**

Resumo: O experimento se valeu da técnica ganzfeld manual para investigar alguns fatores que devem estar relacionados à obtenção de um efeito psi significativo. Os sujeitos foram recrutados através de um anúncio de jornal, de grupos simpatizantes da Nova Era e de alunos do primeiro ano de Psicologia, sendo que a condição para tomar parte era que o candidato relatasse experiências paranormais espontâneas. As primeiras séries (N = 30) foram realizadas sem a monitoração auditiva das respostas dos sujeitos, e obtiveram uma taxa de acerto de 20%. Os dois principais estudos (N = 30 cada) incorporaram as instalações para a monitoração auditiva e ambos obtiveram uma frequência de acerto de 37%. Os estudos monitorados apresentaram juntos um tamanho de efeito de 0,25 e $z = 1,94$.

Houve evidência do efeito de um experimentador em todo o experimento, sendo que a taxa de acerto do primeiro autor permaneceu a um nível de 40% no experimento como um todo e 43% para os dois principais estudos com monitoração auditiva. A análise dos dados indica fortemente que isto aconteceu porque o experimentador evitou a utilização de estudantes de Psicologia entre os participantes testados por ele. O grupos de simpatizantes da Nova Era e o de pessoas que disseram ter passado por experiências paranormais (N = 66) foram quase que igualmente bem sucedidos, mas os estudantes de Psicologia (N = 20) como grupo, conseguiram apenas um acerto. Os participantes que retornaram para um segundo teste também parecem ter alcançado maior sucesso. Os resultados são favoráveis ao ganzfeld como uma técnica replicável da obtenção de um efeito psi com sujeitos da população em geral que tiveram experiências paranormais anteriormente e sugere que o efeito do experimentador pode, ao menos em parte, estar implicado na escolha dos sujeitos certos com quem trabalhar.

Eigensender Ganzfeld Psi: An Experiment in Practical Philosophy

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Abstract: This study was conceived to test the effectiveness of a new complex version of the Ganzfeld experiment, the 'Eigensender' procedure, in which the traditional roles of 'sender' and 'receiver' are merged to maximise psi manifestation. This procedure was developed from a methodological approach in which the experimental situation is considered an irreducible configuration of elements. Connected to this approach is the idea that rituals and principles taken from traditions of magic might be used to facilitate psi effects within a controlled setting. A total of 32 sessions were conducted. Highly significant effects were obtained, with 14 hits (43.75%), $z = 2.45$ ($p = 0.012$) and a preferential ranking statistic resulting in $z = 3.083$ ($p = 0.0012$).

Introduction

Despite the abundant use of negative terms like 'anomaly' and 'non-locality' in its discourse, it seems obvious that contemporary parapsychology shows most of the structural characteristics of intra paradigmatic 'normal' science (in the Kuhnian sense, leaving aside the confusion surrounding criteria and multi-interpretability of Kuhn's concept of paradigm). As such, during its history, parapsychology has proceeded with regular 'problem solving behaviour' the course of which has been guided by a limited number of exemplars (prototypical concrete solutions to the problem of how to elicit psi; solutions that constitute the fundamental components of research programmes and determine the validity of questions, the selection of hypotheses and the applicability of strategies). Two decades since their introduction in the early 70s, meta-analyses have shown experimenting according to the Ganzfeld procedure to be a successful research method for producing relatively robust empirical psi evidence under laboratory circumstances (Bem & Honorton, 1994; Honorton, 1995; Utts, 1996). Added to that,

the Ganzfeld procedure successfully embodies components of a more theoretical level, a relatively stable nucleus of methodological standards and mostly cognitively inspired intuitions (Honorton, 1977). In short, it is clear that the Ganzfeld procedure has gained the status of exemplar in parapsychology's endeavour to focus in on a true explanatory model of psi, the design of a system of concepts and parameters that determine psi as accurately and completely as possible.

Contrary to this Popperian ideal, a relativistic philosophy of science would take a critical view of the a priori of theoretical progress as the automatic result of a competition of falsification between diverse theories in an explanatory role (e.g., Kuhn, 1975; Feyerabend, 1975). Indeed, reviewing the history of parapsychology, one cannot avoid the impression that we are dealing with a paradigm-bound stream of non-cumulative science. Can we rightfully claim that the mechanistic state of the art frameworks we deploy to encapsulate psi-phenomena, provide a more thorough understanding than the 'dated' terms used by, say, Myers a century ago? Psi appears to demonstrate a total disregard for the sci-

entistic ideals parapsychology strives for. The radical criticism that follows from these notions will be elaborated in the next article. Below are some preliminary notions.

Anomalies of parapsychology

We feel that the annoyingly regular elusiveness and non-repeatability of psi could be regarded as 'anomalies in anomaly research', i.e., meaningful indications of the limitation and relativity — the 'Gödelian' incompleteness — of reductionistic methodological operationalisations and corresponding theoretical abstractions in parapsychology. In other words, we speculate that as a result of its development, any such paradigmatic system of integrated knowledge will gradually acquire an inflexible and impenetrable quality that, paradoxically, will restrict its potential to evoke the subject matter it was developed for in the first place: anomalies.

Thus taking psi to be anomalous in principle would suggest that it lacks — or better: transcends — a definite nature. Going beyond a positive constitution that can be outlined in 'neutral terms', its phenomenology seems to be shaped by the 'mould', the experimental and cultural context, in which it manifests itself. Instead of constantly repeating itself trying to absorb anomalies by projecting them on seemingly solid and secure intra paradigmatic pseudo-knowledge, we feel that parapsychology should be the constant search for 'open moulds': a science in a continuously revolutionary mode (in the Kuhnian sense), never adhering — 'clinging' — to a unique theoretical perspective¹ while trying to seek out the irregular, the anomalous.

Such moulds would have to contain a 'deconstructive' component, a critical procedure for creating 'openness', the 'cracks in reality'² necessary for psi to 'seep through'. We believe Ganzfeld to be such a procedure. As will be explained in the preparation section, we do not just think of

it as a technique for disturbing 'the signal detection capabilities of the cognitive apparatus', a mechanistically framed manipulation that can be taken apart and analysed for relevant factors — rather we try to think of the Ganzfeld set-up as an integral ritual for stimulating the 'existential shift'³ that invites psi to occur.

Compound psi

We devised our set-up, the *Eigensender* experiment (EiS, the term will be explained in the procedure), as a synthetic structure, an 'organic system' of psi-facilitating sub-procedures, all of which we hoped would contribute to a total effect, a sort of 'compound psi', which would no longer be convertible to the conditioned categories in which psi is traditionally expected to 'express' itself.

Therefore, although EiS consists of a differentiation of individual variables, it no longer allows for an analytical approach, i.e., the attribution of observed effects to a function of these variables as separate 'sources' of psi. Every generation of parapsychologists has isolated and cherished its own favourite set of psychological and physical variables — we would expect a review of the past decades of process oriented research to demonstrate an astonishing regularity in the promising emergence of significant covariants and their subsequent decline (recently geomagnetism seems to have completed its cycle). Intra-paradigmatic parapsychology aims for a 'dissection' of each experimental situation in supposedly causally related and context-neutral elements and processes — in our view such 'substantivation' serves a positivistic construct ideal of objectivity, an 'absolute knowledge', that is as unattainable as it is unrealistic. Once made explicit, variables can only temporarily and artificially be dissociated from the primary background in which they are embedded, the infinite 'texture' composed of the specific experimenters and their world

¹ Cf. Adorno's concept of a constant '*Neuordnung*' (as in Van Reijen, 1984).

² Term of Julio Cortazar.

³ Term of Jan Ehrenwald.

view, the lab environment and cultural surroundings, in short our 'being-in-the-world' (Heidegger's *Dasein*).

As we suggested elsewhere (Wezelman, Radin, Rebman & Stevens, 1996; see also the next article), the epistemological style sketched above is not irreconcilable with — can in fact be seen as a modern presentation of — some of the principles that constitute magical systems of knowledge.⁴ As a diplomatic tactic in their never ending search for acceptance by the scientific community, many parapsychologists seem to have conceived at least an ambivalent opinion of traditions of magic. Magical thinking is presumed to be a primitive, pre-rational cognitive style that has become historically obsolete. On the other hand, parapsychology has provided empirical evidence for the direct non-mechanistic connectedness that underlies magical thinking and practice. For instance, the PK anomalies that nowadays annoy believers of scientism, can be regarded as instances of correspondence between mental intentions and physical events that are clearly related to the phenomena, the generation of which was once sought for in occult traditions. A more elaborate justification will be offered in the next article; for now it is sufficient to say that we thought it intrinsically interesting to test the prediction that certain principles and rituals of magic might be used optimally to induce (what is nowadays called) Ganzfeld psi, without losing the strict methodological control that science prescribes.

Method

Participants

Authors, colleagues and friends were the only subjects taking part. We're aware of the fact that the Ganzfeld paradigm was

originally intended for testing unselected subjects and yet we felt it important not to bring in any participants from outside the lab. The reason is not that we consider ourselves to be specially 'gifted' subjects. It's simply because of the 'exotic' nature of the EiS rituals that demand a strong group cohesion and interpersonal trust, a certain Ganzfeld 'competence', familiarity with each others' idiosyncratic mentation (for judging and rating purposes), and the unanimous acceptance of a certain 'world view', all qualifications and attitudes that one may expect to find in a close group of like-minded members. Also, switching roles is more motivating and brings more opportunities to learn relevant knowledge that cannot easily be gained from a more objective stance.

Standard preparation

Participants discussed and agreed upon the background philosophy of this experiment, inspirational sources of which can be traced to systems of magic and mysticism (Zen), as well as to modern day critical philosophy (Frankfurter Schule, Heidegger, Kuhn). However, no fixed set of propositions was determined. Some of the ideas were mentioned in the introductory philosophy of science above, some are inserted in the procedure below, others will be elucidated in the next article. In general, participants made an effort to think of psi phenomena not as strange epiphenomena from the dark side of an ultimately 'objective reality', but rather as 'signs' that contrast ostensibly fundamental dimensions of that reality, and, in doing so, indicate how the static dualism of external reality and internal consciousness is 'constructed'.

The concept of realisation serves as a key term further to illustrate this view of reality as constructed. The verb 'to realise' crosses the edge between two polarities. On the one hand, denoting 'effectuation' and 'taking a concrete shape', it refers to 'objective reality', the *sensus communis* of paradigmatic science. Gradually less intersubjectively on the other hand, and denoting 'apprehension' and 'grasping' of

⁴ We refer to magic in the sense of a ritual performance or activity believed to influence human or natural events through access to a mystical force beyond the ordinary human sphere — not in the derived sense of the staged practice of conjurers such as James Randi.

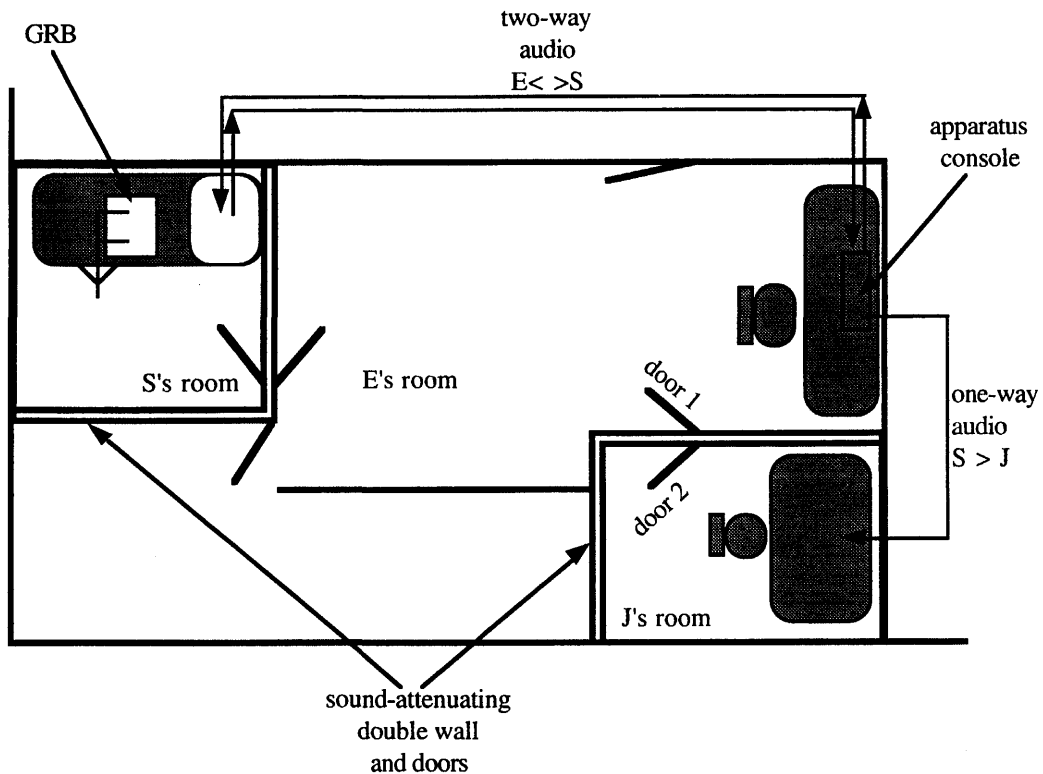


Figure 1.

Lab lay-out. S = Subject, E = Experimenter, J = Judge. GRB: see text.

meaning, 'to realise' refers to the 'subjective realm', our personal frames of experience.

Preparing for an EiS session, we attempted to 'actualise' this ambivalence in trying to internally 'realise' our background philosophy, in the sense of being 'intensely aware of its veracity', hoping that from such an intersubjective 'set anomalous phenomena would evolve.'⁵ To paraphrase, we were anticipating that 'living' our ideas on psi would effectuate, or at least facilitate, the corresponding concrete 'external realisation' of psi phenomena, which in turn would confirm the reality of these ideas. As a supporting part of this realisation attempt, the Ganzfeld stimulation was considered a

tool to 'deconstruct' the ego-centred, psi-inhibiting normal state of consciousness (cf. Deikman's (1972) ideas on 'deautomatisation' and the mystic experience), allowing for the inclusion of target-related cognition.⁶

In short, motivated by the seminal work of Batchelder (e.g. '1984), the EiS background philosophy acted as an intersubjective 'programming'. It did so in a way that reminded us of Schopenhauer's belief (Schopenhauer, 1961) that parapsychology should be considered as 'practical metaphysics' (hence this article's title).

⁵ In line with, for example, the concept of interpersonal reality in Björkheim's *Theory of the Event Horizon* (Björkheim, 1994).

⁶ Psi may be facilitated not by certain static, 'self-enclosed' altered states *per se*, but by the dynamic, 'open' transformations within or between states - cf. Ehrenwald's stress on the concept of shift.

Standard procedure

The basic lay-out of the lab is depicted in figure 1.

As will become clear in the following description of the EiS procedure (and in the footnote below), all necessary measures were taken to prevent normal information leakage.⁷ The procedure consists of three main parts.

I. After a relaxation period (length and method at the option of subject), subject (S) first experiences a 15 minute period of normal Ganzfeld stimulation using a standard mixture of red and blue lights, white noise, and translucent ping-pong ball halves. During this stage s/he provides a continuous verbal report of ongoing imagery and mentation. At this stage, the 'deconstruction' referred to in the preparation section would imply that for instance some Ss deliberately tried to 'deregulate' their sense of time, thereby hoping to create a confluence of their experiences during this first 15 minute period with their 'future' experiences during stage III, in which, as will be explained, the target picture is actually known to them. This technique is inspired by Roll's (1989) idea of precognition as extended 'memory'; it shows an interesting structural analogy with Radin's (1996) concept of presentiment and the phase-lock EEG-analysis of 'preperception' as proposed by May.

After adjusting light and white noise levels, experimenter (E) breaks contact with

S, and randomly selects a target-set from a pool of 20 four-picture sets (mainly composed of pictures taken from the *National Geographic*). For this, s/he uses a MacroMind Authorware professional random function taking its seed number from the computer-time. Next, s/he places the control set of 4 duplicates between the double doors of the room in which the judge (J) is sequestered (door 2 is closed at this stage, although this would not be necessary since E has not yet selected the actual target). Only after closing door 1, E (using the same procedure as above) randomly selects and takes out the actual target, and starts acting in the role of 'telepathic sender'.

This first stage is concluded after precisely 15 minutes (if though S is in the process of reporting an impression, E waits until s/he finishes his/her sentence). During this time, both E and J have direct feedback on (and J takes notes of) S's ongoing report. In concluding this first stage, E doesn't contact S verbally, anticipating the criticism that S's microphone might pick up E's voice indirectly, coming through S's headphones, which would have allowed for a potential subliminal sensory leakage.⁸ Instead, E just switches off the white noise, which acts as a prearranged signal for S to break the connection with E and J by taking out the microphone plug.⁹

II. In the intermediate second stage, E enters S's room, checks whether the microphone plug has been taken out, and attaches the target picture on the GRB¹⁰, a contraption developed for the display of written material for hospital patients who are unable to use their hands. After this E

⁷ The laboratory consists of two sound-attenuated rooms, separated by a central experimenter lounge. Sound measurement, executed by a sound technician equipped with a qualified sound level meter (Brüel & Kjaer type 2226), showed that the background sound level of any room was not raised by loud voices in the two other rooms. Nevertheless, during EiS no talking took place except for S reporting impressions during Stage I. Windows in S's and J's room were blinded by a lockable screen. Communication between participants in EiS: a two-way link between E and S (broken after instalment of S) and a one-way link from the S to J (broken during II and III).

⁸ Subliminal, for J's never noticed hearing E's finishing remarks during previous (non-EiS) ganzfeld experiments.

⁹ Apart from that, note that communication from E to S is turned off for the duration of stage I.

¹⁰ The Gerding Reading Board, ® H. August Gerding.

leaves the room, and rewinds the taped protocol.

Noting the break of communication with S signalling the end of stage I, J takes the control set from behind door 2 (leaving door 1 closed) and closes it again.

III. During the last stage E replays the taped protocol for both S and J to hear. Being able at self chosen moments to lift the ping-pong ball halves and take a glance at the target picture, S is now in a position to serve as his/her own 'precognitive sender' (hence the term *Eigensender*, derived from the German *eigen*, meaning 'own'). Obviously, with 'sender' and 'receiver' being one and the same person, we may expect an absolute maximum of congruence between 'sender' and 'receiver' with regard to the state of consciousness and the internal cognitive and affective contexts in which target perception takes place. This we felt, would facilitate the confluence of experiences referred to in I. In other words: the effort made by S to identify him-/herself with the person s/he was during stage I combined with the Ganzfeld deconstruction, i.e. the 'meditative' discontinuity of the one-directional time sequence that characterises our ego-logocentric state of consciousness, might be conducive to moments of target related cognition during stage I. We expected this confluence would be enhanced even further 1) by the fact that S's external surroundings are identical (S still being situated in the Ganzfeld), and 2) by allowing S to hear his/her own replayed mentation, thereby enabling S to render — 'translate' as it were — protocol elements to target elements.

During stage III, E remains concentrated on his/her memory of the target picture. Meanwhile, J tries to assess the degree (writing down scores between 1 and 100) to which each of the four target alternatives matches S's mentation. The session is concluded in 'the moment of truth' when J steps out of his/her room, revealing the highest rated picture to E and S.

Additional techniques: EiS+

The standard EiS procedure described above was used as a basic structure for all 32 sessions. Some elements in this procedure, and most notably the notion of realisation as externalisation (i.e., ideas taking shape in an intersubjectively constructed reality), could easily be reformulated in terms derived from intercultural magical principles. Explicit application of such principles started from session 18, with an initial pilot at session 5.

Anticipating a sceptical reception of our ideas, we would first like to note that we consider it premature to explicate in depth the exact contents of the rituals that built the EiS+ condition. It should be made clear that our procedure is a syncretic body of rituals and ideas taken from traditions of magic that we felt comfortable with, a specification of just one experimental path for creating a certain 'openness' (Van Kampen, 1994) that may result in a realisation, a practical knowledge, of psi. We did not intend to provide a new paradigm. To preclude this, and perhaps contradicting the requirement of uniformity, we feel it important that any study undertaken as a conceptual replication of EiS+ should have its own self-developed set of rituals. We'll return to this subject in the next article. For now, to illustrate our method, some remarks are in order on the techniques we used.

First, when performing so-called 'white magical' ceremonies one has to strive for perfection and timing. The optimal time would be during waxing or full moon, a rule that might have more than just a superficial symbolic value (Radin & Rebman, 1995). Furthermore, part of the preparation of the participants would consist of reliving their own past experience of Ganzfeld hits or registered spontaneous cases, a 'simulation' that generates a stimulating feeling of confidence. Such a 'Batcheldorian attitude' may culminate in the 'instant believe', the sort of 'shift' experience that appears to be common to most successes in psi experiments. The ceremonies themselves (comprising the EiS procedure) would take place in the evening,

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Table 1.

Hit-rate with $p = 0.25$.

Condition	Nr Sessions	Nr Hits ($p=0.25$)	% Hit rate	z (corrected for disc.)	p (one-tailed)
ES	16	6	37.75		
ES+	16	8	50		
total	32	14	43.75	2.45	.012

the suitable time of day for executing magical rituals.¹¹ Preparatory ceremonies would follow a definite schedule and would involve cleansing and consecration of the lab-setting using candles, incense, and powerful quintessential symbols to transform it into a sacred place, isolated from its profane surroundings.

Next, from our cognition that our personal efforts or any postulated 'underlying mechanisms' per se are incapable for 'causing' psi, we would carry out rituals of evocation and invocation, thereby properly appealing for a 'solution', some sort of 'grace' (cf. participants 'silent wish to connect' in the Braud & Schlitz' DMILS studies (1991) and one successful US experimenter's mentioning of meditative praying as a preparation for each Ganzfeld session). This would be a request with reverence to whatever higher 'numinous agencies' or 'powers' (a term that is convenient for its multi-interpretability) working 'through' the experiment (a cognition comparable to Stanford's assumption nr.18, cited in Kennedy & Taddonio, 1976). These rituals would include sacrifice (using several traditional requisites, e.g. the cauldron), trance drum beating and cannabis smoking, and reciting and intensely contemplating a carefully composed spell.

Directly preceding the Ganzfeld subroutine itself, we applied the principle of contact magic, which states that any contact

between persons is extended beyond the limits of physical separation (e.g. Roll, 1989, on 'the long body'). Doing a group breathing ritual while touching crowns (sahasrara chakra, mana tapu, etc.), we aimed to establish the ritual contact between E, S and J that was felt to be an essential prerequisite for Ganzfeld-psi to manifest itself. Finally, animistic principles of identification and personification can be distinguished in our attempts to experience mimesis with the total experimental system as an 'organism'.

Hypothesis and Results

In accordance with the non-analytic stance taken in the introduction, we aspired no further dissection of variables related to 'psi-processes' or 'psi-mechanisms'. Our hypothesis simply stated that the *Eigensender* technique would facilitate anomalous cognition. Existential evidence for psi would appear from the total number of hits, which amounted to 14 out of 32 sessions, resulting in an hit rate of 43.75% (see table 1).

Manipulating the variable EiS / EiS+ with hit-rate EiS: $6/16 = 37.75\%$ and hit rate EiS+: $8/16 = 50\%$, clearly did not yield a significant difference.

This traditional one-in-four hit-rate is a rather crude measure; it may filter out possible indications of psi in those trials where the target was not actually selected by J, as is for instance the case when possible psi-mediated target mentation is surpassed by decoy related material (as a result of either coincidental resemblances or the type of Ganzfeld displacement effects

¹¹ See also Batcheldor's (1984) notes on darkness: a darkened environment creates an atmosphere which inhibits rational and analytical thought. Also, we felt less inhibited due to the fact that the institute's building is deserted during the evening.

Table 2.

Probability of the observed sum-of-ranks according to Solfvin et al. 1978.

Sessions (N)	Nr of ranks (R)	Observed Sum of Ranks (M)	z	p
32	4	100	3.083	0.0012

Table 3.

ANOVA with factor: 'hit/miss' and dependent variables: 1) 'highest of four ratings, normalised by sum of second, third, and fourth rating', and 2) 'highest rating minus second highest rating'.

Factor	Dependent Variable	F	p
hit/miss	highest of four ratings divided by sum of ratings 2-4	2.160	0.1521
hit/miss	highest rating minus second highest rating	4.709	0.0381

discussed in Wezelman & Gerding, 1994). Therefore, putting quality before quantity, we planned to do a preferential ranking analysis to corroborate the existential evidence, applying the sum-of-ranks method described by Solfvin et al. (1978).¹² This statistic is approximately normal for all values of N greater than 20; it follows from the formula

$$z = (M - U m (0.5)) / SD m,$$

in which M is the observed sum-of-ranks,

$U m = N*(R+1)/2$ the expected sum-of-ranks

$$\text{and } SD m = \sqrt{(N*(R*R - 1))/12}.$$

The observed total sum-of-ranks was converted from the ratings, with a hit ranked as 4. Table 2. sums up the result of this statistic:

Apart from these planned statistics concerning the question of evidence, we did a post hoc analysis testing for J's 'confidence' in scoring, another aspect of psi that is filtered out using the one-in-four ratio method. Using the fine-grained ratings (1 - 100) that perhaps would supply an even more precise measure than rankings, this test consisted of two ANOVA's. The first

looked into the effect of the factor 'hit/miss' on the variance of dependent variable 'the highest of the four ratings', normalised by divisor 'sum of second, third, and fourth rating'. The second ANOVA tested for effects of the 'hit/miss' factor on the dependent variable 'highest rating minus second highest rating'. Table 3 shows the results. As can be seen in table 3, the first ANOVA yielded non-significant results, indicating that on average the picture in case of a 'hit', i.e. the target, is not rated higher than the highest rated picture in case of a 'miss'. Surprisingly though, this 'lack of confidence' is not confirmed by the result of the second ANOVA: the average 'highest rating minus second highest rating' in case of a 'hit' is significantly higher than 'highest rating minus second highest rating' in case of a 'miss', which could be read as an incidence of J's 'confidence' in rating. Combining the results would suggest that the second highest rated picture is rated considerably lower in case of a 'hit', as is shown in table 4.

Discussion

Of course no real conclusions can be drawn from just one series of 32 sessions. However, the results suggest an improvement when compared to results of

¹² We wish to thank Dick Bierman for his assistance in programming.

Table 4.

Average highest rating, average second highest rating, and average highest rating minus second highest rating according to hit/miss.

Hit/Miss	Average Highest Rating	Average Second Highest Rating	Average of Highest Rating minus Second Highest Rating
Hit	77.857	53.928	232.929
Miss	75.722	64.611	11.111

the standard Ganzfeld procedure with static targets in general (with meta-analysis showing an overall hit rate of around 30%), and specifically when compared to our own previous findings using this standard method (a replication programme yielding little more than chance results, see e.g. Bierman, Bosga, Gerding & Wezelman, 1993; Bosga, Gerding & Wezelman, 1994). However, our experiment contains no real direct test of the effectiveness of the EiS technique *per se* over this standard Ganzfeld procedure. Also, the influence of the magical extension cannot be properly compared to scoring in 'no-magic' standard EiS. There was no proper random allocation of sessions to EiS and EiS+ conditions – however, participants could never have been blind to the hypothesis anyway. More importantly, as we will argue in the next article, beneath its surface the standard EiS (and even the standard Ganzfeld) procedure could itself be considered a paradigm of magic in a broader sense, leaving only a gradual, cosmetic distinction between EiS and EiS+.

Against method, such detailed comparisons were never our object, since, in accordance with our doubt of the analytic stance, we take psi as an indication of the limits of applicability of analytic thinking in general.¹³ Therefore, all we claim is that psi

may manifest itself somewhere between the beginning and the end of an *Eigensender* session, yet it cannot analytically be reduced to the outcome of a function of critical moments, interactions, or mechanisms, which ostensibly constitute that session. Like a work of art, a parapsychological experiment embraces more than the total sum of its constituting elements.

As an instance of this analytical indeterminability, we have to tolerate the ambiguous outcomes concerning possible confidence of J's rating, since in a way it confirms the idea that psi phenomena cannot simply be reduced to isolated cognitive mechanisms within the individual – the individual might not even be the focus of psi (see next article).

Furthermore, we did not plan to analyse data with regard to factors like J-S pairing or E hit-rate. First, since we felt forced role taking would be counterproductive, for each session role choices were optional and left to the preference of participants. This left us with an unbalanced role distribution, making it difficult to examine more closely effects of interpersonal dynamics.

More important however, EiS does not allow a clear allocation of experimental roles. Roles and double-roles compile an interwoven script. If we were to report on *Eigensender* in an analytical way, several current frameworks would have been at our disposal. In terms of the OT's, the S at stage III could be said to non-locally to connect target observations with his/her impressions during I (during which cognitive functioning is relatively 'random'), the report of which is heard through the headphones. The second, more conventional framework that has guided mainstream

¹³ As J. Rush (1982) stated: 'The analytical approach expressed in terms of experimenters and subjects, of telepathy and clairvoyance, ESP and PK, precognition and retro-cognition, is derived from the causal concepts of pre-quantum physics; but in parapsychology it has revealed no causal chains and consequently has become mired in ambiguities'

parapsychology for several decades, comprises of models that are inspired by principles of functionalistic and representationalistic cognitivism. Here explanations are construed around a concept like 'psi input', that activates 'detection mechanisms', the 'functioning' of which is 'facilitated' by the 'attenuation of sensory and somatic stimuli'. In a cognitivist-oriented *Eigensender* model, E doubles as 'sender' for S during stage I and for J during III, while S takes on the role of an additional (Eigen) 'sender' during stage III, as well as that of ('normal') 'sender' for J (J's are aware of this possible construct).

Less conventional conjectures would still involve analytical localisation of psi. For example, RNG-target selection by E could be modelled as a PK or data augmentation process, or — stretching Jung's concept somewhat — as a 'synchronicity event', a process in which the designated target will correspond maximally to S's future mentation during stage I (Bosga *et al.*, 1994), or as a combination of any of these perspectives, a combination that might then vary per experiment. Again, S, E and J are aware of these possible frameworks of interpretation while performing EiS.

This lack of analytical determination will ultimately leave us with perhaps a successful contribution to a future meta-analysis, but without trace of a theoretically relevant 'core process'. In short, we feel psi may show to better advantage if we appreciate its phenomenological complexity and try not to reduce it to our favourite essentials.

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Eigensender Ganzfeld-psi: een poging tot praktisch toegepaste filosofie

Samenvatting: Dit onderzoek werd uitgevoerd als een toets voor de effectiviteit van een nieuwe, complexe opzet van een Ganzfeld-experiment, de 'Eigensender'-procedure. Daarin worden de traditionele 'zender' en 'ontvanger' samengevoegd om het optreden van psi te bevorderen. Deze procedure is ontwikkeld vanuit een methodologische benadering waarin de experimentele situatie wordt gezien als een niet-reduceerbaar stelsel van elementen. Daarbij is ook uitgegaan van het idee dat rituelen en principes uit de traditionele magie in een gecontroleerde experimentele opzet psi-bevorderend zouden kunnen zijn. In totaal werden 32 sessies uitgevoerd. De resultaten waren sterk significant: 14 treffers (43,75%), met een z-waarde van 2,45 ($p = 0,012$) en een significante score van $z = 3,083$ ($p = 0,0012$) bij de rangordening.

Psi en el Ganzfeld Eigensender. Un Experimento sobre Filosofía Práctica

Resúmen: Este estudio fué diseñado para poner a prueba la efectividad de una nueva compleja versión del experimento ganzfeld, el procedimiento 'Eigensender', en el cual los roles tradicionales de la persona que envía y recibe se unen para aumentar la manifestación de psi. Este procedimiento fué desarrollado de un concepto metodológico en el cual la situación experimental se considera como una configuración de elementos irreducibles. Este concepto está relacionado con la idea de que rituales y principios tomados de tradiciones de la magia pueden ser usados para facilitar los efectos psi en un ambiente controlado. Se llevaron a cabo un total de 32 sesiones. Se obtuvieron resultados altamente significativos, con 14 aciertos (43.75%), $z = 2.45$ ($p = 0.012$) y de acuerdo a un análisis de rangos, $z = 3.083$ ($p = 0.0012$).

**Eigensender-Ganzfeld-Psi:
Ein Experiment in praktischer Philosophie**

Zusammenfassung: Ziel der vorliegenden Untersuchung war ein Test der Effektivität einer neuen komplexen Version des Ganzfeld-Experiments, des 'Eigensender'-Verfahrens, bei dem die traditionellen Rollen von 'Sender' und 'Empfänger' zusammengelegt werden, um das Auftreten von Psi zu fördern. Dieses Verfahren wurde aus einem methodologischen Ansatz heraus entwickelt, in dem die experimentelle Situation als eine irreduzible Elementenkonfiguration betrachtet wird. Mit diesem Ansatz verbindet sich die Vorstellung, daß Rituale und Prinzipien der traditionellen Magie dazu verwendet werden könnten, das Auftreten von Psi-Effekten im Rahmen einer kontrollierten Versuchsanordnung zu erleichtern. Insgesamt wurde 32 Sitzungen durchgeführt. Die Resultate waren hochsignifikant: 14 Treffer (43,75%) mit einem z-Wert von 2,45 ($p = 0,012$) und einem signifikanten Score von $z = 3,083$ ($p = 0,0012$) in der Rangordnung.

**Eigensender Ganzfeld Psi:
Un esperimento di filosofia pratica**

Sommario: Questo studio è stato concepito per vagliare l'efficacia di una nuova e complessa versione del ganzfeld: la procedura *Eigensender*, nella quale, per massimizzare la manifestazione della psi, i tradizionali ruoli di trasmettente e di percipiente sono fusi. Questa procedura è stata sviluppata a partire da un approccio metodologico per il quale la situazione sperimentale viene considerata una configurazione irriducibile di elementi. Connessa a tale approccio è l'idea che rituali e principi tratti dalle tradizioni magiche potrebbero essere usati per facilitare gli effetti psi in un ambiente controllato. Sono state effettuate 32 sessioni e sono stati ottenuti effetti altamente significativi, con 14 successi (43,75%), $z = 2,45$ ($p = 0,012$); un'analisi per ranghi preferenziali dà un valore $z = 3,083$ ($p = 0,0012$).

Psi de l'émetteur-propre Ganzfeld: Une expérience en philosophie pratique

Résumé: Cette étude a été conçue afin de tester l'efficacité d'une nouvelle version complexe de l'expérimentation Ganzfeld, la procédure 'émetteur-propre', où les rôles traditionnels d' "émetteur" et de "récepteur" sont mêlés afin de maximiser la manifestation psi. Cette procédure a été développée à partir d'une approche méthodologique où la situation expérimentale est considérée comme une configuration irréductible d'éléments. Connectée à cette approche est l'idée que les rituels et principes empruntés aux traditions de magie pourraient être utilisés afin de faciliter les effets psi dans un cadre contrôlé. Un total of 32 sessions ont été conduites. Des effets hautement significatifs ont été obtenus, avec 14 essais réussis (43,75%), $z = 2,45$ ($p = 0,012$) et une statistique d'ordonnement préférentiel résultant en $z = 3,083$ ($p = 0,0012$).

**Ganzfeld do tipo "Eigensender" para investigar psi:
Um experimento em Filosofia Prática**

Resumo: Este estudo foi concebido para testar a eficácia de uma nova versão complexa do experimento ganzfeld, o procedimento 'Eigensender', no qual os papéis tradicionais de 'emissor' e 'receptor' são fundidos para maximizar a manifestação de psi. Esse procedimento foi desenvolvido a partir de uma abordagem metodológica na qual a situação experimental é considerada uma configuração irreduzível de elementos. Ligada a essa abordagem está a idéia de que rituais e princípios retirados de tradições mágicas podem ser utilizados para facilitar efeitos psi dentro de um ambiente controlado. Um total de 32 sessões foram realizadas. Efeitos altamente significativos foram obtidos, com 14 acertos (43,75%), $z = 2,45$ ($p = 0,012$) e um "ranking" estatístico preferencial de $z = 3,083$ ($p = 0,0012$).

Eigensender Ganzfeld Psi: The Practical Philosophy of an Experiment

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Abstract: The Eigensender Ganzfeld procedure described in the foregoing article, was developed from notions on the philosophy of science. These notions take a critical look at a purely analytical stance and at intra-paradigmatic parapsychology, the ultimate object of which is to provide definite answers in terms of causal mechanisms. Some recommendations are made that might serve to provide an alternative approach: 1) the consideration of the experimental situation as an irreducible configuration of elements; 2) a move towards the deconstruction and integration of diverse metaphorically based perspectives on psi; and 3) the relevance of a unity of theoretical and practical knowledge that seems to lie at the heart of systems of magic.

'My own opinion is that the intellect of modern man isn't that superior. IQ's aren't that much different. Those Indians and medieval men were just as intelligent as we are, but the context in which they thought was completely different. Within that context of thought, ghosts and spirits are quite as real as atoms, particles, photons and quarks. Modern man has his ghosts and spirits too, you know.'

Robert Pirsig, *Zen and the Art of Motorcycle Maintenance*.

Introduction

Complying to the scientific demand for a theoretical background, Honorton developed the Ganzfeld experiment as a paradigm of the cognitive noise-reduction model. He had developed this model to describe the empirical relation between psi and altered states of consciousness (Honorton, 1977). In opposition to this model, we would like to think of psi-phenomena as 'experiential reminders' (in an almost Platonic sense) of the constructed nature of consciousness in general (in the sense that psi phenomena appear to tran-

scend constraints that shape our thinking), and of the artificiality of frameworks of explanation and experimental operationalisations in intra-paradigmatic parapsychology in particular. In this article the radical critique that follows from this idea will be elaborated.

Some Notes on the Philosophy of Science

Causal indeterminability

Striking the Ganzfeld paradigm at the height of its success (Bierman, Bosga, Gerding & Wezelman, 1993), the infamous decline effect seems to confirm our speculation that intra-paradigmatic parapsychology (i.e., the dissection, objectivation, and localisation of psi in systems encompassing theories and rigid experimental procedures) is fated to be a paradoxical and self-undermining project. As a first argument, the specific theory an experimenter adheres to will determine the way that s/he formulates a design, stages and performs a trial, and reports on its findings. To a certain extent this provides an a priori structure, a causal pattern between isolated elements, that will

restrict the way psi manifests itself, illuminating some aspects while ignoring others. Clearly, what profile of psi we see will depend on our perception, our transient, paradigm-bound knowledge, a subjective element that might never be completely eliminated or even compensated for. Second, the claim of such knowledge and use of controllable, isolated 'psi-mechanisms' might, in terms of a system theoretical analogy (e.g., Von Lucadou, 1994), initiate a counter productive 'systems closure', a gradual loss of the 'permeability' that is a prerequisite for the anomalous to occur in the first place.¹ Finally, the ideal towards which parapsychology strives would be the design of a system of concepts and parameters that completely determine psi; a system that, reflected in itself, would have to be free of anomalies. This would make it the equivalent of Heidegger's idea of the 'groundless ground' or the mythical 'theory of everything' that would satisfy mediaeval scholastic proofs of the reality of God.

Underlying the 'eigensender' approach, as a direct antithesis of this reductionistic

project, psi is considered as anomalous in principle, transcendent and indeterminable. In this light, the annoyingly regular elusiveness and non-replicability of psi could be regarded as meaningful 'indications' of the limitation and relativity of the methodological operationalisations of parapsychology and its corresponding theoretical abstractions. Two empirical observations serve to illustrate this view.

First, psi-mediated experimenter effects provide evidence for a transcendence of the subject-object dichotomy. This seriously erodes the postulate of experimenter objectivity underlying normal science (in the Kuhnian sense). Being instrumental in creating the results that support the relevant hypotheses, these effects demonstrate a fundamental indeterminability of psi, because psi-mediated experimenter effects, like an infinite recursive function, will return on the meta-level of studies on psi-mediated experimenter effects itself.

Second, in line with our critical approach, current meta-analytical techniques mark the success of conceptual replications that are relatively less bound to specific questions about linear causality within 'tight' systems. Also, the 'assimilation' by a system of the findings of a meta-analysis itself, apparently results in the Meta-Analysis Demolition effect (Houtkooper, 1994).²

To fill the conceptual vacuum of psi as anomaly *per se*, we propose the methodological perspective that was expounded in the previous article. Like figures cast in moulds, experiential forms of psi are inevitably embedded in the 'tacit' background of our being-in-the-world, a culturally and

¹ As formalised common sense, the texture of a scientific knowledge system is braided together by what seems to be an *a priori* notion of causality, a Kantian category, a 'universal law' that absorbs even quantum mechanical indetermination as the harmless concept of 'statistical causality'. This notion of causality has meaning with respect to an order in which patterns of interactions between phenomena — separated subjects, objects, and processes — seem to 'unroll' themselves in a linear, one-way direction. In this order, cause and effect are apparently separated and have ontological reality in themselves, and cause — per definition — has a primacy over effect, preceding it in the time-space continuum (in many languages the term 'retro-causality' would be a contradiction in terms). In general, although psi manifestations can be observed as specific anomalous correspondences within this order and can be projected upon a system of causal mechanisms, they are ultimately left unexplained by such a system. Paraphrasing ideas of Von Lucadou (1994) and Bierman (1996), such within-order-explanations, as well as attempts ensuing from such explanations to 'use' an anomaly as a causal signal, would implicate a 'system closure', an 'encapsulation' of the observed anomaly, that will result in a decline.

² A possible cause of decline, implying that the performing of a meta-analysis might influence the experimenters' attitudes in a negative way, may be because their attention becomes focused on the combined result from which point on each new experiment can only add to (or subtract from) the meta-analysis result and nothing really new and exciting can happen.

historically determined texture³ that ultimately cannot be formalised. In this ontology, we consider an experimental situation to be an infinitely rich context from which, depending on relevant perspectives and issues, a potentially countless number of variables could be articulated. On reflection it seems implausible that Ganzfeld psi would be just a cognitive irregularity induced by a procedure assembled from a selection of explicit, standard variables. This is why our set-up, the Eigensender experiment (EiS), was conceived to provide an 'open' structure, 'open' in the sense that the anomalous effect we aimed at would relate to the total configuration of elements as a sort of 'compound psi' and would no longer be assigned to specific variables or converted to the traditional, conditioned categories.

Although such reformulated research questions and designs may not count as 'scientific' in the proper conventional sense, they are in line with a 'new' aesthetic for science that is predicted by for example Keller (1985), Harman (1991), Kirchoff (1995), and Berman (1981).⁴ Working in this epistemological paradigm, parapsychology would no longer be constricted to sequential, linear reasoning in which it is occupied with ever-escaping abstract causes controlling discrete phenomena. It would be able to adopt a complementary, more intuitive and simultaneous mode of thinking, studying each experiment as a context in its own right, paying respect to the total

of relations between its constituent elements, including the experimenter.

Concerning this latter, one might make the Batesonian distinction that being a successful experimenter in parapsychology depends not so much on mastery of the technical ingredients within a specific experimental context, but rather on a certain 'Fingerspitzengefühl' for contexts-as-a-whole, a mostly implicit knowledge of how to (re-)create the optimal situation and embed an experimental programme in an 'open' climate, a context that stimulates the willing suspension of disbelief.⁵ Furthermore, success partly depends on expertise in manipulating 'interpersonal rapport' and 'operational criteria for creating a warm social ambience' (Bem & Honorton, 1994), knowledge that is not easy either to acquire or fake. Such notions limit the causal determinability and replicability of psi — merely transplanting an experimental programme to the next laboratory and executing it in a technically correct manner does not automatically result in identical effect-sizes. Then again, even the individually centred 'experimenter psi effect' is not in itself a sufficient condition for success.

The methodological choices sketched above are a consequence of our view of psi as transcendent and causally indeterminable. This view is further elaborated in a critique on the limitations of a competition between diverse theories in an explanatory role, a critique that will be elucidated below.

Metaphors parapsychologists live by

To specify the limitations of intra paradigmatic parapsychology, we would like to reflect on the role of metaphorical thinking in parapsychology.

³ To illustrate: 'coarsely granulated' PK events such as table lifting were 'natural' irregularities in a world that was ruled by Newtonian gravitational physics, while for us, 'the random number generation', the standard of 'anomalous perturbations' has been scaled down to the micro level of quantum mechanics.

⁴ Having a background in biology, Keller and Kirchoff would probably appreciate a parapsychological version of Goethe's analogy on the riddle of life: when our methodology tells us to solve the riddle of psi by systematically taking it to 'objective' pieces, its existence might slip through our fingers and we will end up with a heap of dissected experimental paradigms, dead metaphors, and declined effects.

⁵ Many experimenters will recognise the hardly explicable but almost tangible sensation of 'magic in the air', the 'right atmosphere', that often accompanies successful trials. Also, these notions seem to agree with Kennedy and Taddonio's (1976) demonstration that often successful experimenters are also successful subjects.

Being part of reality, we simply cannot exhaustively represent it from an 'outside position' (the aspiration of a science motivated by philosophical realism) — our knowledge is restricted to unstable presentations of incomplete conceptual constructs.⁶ These constructs are based on often implicit metaphors, an indispensable, a priori form of thinking in general (e.g., Lakoff, 1980) and of the scientific world view up to even the highest level of theorising in particular — as Nietzsche stated, knowledge appears to be nothing but the exchange of old metaphors for new ones. That is, there may not be a non-metaphorical world view, no 'Archimedean point', that could serve as a neutral ground for judging the merit of diverse theories. Therefore, the problem is not the metaphorical nature of scientific concepts *per se* — it is our literalisation of that content, our tendency to 'forget' our own participation in constructing reality and 'coagulating' the collective metaphorical presentations into literal representations, i.e. definitions.

Starting out with purely metaphorical descriptions (often with terms often borrowed from other successful disciplines), theories in parapsychology gradually tend to be transformed to a less differentiated level of absolute metaphor by the positive 'substantivisation' of their conceptual components. As an example of this degeneration process we will consider the case of cognitively inspired models. The computational metaphor lies at the root of such models, the conceptual tools of which are characterised by assumptions of mechanism. For instance, telepathy was — in cognitive terms — originally considered to be 'like the result of 'information-processing behaviour' of the 'cognitive apparatus', working on 'data' that is 'transferred' from 'sender' to 'receiver', by an as yet unknown 'channel'. An example of the literalisation from metaphor in the above would be to delete from such

descriptions the inverted commas and the word 'like'.

This process is particularly remarkable in the case of negative concepts such as 'non-local' and 'psi' itself.

First, explanations declaring psi to be literally 'non-local' are phenomenologically empty — since conceptualisation itself implicates positive localisation (if only in a cognitive sense), no person can 'have' a true comprehension of what is signified by the term 'non-local'. A positive, delineated concept of non-locality would therefore be a *contradictio in terminis*. Nevertheless, parapsychology — like the regular sciences — still aims to encapsulate its subject matter in rigid structures of inter-related concepts. In its theoretical discourses therefore, non-locality nowadays often emerges as a positive, paradigm-bound 'category', a feature that is shared by a certain class of psi phenomena, a defining yet secondary feature, that is (except in quantum theory) left unrelated to the ostensible primacy of locality. Perhaps it is time to re-evaluate and think through the dichotomy local - non-local.

Second, ever since the introduction by Thouless and Wiesner of the term 'psi' as a conventional, theory-neutral symbol (the 23rd letter of the Greek alphabet) for anomalous phenomena, derived and hybrid concepts have been postulated of which most — like 'psi-input', 'psi-ability', 'psi-functions', and 'psi-mechanisms' — stem from a strong cognitive tradition in parapsychology. In fact such concepts are not epistemologically neutral at all. They are structured according to a priori mechanistic causal schemata (e.g. 'sender's psi activity' acting on 'receiver's extrasensory perception'), inherent to which is a pseudo-fundamental notion of separateness (see for example Harman, 1991). This, again, demonstrates that a concept like 'psi-mechanism' is built on a contradiction in terms, because psi defined-as-anomalous transcends the closed causal order that inheres in any mechanistic framework.⁷

⁶ As in Cicero's 'system theoretical' axiom 'mind does not know what mind is'.

⁷ See also footnote 1. In the same way, the often used phrase 'the paranormal' is a misnomer if

Literalisation and 'substantivisation' appear to be the fate of the favourite metaphors of every generation of parapsychologists. When the amount of literature grows, a concept may crystallise and become part of a select class of categories — telekinesis, clairvoyance and GESP are 'passé', while DAT, DMILS (formerly bio-PK) and anomalous perturbation are 'fresh'. The operationalisations associated to such categories gradually achieve a routine, almost ritual character. In a way such developments are instances of how scientific consensus, arguments, standards and behaviour are shaped by language (as studied, e.g., by Whorf, 1956) and by non-epistemic motives like authority, conformance, and institutionalisation (Trigg, 1985), aesthetic preferences and trends (Kuhn, 1975) — all reasons that do not rely on purely rational legitimisation. We usually fix our analytical attention (and let part of our publication career depend) on one perspective, convince ourselves that our questions are valid and accurate, and, thus absorbed, are consequently partially blind to other views. Instead of possessing and creatively applying metaphors as means, i.e. conceptual tools for thinking about psi, we are possessed by them. In short, literalisation of metaphorical content is a process that may obstruct even the beginning of an understanding in so far as it represses and neglects expressions of psi that do not fit the ruling metaphors.

Parapsychology's ruling metaphors are still rooted in the myth of individual identity as an ontological entity.⁸ Charac-

teristically, this ego-myth surfaces in the syntax and semantics of propositions containing predominantly cognitive metaphors like 'psi information transference', in which the term 'transference' presupposes the separateness of the subjects between which it takes place. Such a metaphor affirms the ego as 'centre of gravity', it transforms psi from a radical anomaly of logocentric thinking and being into an eccentric cognitive aberration. Alternatively, in line with the 'new' aesthetic for science mentioned above, the total experimental situation might be considered a trans-subjective 'organism' through which psi may be expressed as the immediate and shared realisation of an anomalous event, an instance of 'shared consciousness', a concept that actually contradicts the etymological root of 'individual' as discrete, indivisible being. In such a view the individual would not be the centre of psi phenomena — the outward appropriation 'this is my paranormal experience' might actually be a reversal of what paranormal really stands for. This reflects the insight in such paradoxes as Heidegger's: 'does man exist in such a way that the more deeply he is himself, the more he is not only and not

which can ultimately neither be denied nor affirmed in terms of the identity principle. Therefore, psi 'exists-in-between' (Gauger, 1979: '*Zwischenexistenz*'), which reveals itself in lacunae of observation and evidence. Psi simply escapes dualistic logical determination. For instance in EiS, the subject (S) 'is' — i.e., finds him/her-self situated — at location A (S's room), isolated from judge (J) and experimenter (E). Yet evidence of S's anomalous perception of target material would implicate that S consciously partakes of a target-related location B (e.g. E's room). In other words: to a certain extent S 'is localised' — exists — at both A and B, a consequence that, since B = not-A, calls for a meta-logical frame of reference (e.g. Ehrenwald, 1955) in which the difference between S's presence in situation A and B respectively is not an absolute difference, but one of the degree of intersubjective acknowledgement (see also footnote 14) and perception (reminding us of Berkeleian phenomenalism). Such a meta-logical alternative to the identity principle might reveal underlying, contiguous relations between clairvoyance, OBE, depersonalisation, bilocation and related phenomena.

not philosophically incorrect, for the article 'the' refers to a determination, an 'enclosure', that relates to our normal — not paranormal — ego-logocentric thinking.

⁸ Our normal order of ego-logocentric thinking (see also footnote 1) can be characterised by the identity principle, a principle in dualistic logic that is paralleled by the ontological dichotomy of the self, the self-reflective ego, and, beyond that, the not-self, the 'substantivated' phenomena, the subject matter of research in the 'external' world. When we reserve the predicate 'to exist' to that-which-affirms-this-ostensibly-fundamental-order, psi will represent discrepancies, the existence of

primarily himself?' (lectures on Schelling, Avens, 1982), and Adorno's: 'finding the self can only be realised by losing the self.' (Horkheimer & Adorno, 1987).

To recapitulate: taking psi to be anomalous in principle, we speculate that positive, paradigm-bound conceptualisations of psi can take on any of an infinite number of essentially metaphorical forms (e.g., Gauger, 1979; Edge 1974), none of which catches its 'nature' (a fixed nature implying conceptual localisation). We question the (Popperian) idea of theoretical progress in the sense of focusing in, by a competition of falsification, on 'the' true explanatory model of psi. Instead, more than regular branches of science, theoretical parapsychology (when defined as the study of anomalies-in-themselves, a paradoxical, 'transnormal' science) should live by Feyerabend's 'rule' (Feyerabend, 1975): anything goes.

From this rule, some recommendations for dealing with the problem of literalisation might be deduced. These would include a temporal 'deautomatisation' of one's analytical mode of reasoning and confronting one's own implicit, basic epistemological assumptions regarding psi. New questions and answers might be stirred by an alteration of one's theoretical stance in trying to understand an old method⁹ — we'd like to suggest a flexible and eclectic use of multiple metaphorically based frameworks that complement each other in giving directions for coherent research. One might perhaps avert a 'systems closure' by leaving a paradigm and making a 'restart' at some later time, inspired by fresh ideas and new enthusiasm.¹⁰ Finally,

⁹ Perhaps contrary to the scientific etiquette, taking a fresh look at the Ganzfeld experiment in EiS+ was reinforced by THC, well known effects of which are a more intense experience of the here and now, less preoccupation with discursive mental functioning and less attachment to rusted frames of interpretation.

¹⁰ An increasing regularity in the execution of an experiment will create an unfavourable condition for anomalies, a notion that finds confirmation in patterns of internal decline effects, for example the relative high incidence of 'hits' in the first

we must perhaps modestly come to the realisation that psi will continue to transcend any 'objective' structure, any system of knowledge we can think up.

As such, as anomalous in the final analysis, we believe psi calls for the change of style described above. Clearly, the 'new' aesthetic we referred to is partly composed of contemporary versions of the same ideas that constitute 'theories' in magic, alchemy, and mysticism. Therefore, in trying to develop a new style, we consider it wise to look back and take into account traditional systems of knowledge, systems that have long been paternalistically repressed in our culture (see also Wezelman Radin, Rebman & Stevens, 1996).

Some Notes on the Use of Magic

The magic of science

The analytical and mechanistic approach in parapsychology criticised above, stems from a scientific aesthetic of the domination of nature, a myth of superior, transcultural enlightenment inherited from 17th century philosophers such as Descartes and Bacon. From this linear perspective on the evolution of mind, magical thinking is presumed to be a primitive, if not infantile cognitive style. It is thought of as pre-religious and pre-rational. However, close observation reveals surprising parallels between magic and scientific rationality (e.g. Horton, 1970; Thorndike, 1905).

Like magic, science too is based on conventional myths (e.g. the disputable idea of fundamental epistemic distance between subject and object). Furthermore, in the practice of both science and magic the right to execute certain rituals is reserved to an elite of specially selected, trained and initiated experts. Both systems postulate

and last, least dull, quarters reported in Rhine's Zener series. An 'oscillatory' approach of 'optional stopping' (Targ, Katra, Brown & Wiegand, 1995) might prevent the setting in of an assembly-line-like routine. Also, success in our field (in terms of p-values or effect sizes) appears to correlate highly with innovativeness and creativity on the side of the experimenter.

systematic hierarchies of a restricted number of forces and entities that actively determine all phenomena from 'behind' the world of common sense observation. The difference between the two types of system here is not one of Ockhamian dimension, but lies in the way in which Western science emphasises the technological, abstract and depersonalised nature of its constituent elements. In the case of parapsychology, a Gestalt switch between the two perspectives would require terminological alterations that would have to include a transformation to the personalised idiom of magical powers from the parallel but mechanistic framework of modern psi research.¹¹ Related to the incommensurability of scientific metaphors mentioned above, there might be no theory-neutral ground for such transformations – etymological analysis would show that even ostensibly 'objective' concepts like 'in-fluence' or 'in-formation' that are widely used in psi modelling are essentially loaded with mythical connotations. In Jung's words, we should try to unmask the illusion that we achieve progress when we replace (instead of integrate) methodologically outdated concepts such as 'demons' and 'travelling clairvoyance' with a scientific idiom consisting of terms like 'borderline schizophrenic' and 'anomalous cognition'; substitutes that deceptively suggest expertness but which are basically just as vague (Verhoeven, 1996). As Frederic Myers put it: these words bring no true solution – they are mere names which disguise our ignorance.

This is not the place to discuss Popperian claims of the 'superiority' or 'universality' of our western mode of rationality. It is evident however, that for instance 'abstraction' and 'control' are not incontestable criteria in themselves¹², and

that science as the production of 'one-dimensional' knowledge has its 'taboos' as well, neglecting anomalies while working within rigid, self-enclosed paradigms. These latter, though often praised from within themselves as dynamic, show themselves in an historical perspective to be a 'motorised' static, a repetitive rephrasing of circular knowledge.¹³ In mainstream parapsychology for instance, theories constitute their own proof and tenability (usually for about a decade) in the sense that they are supported by the success of experiments that were designed according to the directives enclosed in those theories in the first place. Of course this type of circularity is not unique to parapsychology. To their collective surprise, scientists of all times 'discover' exactly those 'objects' that are prescribed by their ruling metaphors.

In an early attempt to counter such critical arguments and formulate a distinction between magical rites and the non-magical technology of the civilised world, anthropologist James Frazer (Frazer, 1983) argued that the magician assumes a direct relationship between the action and a later event, whereas, in Frazer's words, in empirical fact the relationship is one of the association of ideas only. In time the empirical facts have changed – parapsychological research has provided ample evidence for psi, thereby undermining Frazer's argument.

The demarcation between magic and science is further eroded by thorough inspection of the 'rock bottom base' of science – the 'sense data' and logical axioms – which unveils a system of irreducible conventions and assumptions about reality. Thus constructed and concealing the 'mythical' nature of the premises from which it originated (e.g. Horkheimer &

meaningless and artificially intelligent culture ever.

¹³ Whereas, contrary to a scientific propaganda of 'Entzauberung', mythical allegories are not just oppressive systems grounded on static ideas. Like science, mythical elements and symbols are permeated by dialectical moments of the historical and dynamical on the one hand, and the changeless archaic on the other.

¹¹ Considering current anthropomorphisation of AI systems, this might be less of a jump than one would expect.

¹² In a logical sense that is, leaving aside the fact that the ideology of objectivism has brought us the most destructive, alienated, existentially

Adorno, 1987), scientific technè itself transforms into a modern fabricated system of magic, a narrowly styled system of which the lack of meaningfulness is counterbalanced by the advantage of its relatively regular operation.

Solve et coagula

In this line of reasoning, one could think of the Ganzfeld experiment — embedded as it is in a western frame of mind — as a specific and modern presentation of the same principles that underlie certain magical rituals. The Ganzfeld might not just provide a technical noise-reduction method for enhancing the signal-noise ratio and for detecting the probability of psi, as the cognitively oriented might have it. It has evolved according to scientific rules and concepts, however in a broader sense it could be understood as a modern multi-interpretable ceremony; that is, a sequence of rituals (e.g. Schlitz, 1994; Wezelman *et al.*, 1996) that furnishes participants and experimenters with a meaningful situation in which psi is wrapped up as a statistical deviation and is experienced as the technological and logical, unthreatening product of a well defined 'recipe'. In accordance with this interpretation, Honorton saw the Ganzfeld experiment as an operationalisation of the pratyahara stage of Patanjali's eightfold raja yoga path (Honorton, 1992).

More 'exotic' still, the outline of the Ganzfeld procedure — i.e., the immersion in the homogeneous perceptual environment (the 'ganz Feld') that partly deconstructs 'receiver's' ego-logocentric consciousness, and the emergence of target-related information — shows an obvious structural analogy to techniques of divination (e.g., crystal gazing, pyromancy, hydromancy, dream interpretation, and the use of the psychomanteum as in Moody, 1994), techniques that are based on the intercultural shamanistic and alchemistic formula 'solve et coagula' (Odin, 1982). In general, we'd like to argue that controlled application of ideas and rituals of magic is relevant for comprehending and evoking what we call psi.

Considering such ideas, Frazer (Frazer, 1983) proposed a distinction between sympathetic magic and contact magic, a dubious distinction clearly rooted in the objectivistic disjunction of presentation and representation.¹⁴ The joint principle underlying both, could be identified as a fundamental principle of connectedness (e.g., Bierman, 1992; 1996). 'Sympathetic connectedness' appears to be operative in the idea of using focusing devices for concentrating attention and possible psi 'effects' on a target (person); a typical example of 'contact connectedness' within the lab was described in the additional techniques section in the foregoing article. Both ideas are encountered in many forms in the field of parapsychology. A mixture of sympathetic and contact connectedness might be active when successful psychometrists use photographs (well known in anthropology as vehicles of magical power) as 'inductors'. Such a mixture can even be discerned under the conceptual surface of feedback manipulations in DMILS experimentation, if video-recordings and polygraph readings were to be considered as 'electronic extensions' or 'externalisations' of the influencee's person (Wezelman *et al.*, 1996).

Re-examining today's parapsychology, still other instances of magical principles appear to permeate the methods applied. The correspondence between PK-efforts and de-randomisation of RNG-output could be regarded a sophisticated, latter-day equivalent of the ideas behind pristine

¹⁴ This distinction is not accredited from the perspective of magic itself. Contrary to it, is the somewhat disturbing idea of inseparability of the physical and metaphysical realms, an idea that grants equal ontological status to 'simulation' and 'reality', both being intersubjective constructs. Traces of this idea in western systems can be found in the alchemistic imaginatio, in the notion of 'Einbildungskraft' of the German romantic philosophers, in Hegel's idealistic philosophy, in Walter Benjamin's notion of 'Bilder' in which reality expresses itself, as the radical consequence of ontological multi-interpretability of the quantum mechanical formalism, etc. In parapsychology it has been put to good use by Batcheldor.

mantic procedures, ideas from, for example, a Taoist origin that presuppose the inseparability of a subject and his/her 'external', material situation. From this perspective, quantum mechanical 'units' of randomness represent an incomplete physical quantification of the more encompassing concepts of coincidence and contingency, concepts that refer to our purposeful and meaningful partaking to the '*non-ens*' (Campanella's term for the *terra incognita* surrounding our constructed intersubjective systems of knowledge and reality). These qualities of purpose, direction and motive, are inherent in for example the German word for coincidence, '*Zufall*', translated as 'that-which-falls-towards-one' (Gauger, 1979), and in the Latin '*apportare*', root of 'apport', translated as 'that-which-is-carried-towards-one'. The acknowledgement, in systems of magic, that this partaking is fundamentally inexplicable (from the Latin *ex-planare*, meaning 'to make even') is an unmistakable analogy of the modern negative definition of psi as anomalous-in-principle (from the Greek *anomalos*, meaning 'uneven', 'irregular', 'not conforming to the system'). It is a notion that resounds in modern system theoretical approaches of psi (e.g., Von Lucadou, 1994), a notion also, that disqualifies for example a term like 'PK-effect', for the denotation of 'effect' implies the reduction of correspondences between RNG-output and subject's intentions to mechanistic operations within the experimental system. Here, as in general with the rise of the mechanistic world view, the magical principle of correspondence itself has shrunk to material causality.

Openness in order to close the gap

These examples already touch on perhaps one of the most important distinctions between the fundamental assumptions of modern science and principles of magic; namely, that the latter generally do not presuppose an epistemic distance between the subjective domain of knowledge and an

external objective reality.¹⁵ In recent decades, the established ideal of scientific objectivity has been attacked from several angles.¹⁶ Kept outside of this debate but more important still, parapsychological research is the paradoxical science that adheres to the objective methodology that science prescribes in order to gather existential evidence of phenomena that, once established, invalidates that very methodology.

Lowering the Baconian edge between the abstract realm of 'superior' and paternalistic scientific laws elevated above blind matter, we may expect nature to show itself to be an 'intelligent' reflection of ourselves and vice versa (e.g., Keller, 1985), a principle the rudiments of which can be identified in for example Walker's version of the OT's.¹⁷ The alchemistic search for enlightenment, the *imaginatio vera*, one of several western forms of 'higher', 'white' magic,¹⁸ is a prime example of this synthesis. Its end is to gain a deeper insight into

¹⁵ One advantage of taking psi-phenomena as reminders of a transpersonal undividedness 'behind' our reality of self / not-self, might be the reinsertion of an ethical dimension, a reunification of value and fact, that was inhibited in a science of objectivation.

¹⁶ For example, following the footsteps of Kuhn and Wittgenstein, the sociology of knowledge (e.g., Bloor and Barnes, in Trigg, 1985) has convincingly demonstrated the absence of a difference in principle between objective scientific argumentation and mere propaganda. Thus exposed, science is no longer in a position to claim the universal tenability of its products. What was counted as 'objective fact' is now unveiled as being subject to change and is shown to depend on contemporary practices of the academic institute (in which conformance to authority and rivalry in the struggle for grants and publication play a crucial role).

¹⁷ Although many adherents of the OT's seem unaware of the potential 'neo-animistic' consequences of their concepts, consequences that fundamentally contradict the idea of an independent, inanimate material substratum.

¹⁸ As opposed to the rather vulgar and essentially profane 'lower', 'black' practices.

the level of mimesis transcending the dualism of internal consciousness and external reality. This mimesis creates a *corpus subtile*, a transformed embodiment that combines spirit and matter.¹⁹ With this idea of undividedness, magical 'epistemology' anticipated for example the Hegelian idea that true knowledge (*Begriff*) is composed of both a definite concept and the process of research from which it resulted. Instead of a science of abstract, 'paper' knowledge, Hegel propagated a unity of being and understanding in an attempt to close the Kantian gap between the subject and object of knowledge, a gap that, despite quantum mechanics, still pervades scientific thinking at the end of the 20th century (Gerding, 1993).²⁰

In EiS+ we asserted the 'undividedness' of the subjective and objective realms to reflect our 'de-individualised' perspective that the psi experiment was itself an 'organism'. Furthermore, as a practical effort to bridge the epistemic distance, rituals of consecration, sacrifice, and evocation and invocation were performed, the purpose of which was to increase an awareness of mimetic partaking of a 'systems level' transcending normal analysis and mechanistic manipulation. That is, the experiment was to be the realisation of a 'synthesis' beyond the dichotomy of organic and inorganic experimental elements (participants, setting, materials). This mimetic experience was attended by the insight that some form of 'grace' is an essential condition for the suc-

cess of a session. Certainly these rituals gave us a deeper sense of the meaning of the term 'participants'.

This epistemological argument points to conclusions that may not be readily reconcilable with the premises and conventions of modern science. Progress towards a better understanding of psi might necessarily involve: 1) interweaving of its theoretical and experiential dimensions; and 2) adopting a non-reductionist, meta-paradigmatic stance through the realisation that the object of parapsychology can be only incompletely expressed within any of the specific scientifically prescribed paradigm-bound formats. This latter conclusion paraphrases the gist of the above mentioned recommendations for dealing with the problem of literalisation of metaphorical content.

Some Concluding Remarks

The content of magical rituals – e.g., systematic sensory deprivation during initiation, strong 'archetypal' symbols, trance states – shows some obvious correspondences to techniques for inducing altered states of consciousness, techniques that have been recognised from within the scientific parapsychological framework as being psi-facilitating (e.g., Rao, 1991; Tart, 1992). However, we strongly advise against a mere reduction, an 'update', of 'obsolete' magical rituals to just another cluster of formal techniques to boost scoring, that can be added to the arsenal of the opportunistic parapsychologist.²¹ As an analogy, alchemy is not just a primitive theoretical philosophical stance or an early version of a meta-psychology of projection, the way Jung considered it to be. Alchemy is an intention to unify the technical and material with the conscious and divine aspects of reality (thereby in fact de-signifying the concept of projection).

¹⁹ It is a significant symptom of our times that we interpret the symbolic depiction of this development, i.e. the transmutation of lower material into 'gold', in our narrow materialistic sense.

²⁰ Another 'regular' concept associated to magical epistemology, is the pre-Socratic ideal of '*aletheia*' – revelation, 'unveiling' – a notion the degeneration of which, according to Heidegger, started with Plato's cave metaphor and culminated in the scientific notion of truth as the correctness of correspondence between 'internal representations' and an 'external reality' of 'insentient objects', a reality that opposes us (cf. the German '*Gegenstand*' and the English verb 'to object').

²¹ Certainly, given the undeniable and universal, albeit repressed, pervasion of our thinking and culture with magical principles, instructions derived from such principles will provide a plausible conceptual and instrumental crutch for the intentions of naïve subjects who lack scientific training.

The EiS+ procedure is a coherent amalgamation of a diversity of rituals and ideas. As such, it is syncretic, perhaps eclectic, but it was not meant to delineate a new paradigm, 'a magical theoretical interpretation of psi' which might in a few months time be ranged among other disposed of systems of once valid and vital knowledge about psi. There is no standard EiS+ programme that one can run — attempting a replication would entail specifying a new set of rituals and ideas to create the 'openness' that may result in the realisation of psi. It would involve adapting our programme according to idiosyncratic ideas, the 'world view', of the experimenters involved. In a way this might be true for every experimental path in parapsychology.

All the shortcomings, errors and illusions of magical traditions are well compensated by its one important wisdom: the fact that we are an organic part of reality. It is this wisdom that parapsychology, like quantum mechanics in its own way, should reclaim in a more mature form. In line with this, our study was undertaken as an integration of the attainments of both scientific and pre-scientific systems of knowledge — in other words, we did not intend to deliver a trendy anti-intellectual plea for a regression to a premodern 'animistic' view. Also, the proposed deliteralisation of parapsychological concepts does not bring us to the slippery slope of pure relativism, for developing optimal psi-experiments from a post-Cartesian epistemology suggests that there is something to be learned: a knowledge beyond the gap between practice and theory.

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Eigensender Ganzfeld-psi: de praktische filosofie achter een experiment

Samenvatting: De in onze andere bijdrage in deze uitgave beschreven Eigensender-Ganzfeld-procedure is ontwikkeld op basis van opvattingen over de wetenschapsfilosofie. Die nemen een puur analytisch standpunt en de intra-paradigmatische parapsychologie kritisch onder de loep, met het doel definitieve oorzakelijke mechanismen te vinden. Het artikel doet enkele aanbevelingen die tot een alternatieve benadering zouden kunnen leiden: 1) de experimentele situatie beschouwen als een niet-reduceerbaar stelsel van elementen, 2) de stap naar het afbreken en integreren van diverse op metaforen gebaseerde gezichtspunten op psi en 3) zicht op het belang van de eenheid tussen theoretische en praktische kennis die aan de basis lijkt te staan van vormen van magie.

Psi en al Ganzfeld Eigensender: La Filosofía Práctica de un Experimento

Resúmen: El procedimiento ganzfeld Eigensender descrito en este artículo fué desarrollado de ideas de la filosofía de la ciencia. Estas ideas presentan una visión crítica de una posición puramente analítica y de una parapsicología intra-paradigmática cuyo propósito final es probar respuestas definitivas en términos de mecanismos causales. Se presentan recomendaciones que pueden proveer alternativas: 1) considerar la situación experimental como una configuración de elementos irreducibles; 2) un cambio hacia la deconstrucción e integración de diferentes perspectivas de psi basadas en metáforas; y 3) la relevancia de una integración de conocimiento práctico y teórico que parece ser central en los sistemas de magia.

Eigensender-Ganzfeld-Psi: Die praktische Philosophie des Experimentierens

Zusammenfassung: Das schon im zweiten Artikel beschriebene Eigensender- Ganzfeld-Verfahren wurde aus wissenschaftstheoretischen Überlegungen entwickelt, die sich kritisch mit einer rein analytischen Haltung und einer inner- paradigmatischen Parapsychologie auseinandersetzen, deren eigentliches Ziel darin liegt, definitive kausale Mechanismen zu identifizieren. Folgende Empfehlungen mögen einen alternativen Ansatz bieten: 1) die Betrachtung der experimentellen Situation als einer irreduziblen Elementenkonfiguration; 2) ein Schritt in Richtung eines Abbaus und der Integration verschiedener metaphorisch begründeter Sichtweisen von Psi; und 3) Einsicht in die Bedeutung der Einheit theoretischen und praktischen Wissens, die das Wesen magischer Systeme zu sein scheint.

Eigensender Ganzfeld Psi: filosofia pratica di un esperimento

Sommario: La procedura dell'Eigensender Ganzfeld descritta nel precedente articolo è stata sviluppata a partire da alcuni concetti di filosofia della scienza, che assumono un aspetto cruciale sia da una prospettiva puramente analitica che dal punto di vista di una parapsicologia intra-paradigmatica, fine ultimo della quale è fornire risposte definitive in termini di processi causali. Vengono formulate alcune raccomandazioni che potrebbero essere utili per un approccio alternativo: (1) considerare la situazione sperimentale come una configurazione irriducibile di elementi; (2) tendere alla destrutturazione e all'integrazione di varie prospettive della psi di tipo metaforico; (3) rilevare l'unitarietà delle conoscenze teoriche e pratiche che sembra risiedere al cuore dei sistemi di magia.

Psi de l'émetteur-propre Ganzfeld: La philosophie pratique d'une expérience

Résumé: La procédure de l'émetteur-propre Ganzfeld décrite dans l'article qui suit, a été développée à partir de notions empruntées à la philosophie des sciences. Ces notions portent un regard critique à une position purement analytique et à la parapsychologie intra-paradigmatique, l'objet ultime de laquelle est de fournir des réponses définitives en termes de mécanismes causaux. Certaines recommandations sont formulées qui pourraient servir à fournir une approche alternative : 1) la prise en considération de la situation expérimentale en tant que configuration irréductible d'éléments; 2) une démarche vers la déconstruction et l'intégration de diverses perspectives du psi basées sur des métaphores; et 3) la pertinence d'une unité de la connaissance théorique et pratique qui semble reposer au coeur des systèmes de magie.

**Ganzfeld do tipo "eigensender" para investigar psi:
A filosofia prática de um experimento**

Resumo: O procedimento chamado "eigensender" para o experimento ganzfeld descrito no artigo que se segue foi desenvolvido a partir das noções sobre a Filosofia da Ciência. Essas noções lançam um olhar crítico à Parapsicologia intra-pragmática e à sua postura puramente analítica, objeto último que fornece respostas definitivas em termos de mecanismos causais. Algumas recomendações feitas podem servir para fornecer uma abordagem alternativa: 1) considerar a situação experimental como uma configuração irreduzível de elementos; 2) mover-se no sentido da desconstrução e da integração de diversas perspectivas metaforicamente embasadas sobre psi e 3) atentar para a relevância de uma unidade de conhecimento teórico e prático que parece repousar no coração dos sistemas mágicos.

Defence Strategies in Healthcare Professionals

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Abstract: Two groups of healthcare professionals, nursing staff ($n = 56$, who are part of the official medical system) and paranormal healers ($n = 49$, who are part of the complementary medical system) are compared with a control group ($n = 73$) for their defence strategies and overall score. It is hypothesized that: 1) the paranormal healer group score significantly lower than the norm for the Dutch population; 2) that the overall score is significantly lower for the paranormal healer group when compared with the control group, and 3) when compared with the nurses group. Defence strategies are operationalized by using Plutchik's Life Style Index. The results show that nursing staff and paranormal healers differ significantly in defence strategies such as 'denial', 'displacement', 'compensation', and 'regression'. Further, there are also significant differences with the control group. Differences in defence strategies between groups most probably originate from the position of the profession: within or outside the official medical system.

↑ 2 papers

Introduction

The concept of defence was first brought forward by S. Freud (1915) as a mechanism to protect the 'ego' against anxiety. The concept was broadened by A. Freud (1946) in such a way that it did not only protect the ego from external threats, but also from unacceptable internal impulses. Several defence mechanisms are described by A. Freud (1946), such as 'repression', 'denial', 'projection', 'reaction formation', 'undoing', 'isolation', and 'regression'. The concept of defence originates from psychoanalytic theory and more recently authors expanded the psychoanalytic interpretation. For instance, Plutchik, Kellerman & Conte (1979) formulated a structural model of defence and emotions, that assumes that the use of psychoanalytic defence is related to specific affective states and also to diagnostic concepts. They developed the Life Style Index (LSI) to measure the degree of defensiveness. This index is translated into Dutch and validated for a Dutch population by Olff (1991). She defines defence as mental strategies that serve the purpose of warding off negative emotional states by distorting aspects of reality. Defence strate-

gies are investigated through the Defence Mechanism Test (DMT) introduced in parapsychology by Martin Johnson (Johnson & Kanthamani, 1967; Johnson & Lübke, 1977). From his and other studies (e.g. Haraldsson & Houtkooper, 1992; Haraldsson, Houtkooper & Hoeltje, 1987) it has been demonstrated (through meta-analysis, Houtkooper and Haraldsson, 1995) that the DMT has been successful as a predictor of ESP performance in forced-choice tests. The DMT has an objective as well as a non-objective part. Houtkooper and Haraldsson showed that the predictive power of the DMT lies in the non-objective part of the DMT ratings. Watt and Morris (1995) assessed perceptual defensiveness through a prototype apparatus (modified tachistoscope box). They found that defensive participants (those with elevated thresholds for emotional stimuli) have lower ESP scores than vigilant participants.

None of the studies mentioned above include groups with special gifts such as paranormal healers, or groups with special skills, i.e. nurses. Both groups work professionally in different settings: nursing staff, working within the official medical systems and paranormal healers working outside

the medical systems, the alternative or complementary medical system. Nursing staff generally work together with medical specialists in hospitals where they encounter a wide variety of experiences with patients which others find 'threatening' (e.g. diseases, operations, psychiatric disorders, violence, death). Para-normal healers usually see patients who are, most of the time, chronically ill (and who have to 'learn to live with it') or those who are incurable or even in a terminal stage of their illness. Healers - who characteristically work as soloists - are also prone to feelings of 'threat' - just as nurses are - if only by the nature of the diseases they try to treat.

In this study nursing staff and paranormal healers are compared with regard to the defence strategies they use to cope with 'threatening' situations. We explore the differences between both groups and we will discuss the differences found within the context of their work environment: within or outside the official medical circuit (this study is part of a larger study into paranormal healing). Extrapolating from the results of Watt and Morris we hypothesize that paranormal healers score significantly lower than the norm for the Dutch population on defence (based on Olff, 1991). We hypothesize further that the overall score is significantly lower for the paranormal healer group when compared with the nursing staff group or the control group.

Method

Most of the subjects were acquaintances of the first author from earlier research. He contacted the subjects by telephone and requested their co-operation. Subjects were also invited to submit names of colleagues and friends who were subsequently approached. There were no refusals to take part in the research. In total 178 subjects participated; they were divided into three groups: group 1 consisted of 56 nursing staff (24 male nurses, 32 female nurses), all working in hospitals. Group 2 consisted of

49 paranormal healers¹ (21 male healers, 28 female healers), all actually working in their own private practices. Group 3 constituted the 'control group' (38 males, 35 females): this group included people who, when asked, were willing to participate in the research. They came from all walks of life and all kinds of professions. No specific characteristics of this group are assumed, except that they were not working as nurses or paranormal healers.

The research reported here is part of a larger study into the characteristics of paranormal healers². The participants of all 3 groups were individually received and informed about the nature of the test before they filled in the questionnaire at the laboratory of the Chiron Foundation. The Dutch translation of the LSI contains 91 items, divided into eight subscales: denial (11 items), repression (10 items), regression (16 items), compensation (10 items), projection (12 items), displacement (10 items), intellectualization (12 items), and reaction formation (10 items). Each item had to be scored 'yes' or 'no'.

In the analysis we will also compare, as a matter of interest, the outcome of the study by Olff (1991) and use her data of 679 subjects as reference data: the reference group (different samples from the population with different mean ages participated (psychology students, out-patients, office workers, air pilots etc.); for which it is shown that age does not influence the

1 We use the term 'paranormal healer' for those healers who use laying-on-of-hands and distance healing as their method of treating patients. We are aware of the fact that outside the Netherlands this term could have a totally different meaning, e.g. Solfvin (1984) used the term 'mental healer' which can be considered similar to the term we use. We prefer to use the term 'paranormal healer' because of its use in the Netherlands.

2 All subjects completed a number of questionnaires and participated in sessions in which electrodermal measurements (decodermography, Wiegant & Van Wijk, in preparation) were taken. During these sessions all subjects were asked to imagine that they were doing a healing with a patient - the tense condition - or do nothing - relaxation condition.

Table 1

Mean age and standard deviation of the 3 experimental groups.

	N	Paranormal Healers mean age (s.d.)	N	Nursing Staff mean age (s.d.)	N	Control Group mean age (s.d.)
Male	21	47.9 (10.1)	24	34.8 (6.8)	38	39.7 (13.8)
Female	28	48.2 (9.2)	32	35.3 (9.6)	35	36.5 (9.9)
Total	49	48.1 (9.4)	56	35.1 (8.4)	73	38.2 (12.2)

2 para sps (+ 2 between tables if on same p)

scores (for further details, see Olff, 1991).

Results

The mean age and standard deviation of the three experimental groups is presented in Table 1.

The difference in mean age between the paranormal healers and nursing staff, as well as between the paranormal healers and the control group is significant. This did not surprise us: healers are generally of an older age (30 years or more) before they start a practice of their own. Nursing staff on the other hand are generally of a much younger age (between 17 and 21) when they are recruited to begin their apprenticeship.

Using a nominal scale from 1 to 4: primary school = 1; secondary school/O levels = 2; A levels = 3 and higher education = 4, we found (significant) differences for education. The mean scores are: paranormal healers: 2.51 ± 0.96 ; nurses: 3.25 ± 0.44 and the control group: 3.22 ± 0.77 . Paranormal healers very often attend only primary and sometimes secondary school, while nursing staff have at least an

education at the level of a bachelors degree.

The mean scores and standard deviations for each of the nine defence strategies are presented in Table 2 (higher scores means more defensiveness). The paranormal healers group and the control group differ significantly on the following subscales (Table 3): repression ($t_{120} = -2.03$; $p < .05$), displacement ($t_{120} = -3.07$; $p < .01$) and regression ($t_{120} = -2.25$; $p < .05$). There is no significant difference between the total scores of the group of paranormal healers and the control group ($t_{120} = -1.59$; $p < .10$).

The paranormal healers group and the nursing staff group differ significantly on the following subscales (Table 3): repression ($t_{103} = -2.07$; $p < .05$), denial ($t_{103} = 1.87$; $p < .05$), intellectualization ($t_{103} = 1.73$; $p < .05$), displacement ($t_{103} = -2.19$; $p < .05$), compensation ($t_{103} = -1.93$; $p < .05$) and regression ($t_{103} = -2.13$; $p < .05$).

Nursing staff and the control group only differ significantly on the subscale 'intellectualization' ($t_{127} = -3.12$; $p < .01$, see Table 3).

When we compare the results of the

Table 2

Mean scores and s.d. for the LSI subscales and total score for the paranormal healers, the nursing staff, the control group and a reference group

Defence Strategy	Paranormal Healers	Nursing Staff	Control Group	Reference Group
Repression	1.98 (1.8)	2.43 (1.1)	2.66 (1.8)	2.84 (1.9)
Denial	4.45 (1.8)	3.71 (2.0)	3.89 (1.9)	3.66 (2.1)
Reaction Formation	2.53 (1.5)	2.38 (1.7)	2.49 (1.48)	2.43 (2.1)
Intellectualization	6.33 (1.9)	5.75 (1.7)	6.42 (1.2)	6.19 (2.0)
Displacement	1.49 (1.2)	2.14 (1.5)	2.29 (1.4)	2.59 (2.0)
Projection	5.94 (2.5)	6.07 (2.6)	6.23 (2.8)	6.33 (2.8)
Compensation	1.78 (1.6)	2.39 (1.6)	2.14 (1.8)	2.03 (2.0)
Regression	3.02 (1.7)	3.86 (2.0)	3.90 (2.1)	4.25 (2.6)
Total	27.51 (7.1)	28.73 (6.3)	30.03 (8.5)	32.45 (9.5)

(Gits = 3pt below norm)

Table 3

T-test scores for each of the subscales of all 3 groups.

	Healers - Control	Healers - Nurses	Nurses - Control
Repression	-2.03 *	-2.07 *	-0.71
Denial	1.58	1.87	-0.53
Reaction Formation	0.12	0.45	-0.34
Intellectualization	-0.40	1.73	-3.12 ***
Displacement	-3.07 **	-2.19 *	-0.60
Projection	-0.56	-0.25	-0.32
Compensation	-1.07	-1.93 *	0.78
Regression	-2.25 *	-2.13 *	-0.11
Total	-1.59	-0.98	-0.85

- $p < .05$ (one-tailed); ** $p < .01$ (one-tailed); *** $p < .01$ (two-tailed).

↑ pain from the 3pt scale 54

control group and the reference group of Olff (1991) we find that our control group was less defensive than Olff's. They were expected to be less different because our control group were volunteers, willing to come in, not a random sample as Olff's group is. There were no significant differences for any of the subscales; the total scores, however, differ significantly: $t_{750} = -2.09$, $p < .05$ (two-tailed). There is, however, a significant difference in the total score on the LSI between the paranormal healers group and Olff's reference group ($t_{726} = -3.56$; $p < .01$) and the nursing staff group and Olff's reference group ($t_{733} = -2.87$; $p < .01$).

Discussion

The comparison of our control group with a reference group shows that our control group is only marginally, not significantly, less defensive than Olff's, which we interpret as chance fluctuation. There are no significant differences on any of the subscales. This suggests that our control group is comparable to the group of subjects Olff used to validate the LSI with. Our first hypothesis, that paranormal healers are less defensive than the norm for the Dutch population (Olff's reference group) was confirmed.

Paranormal healer group v control group

The second hypothesis was not confirmed. Healers do not score significantly lower than the control group with regard to the total score. There are, however, significant differences on the defence strategies 'repression', 'displacement' and 'regression'. The defence strategy 'repression' refers to shutting out painful experiences and emotions. The control group puts up more defence than the paranormal healers. This might be because they are not as used to confrontation with painful experiences and emotions as the paranormal healers are. A logical consequence of this is that the score of the healers on displacement is lower than the score of the subjects from the control group. Paranormal healers have a more stable coping behaviour: they show less regression (return to more immature forms of behaviour) than the control group.

Paranormal healer group v nurses group

Our third hypothesis was not confirmed either. The total score on the LSI scales was not significantly lower for the paranormal healers group when compared with the nursing staff group. The nursing staff group do differ significantly from the group of paranormal healers on four defence strategies: repression, displacement, compensation, and regression. Nurses (and doctors) often work as a group and they

have, because of group demands and interactions, to appear as being strong and in control. Paranormal healers see patients who are chronically ill but rarely in a life threatening situation. For repression and displacement the same line of reasoning as above (subsection paranormal healer group v control group) applies here. Compensation is also a mechanism on which nursing staff score higher than paranormal healers. This can be explained by the fact that becoming a nurse is a choice for a career profession, while most paranormal healers practice their healing as a consequence of what is said to be 'a calling', which is sometimes described as being 'unavoidable'. Nursing staff score higher on regression. We suggest that this effect is due to the nursing population being significantly younger than the healer population.

Nurses group v control group

The nursing staff group does not differ significantly from the control group for the total score. We expect the reason therefore to be that after 8 hours work nurses are relieved by the next shift, while healers generally make longer days and are always 'on call'. In the nursing staff group the score on the subscale 'intellectualization' is significantly lower than the score of the control group. This means that the control group intellectualizes or rationalizes more of their emotions and impulses than nursing staff do. This is not surprising: nursing staff are involved with people suffering from every kind of (serious) disease and illness. Raising a defence screen enables nurses to 'cope' with the emotional situations which otherwise would interfere with their professional behaviour.

Conclusion

Nursing staff and paranormal healers are both healthcare professionals, the one is part of the official system and the other is not. In The Netherlands paranormal healers are accepted and seldom brought to court: this only happens in severe cases of misbehaviour or maltreatment of patients.

This does not mean that it is an easy profession, on the contrary: their patients are for a large part those who cannot expect any improvement in their medical condition from therapies or treatments by medical doctors within the official medical systems. One could argue that the position of being within or outside the official medical system has an influence on the health professionals defence mechanisms, or that the defences of the professionals caused them to be within or outside the system.

Further research is needed to clarify this point.

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3 spans ↓

Defensieve strategieën bij personeel in gezondheidszorg

Samenvatting: Het artikel vergelijkt twee groepen uit de gezondheidszorg, 56 verplegers (uit de officiële gezondheidszorg) en 49 paranormale genezers (uit de alternatieve gezondheidszorg) met een controlegroep (N = 73) op het punt van defensieve strategieën en hun totaalscore. De hypothesen waren: 1) de paranormale genezers scoren significant lager dan het gemiddelde voor de Nederlandse bevolking; 2) de groep paranormale genezers scoort in totaal lager dan de controlegroep en 3) lager dan de groep verplegend personeel. De defensieve strategieën zijn operationeel gedefinieerd met behulp van de Plutchik Life Style Index. De resultaten tonen een significant verschil tussen de verplegenden en de paranormale genezers qua defensieve strategieën als 'ontkenning', 'verdringing', 'compensatie' en 'regressie'. Bovendien zijn significante verschillen met de controlegroep gevonden. De verschillen in defensieve strategieën tussen de groepen vinden hun oorzaak waarschijnlijk in de beroepsstatus: al dan niet behorend tot de officiële gezondheidszorg.

↓ 2 sp

Estrategias de Defensa en los Profesionales de Salud

Resúmen: Comparamos dos grupos de profesionales de la salud, enfermeros (N = 56, los cuales son parte del sistema médico oficial) y curanderos paranormales (N = 49, los cuales son parte del sistema médico complementario) con un grupo control (N = 73) en términos de sus puntuaciones de estrategias de defensa generales y de defensas específicas. Postulamos las siguientes hipótesis: 1) las puntuaciones grupales de los curanderos paranormales serán significativamente menores que las normas para la población holandesa; 2) la puntuación general de las estrategias de defensa será significativamente menor para el grupo de curanderos paranormales que para el grupo control; y 3) que las puntuaciones del grupo de enfermeros. Operacionalizamos las estrategias de defensa usando el Índice de Estilo de Vida de Plutchik. Los resultados muestran diferencias significativas entre enfermeros y curanderos paranormales en estrategias de defensa tales como 'negación', 'desplazamiento', 'compensación', y 'regresión.' También se encontraron diferencias significativas con el grupo control. Las diferencias en estrategias de defensa entre los grupos probablemente se origina en su posición en la profesión: dentro o fuera del sistema médico.

Abwehrstrategien in den Heilberufen

Zusammenfassung: Zwei Gruppen aus den Heilberufen, Pflegepersonal (N = 56, Teil des offiziellen medizinischen Systems) und paranormale Heiler (N = 49, die zu einem ergänzenden medizinischen System gehören), werden mit einer Kontrollgruppe (N = 73) hinsichtlich ihrer Abwehrstrategien und ihrer allgemeinen Testleistung verglichen. Es werden folgende Hypothesen aufgestellt: 1) Die Gruppe der paranormalen Heiler schneidet mit signifikant

niedrigeren Werten ab als der niederländische Bevölkerungsschnitt; 2) das Gesamtergebnis bei den paranormalen Heilern liegt signifikant unter dem der Kontrollgruppe und ebenso 3) unter jenem des Pflegepersonals. Die Abwehrstrategien werden mittels Plutchik's Life-Style- Index operationalisiert. Die Ergebnisse zeigen, daß Pflegepersonal und paranormale Heiler sich hinsichtlich Abwehrstrategien wie 'Verleugnung', 'Verdrängung', 'Kompensation' und 'Regression' signifikant unterscheiden. Zudem bestehen signifikante Unterschiede zur Kontrollgruppe. Die unterschiedliche Ausprägung von Abwehrstrategien zwischen den Gruppen hängt höchstwahrscheinlich davon ab, ob der Beruf zum offiziellen medizinischen System gehört oder nicht.

Strategie di difesa in professionisti dell'attività sanitaria

Sommario: Due gruppi di specialisti che operano nel campo sanitario, cioè infermieri (N = 56, che fanno parte del sistema medico ufficiale) e guaritori psichici (N = 49), appartenenti alla pratica della medicina complementare sono stati confrontati con un gruppo di controllo (N = 73) sotto il profilo delle strategie di difesa e di un punteggio globale. Le ipotesi formulate erano che: (1) il gruppo dei guaritori psichici avrebbe conseguito un punteggio significativamente inferiore rispetto alla popolazione generale olandese; (2) il punteggio globale del gruppo dei guaritori psichici sarebbe stato significativamente inferiore a quello del gruppo di controllo e (3) a quello degli infermieri. Le strategie di difesa sono state definite mediante il Plutchik's Life Style Index. I risultati indicano che gli infermieri e i guaritori psichici differiscono in maniera statisticamente significativa, per strategie di difesa quali 'negazione', 'spostamento', 'compensazione' e 'regressione'. Sono state inoltre evidenziate differenze significative rispetto al gruppo di controllo. Queste differenze tra gruppi derivano molto probabilmente dalla collocazione dell'attività professionale entro o fuori il sistema medico ufficiale.

Les stratégies de défense chez les professionnels de la santé

Résumé: Deux groupes de professionnels de la santé, une équipe d'infirmierie (n = 56, qui font partie du système médical officiel) et des guérisseurs paranormaux (n = 49, qui font partie du système médical complémentaire) sont comparés à un groupe contrôle (n = 73) du point de vue de leurs stratégies de défense et score global. On fait l'hypothèse que: 1) le groupe guérisseur paranormal a un score significativement inférieur à la norme dans population Hollandaise; 2) que le score global est significativement inférieur pour le groupe guérisseur paranormal par rapport au groupe contrôle, et 3) comparé au groupe infirmier. Les stratégies de défense sont opérationnalisées à l'aide de l'Indice de Style de Vie de Plutchik. Les résultats montrent que l'équipe d'infirmierie et les guérisseurs paranormaux diffèrent significativement dans leurs stratégies de défense tel que le 'dénî', 'déplacement', 'compensation', et 'régression'. De plus, il existe aussi des différences significatives avec le groupe contrôle. Les différences dans les stratégies de défense entre groupes ont plus probablement pour origine la position de la profession: à l'intérieur ou 'l'extérieur du système médical officiel.

Mecanismos de Defesa em Profissionais da Saúde

Resumo: Dois grupos de profissionais da saúde, enfermeiros (N = 56, que fazem parte do sistema médico oficial) e curadores paranormais (N = 49, que fazem parte do sistema médico complementar) são comparados com um grupo controle (N = 73) quanto a seus mecanismos de defesa e à sua pontuação final. As hipóteses são: 1) o grupo de curadores paranormais tem resultados significativamente mais baixos do que o padrão para a população holandesa; 2) o número total de pontos é significativamente mais baixo para o grupo de curadores paranormais quando comparado com o grupo controle e 3) o mesmo ocorre quando comparados com o grupo de enfermeiros. Os mecanismos de defesa são operacionalizadas utilizando-se o Índice de Estilo de Vida de Plutchik (Plutchik's Life Style Index). Os resultados demonstram que o pessoal da

enfermagem e os curadores paranormais diferem significativamente em relação aos mecanismos de defesa tais como "negação", "deslocamento", "compensação" e "regressão". Além disso, há também diferenças significativas em relação ao grupo controle. As diferenças em relação aos mecanismos de defesa entre os grupos se originam, muito provavelmente, da condição da profissão: pertencer ou não ao sistema médico oficial.

Psi-Conductive Practices and Issues: Introducing Invited Papers

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The following section of this issue of the *EJP* contains six invited papers, all dealing with topics related to psi-conductive experimenter practices and issues. These papers stem from a panel at the 1996 Convention of the Parapsychological Association. One goal of the panel was to make explicit information about psi conductive experimenter practices and issues which too often exists only in the realm of tacit knowledge. Contributors were encouraged to present their personal thoughts and insights about psi conductive issues and to share laboratory lore gained from their experimental experience. In this way it was hoped that anecdotal and/or subjective knowledge that may sometimes be seen as unsuitable for inclusion in experimental publications, could be shared with others. Thus much of the following is offered not as 'hard facts', but rather as a sharing of perspectives and insights that may be helpful to other psi researchers, and that may shed further light on the presence of experimenter effects in parapsychological work. Furthermore, it is hoped that some of the ideas presented herein may prompt future experimental examination.

Four members of the PA panel have contributed papers: Kathy Dalton, Deborah Delanoy, Gertrude Schmeidler and Russell Targ, whose contribution is co-authored with Jane Katra. These papers range from specific suggestions for potentially psi-conductive experimental behaviour, to more conceptual considerations of experimenter effects. Rhea White, who was invited to join the panel but was unable to attend the Convention, kindly contributed her thoughts and insights to this issue as well. John Palmer was invited to write a paper expanding upon a commentary he offered about experimenter effects during the panel's discussion period

Important Psi-Conductive Practices and Issues: Impressions from Six Parapsychological Laboratories

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Abstract: In 1989 six U.S. parapsychology laboratories were visited to gain information relevant to the development of the Koestler Chair of Parapsychology's new research laboratory facilities. Information was gathered via observation and interviews with laboratory researchers; that related to the largely anecdotal, tacit area of psi-conductive practices is presented herein. The obtained information deals with four broad categories of psi-conductive considerations: laboratory design; orientation towards participants; participant/experimenter interactions; and experimenter orientation and preparation. Some of the general principles that emerged included: tailor the laboratory environment to create a comfortable, supportive and welcoming environment for your typical participant; spend time chatting with participants to put them at ease, make them feel valued, win their confidence and provide success-oriented expectations; choose participants who appear to be stable and open to/curious about psi; choose experimenters who have good conversational and social skills; and experimenters should have successful expectations of each session, making sessions the focal point of the day, and they should have a positive, welcoming orientation towards psi in their daily lives.

Six U.S. parapsychology laboratories were visited by the author (DD) in 1989 to collect information relevant to the construction and use of a new laboratory facility, being built by the Koestler Chair of Parapsychology, in the Psychology Department at the University of Edinburgh.¹ This information was gathered via informal, semi-structured interviews with researchers, and by personal observation. Information was gathered about a wide variety of topics, ranging from laboratory design and management to good research practices. Of

special interest were thoughts and practices stemming from tacit, largely anecdotal sources, about which little can be found in the field's literature. It was recognised that this information would be highly subjective, and that there would likely be many differences between the laboratories and researchers. Furthermore, the validity of such largely anecdotal information has not been established. Nonetheless, it was thought that some consensual ideas and/or practices might emerge that could beneficially inform the Koestler Chair research efforts.

The following represents a compilation of obtained information, focusing primarily upon areas of agreement, and/or upon factors observed at several labs. No single comment should be viewed as coming from or being representative of any specific laboratory or researcher, and no individual or laboratory is directly associated with any specific item. Of the information gained during the laboratory tour, that most di-

1 All the staff members at the visited research centres were unfailingly helpful. Special thanks for the generous sharing of their time, and provision of information and/or accommodation are owed to: Carlos Alvarado, Rick Berger, William Braud, Richard Broughton, George Hansen, Gary Heseltine, Charles Honorton, H. Kanthamani, Edwin May, Roger Nelson, John Palmer, Marilyn Schlitz, Helmut Schmidt and Nancy Zingrone.

rectly relating to psi-conductive practices and issues is presented herein.

The six sites visited were: the Psychophysical Research Laboratory (PRL) in Princeton, NJ; the Princeton Engineering Anomalies Research (PEAR) laboratory at Princeton University; the Foundation for Research into the Nature of Man (FRNM, now the Rhine Research Center) in Durham, NC; Mind Science Foundation (MSF) in San Antonio, TX; Science Unlimited Research Foundation (SURF) in San Antonio, TX; and, the facilities at SRI International (SRI), located in Menlo Park, CA. The laboratories were generally visited in the order listed above. The duration of each visit ranged from one day (i.e., PEAR and SRI) to 3-5 days (i.e., PRL, FRNM, SURF and MSF). DD observed and/or served as a participant in on-going study sessions at PRL, PEAR, and FRNM, and was given detailed descriptions and/or demonstrations of various experimental procedures by all the labs. It should be noted that two of the labs, PRL and SURF, had lost their funding and were in the process of closing, so observations stemming from these sites may not reflect their usual operation under more normal circumstances.

For convenience the following information has been divided into four general content areas: a) laboratory design; b) orientation towards participant; c) participant/experimenter interactions; and, d) experimenter preparation and orientation.

Lab Design

Many researchers mentioned the importance of the physical laboratory environment in setting the stage for psi-conductive interactions. Of course, laboratory design and environment varied greatly between the different sites, and was often dictated by practical constraints, such as available space and building layout. Despite the many differences imposed by such considerations, some common factors were generally viewed as important.

Many laboratories appeared to tailor their environment to their typical participant population (hereafter partici-

ant/participants will be abbreviated to: Pp/Pps). Generally, laboratories wished to create an environment that their predominant Pp population would view as comfortable and reassuring, while also conveying a sense of professionalism and competence. For example, some researchers who worked primarily with mature, unselected members of the general public, mentioned the possible advantages of having Pps' first impression of the laboratory be that of a professional, business environment, e.g., a typical office suite setting, with a staffed reception area, etc. The reasons given for this involved the possibility that when coming to the laboratory for the first time, these Pps may have some concerns about 'what they were getting themselves into', given the relatively unusual type of research in which they were about to participate. It was thought that such concerns might be reduced by initially presenting the Pp with what they would be likely to regard as an ordinary, non-threatening working environment, staffed by 'reassuringly normal' looking people. In contrast, laboratories working primarily with a younger student population appeared to recognise that while an office suite environment may be reassuring to more mature Pps, it could well be alienating to younger ones. Accordingly, these laboratories seemed to favour a more casual, less structured setting.

Some laboratories had created a 'special' area where the forthcoming session would be discussed with Pps. Sometimes these areas conveyed an ambience which differed greatly from the rest of the facility and/or surrounding building environment. Some researchers mentioned that such marked differences in ambience might help foster the sense in Pps that they had entered a 'different' place, one in which special, psychic things could easily happen.

These conversation areas tended to have a casual, private, warm, 'at home' atmosphere, and often contained personal decorative touches. It was thought that such settings may help Pps to relax and become comfortable with the experimenter(s) and with the experimental expe-

rience. Also, such an ambience might help encourage open, informal communications. These environments were sometimes dedicated rooms or comfortable sitting areas within an experimenter's office. Facilities for providing refreshments for Pps were often found within or adjacent to these rooms.

Orientation Towards Participant

Most laboratories ensured that either a receptionist and/or the experimenter awaited the arrival of scheduled Pps, as a matter of common courtesy and for security reasons. Furthermore, several researchers specified that they did not leave Pps alone or unattended once they arrived at the laboratory (until the experimental session actually began). Some reasons offered for this included: a) security precautions; b) keeping Pps busy would avoid leaving free-time in which they might develop concerns or insecurities about the forthcoming session; and, c) being the focus of attention could help Pps feel important and appreciated, thereby potentially increasing their confidence and motivation to succeed.

The desire to make Pps feel comfortable and appreciated was frequently mentioned by researchers. Towards this end, many researchers would set aside 'chat' time prior to the start of a session. During this period, Pps would usually be offered refreshments, with some laboratories routinely providing special home-baked cookies/cakes, and so on. Some researchers would spend considerable time talking with Pps before the actual experimental session, trying to ensure they were relaxed and positively oriented towards the session.

Several researchers appeared to go to considerable lengths to make their Pps feel highly valued, e.g., stating they 'bend over backwards' to ensure their Pps felt comfortable, appreciated and well-looked after. Specific means of accomplishing this varied, and were somewhat dependent upon familiarity with the Pp. If deemed helpful, Pps would be offered transportation to and from the laboratory, be reimbursed for any travel expenses, and where appropriate, be

met at the bus/train station. However, it should be noted that laboratories working with a largely unselected Pp population would not usually provide any payment for participation in their studies, preferring their Pps to be motivated by personal interest, as opposed to monetary gain. Once a Pp became known to a researcher, they might be provided with favourite cookies/refreshments, and after the session might be taken out for a meal and/or drinks. Some commented how they had developed close friendships with some Pps. Others viewed and treated all Pps as 'members of the (research) family'. One laboratory wanted to make each Pp feel they were centre of all attention and activity at the facility. To accomplish this, they avoided exposing Pps to any other on-going business at the laboratory, or to any personnel who were not involved with the session or joining the pre-session conversation. As this involved notifying everyone at the laboratory when a Pp was due to arrive, it could also have had the effect of focusing the attention of the entire staff of the laboratory upon the specific session, whether or not they were directly involved with it.

If a Pp had taken part in previous studies at the laboratory, most experimenters would be familiar with the details of their earlier contributions, even if they had not served as an experimenter in those sessions. Details from previous sessions would be discussed, with similarities and differences highlighted, as deemed helpful in increasing Pp expectations of success in the forthcoming session. If other experimenters, who were not involved in the current session, had previously worked with a Pp, they might be included in the pre-session conversation, or make a point of 'dropping in' during this time to say hello.

Some researchers noted that when conveying appreciation and a sense of importance to Pps, care was needed to ensure there was no accompanying pressure to 'perform' well during the session. Similarly, it was thought desirable to encourage Pps to be motivated to succeed in the experimental task, and to have positive

expectations of success, without introducing any attendant stress or anxiety. To accomplish this, some recommended mentioning how many people have succeeded in similar experiments and/or emphasising that the specific experimental technique (in and of itself) worked very well. Also, Pps could be instructed just to let things flow in the session, and may be asked to avoid effortful striving (in ESP tasks). Where the experimental procedure involved more than one Pp, the session would be presented as a joint, mutual venture, where responsibility for the outcome was shared, to help reduce any performance anxiety and/or ownership resistance that might be felt by a Pp.

Participant/Experimenter Interactions

The development of a friendly, comfortable, open, trusting, and supportive rapport between Pps and their experimenters was typically viewed as an important psi-conductive factor. Many researchers thought a pre-session 'chat', covering topics beyond the usual experimental instructions, was a necessary component in establishing such interactions. Thus the benefits of having likeable experimenters, with good conversational and social skills, was frequently mentioned. Experimenters were advised to be good listeners, skilled at quickly connecting to/creating bridges with others, and genuinely interested 'getting to know' others. Several stressed the need to 'read' the psychology of each Pp and respond appropriately. Some experimenters tailored their description of procedures, goals and/or implications of the study to the specific interests of the Pp. Several researchers stressed the importance of clearly explaining experimental procedures to Pps so they had no doubts as to what would happen during a session, what they were to do, when they were to do it, etc.

Many of the laboratories had potential Pps complete a 'Participant Information Form' (PIF) before a session was scheduled. PIF forms served several purposes, including: a) providing useful experimental information, e.g., sheep/goat scores; b) asking questions to help determine what

type of study (e.g., ESP or PK) a participant might be best suited for and most enjoy; and c) initial screening of Pp to avoid bringing potentially disturbed individuals into the laboratory. With first-time Pps, information from the PIF could be worked into the pre-session conversation. Thus PIFs would not only provide the experimenter with helpful information about the Pp, but would also help convey to the Pp that due attention was paid to information they provided.

Some researchers encouraged participants to describe any previous psi experiences, and responded to such stories in a positive, supportive manner. Most researchers stressed the importance of never rushing Pps. Some would let the pre-session conversation extend as long as the Pp wished, or until they thought the Pp was relaxed and had a positive attitude towards the session. However, a few researchers thought it best to save potentially lengthy and/or emotional conversations about previous psi experiences until after the experimental session had been completed, to avoid any possible cross-pollution.

There was almost universal support for the need to present any given experimental procedure in a positive, 'this works and you can do it' manner. When describing the desired outcome of a session to Pps, there was fairly wide-spread support given to the idea of 'keep it simple', i.e., Pps should have one clear aim in mind, such as obtain images to the picture, or interact with the monitor display in the prescribed manner, without being distracted by a variety of possible, secondary psi outcomes. Also, it was thought beneficial to keep the session fun; everyone involved should have a good time and enjoy themselves, each other and the experimental session.

Experimenter Orientation and Preparation

Many researchers mentioned that experimenters should be very familiar with all aspects of the study, including having been a participant themselves, i.e., they should know the procedure 'inside out' and not ask

a participant to do something they hadn't done themselves. Several experimenters stated that each session should be the 'highlight' of the day; some saying an experimenter should only have one session per day. Some researchers noted the benefits of clearing some relatively free time prior to a session and immediately following it, to ensure that they were never rushed to start or end a session. Some noted that they avoided unpleasant tasks on days when they had experimental sessions (see Schlitz, 1986, for more detailed information about the preparations of some successful psi experimenters).

It was frequently commented that all equipment should be checked and fully prepared for the session well before Pps arrived, as malfunctioning equipment, or lengthy fiddling with sensitive 'gadgets' could shake Pps' confidence in the experimenter's competence and/or their trust that the session would 'work well'. Several researchers stressed that as a general rule, anything that can be readied in advance of the Pps arrival, should be thus prepared. Such preparations ran the gamut from refreshments (cookies laid out, coffee/tea ready to be made, etc.) to experimental equipment (paper and pens are laid out, any needed tapes are in place, lights are working, computer programs primed, etc.) to the experimenter having reviewed the Pps previous session details and/or their PIF information.

It appeared that usually successful experimenters (i.e., those who frequently obtained significant study outcomes) seemed to genuinely expect that any given experiment could and would produce a significant psi outcome. Furthermore, such successful experimenters appeared to have a very high degree of emotional and intellectual acceptance of psi, experiencing it as an integral part of both their professional and personal lives. These researchers seemed to respect and honour psi, without viewing psi events as unduly important; psi was seen as special, but not extraordinary.

Discussion

As the intention of the laboratory tour was to gain first-hand and tacit information, these comments are largely derived from subjective and/or anecdotal sources. They do not constitute an experimentally proven 'recipe for success' or established facts. This status awaits further experimentation, aimed specifically at examining the utility of these ideas.

Nonetheless, they are the thoughts and insights generously contributed by a large number of experienced researchers, many of whom have long track records of obtaining significant, above chance psi-scoring in their studies. Given the evidence of experimenter effects found in parapsychological research (e.g., Wiseman and Schlitz, 1996), arguably it would be most foolhardy to disregard such potential 'words of wisdom'.

As noted in the introduction this laboratory tour was undertaken in 1989, to gather information to help the research efforts of the Koestler Chair of Parapsychology. For all practical purposes, the Koestler research unit started business in Nov. 1985 when Prof. Robert L. Morris took up the Chair. Prior to this time, there had been 20 years of parapsychological research conducted in the Department under the supervision of Dr. John Beloff. This earlier research had been notable for its frequent failure to obtain any extra-chance psi-scoring. Since the Chair was established there have been many changes made to the ongoing research activities, e.g., the hiring of research staff, a growth in postgraduate numbers from the pre-chair average of one or two students to the current average of approximately 10, the support and supervision of numerous undergraduate projects (studies), etc. Also a new laboratory facility has been built, and its design and the research carried out there, has been influenced by the laboratory tour findings. While it is impossible to establish which of the many changes, or what combination thereof, may be responsible for the change in experimental fortunes at Edinburgh, significant psi-scoring outcomes are obtained

by many of the studies conducted there now.

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Belangrijke psi-bevorderende factoren: indrukken uit zes parapsychologische laboratoria

Samenvatting: De auteur bezocht in 1989 zes labs voor parapsychologisch onderzoek in de VS, om informatie te vergaren die belangrijk zou kunnen zijn bij de inrichting van het nieuwe lab van de Koestler Chair in Edinburgh. Zij bekeek de labs en interviewde onderzoekers. Dit artikel behandelt de informatie over de veelal anekdotische en onuitgesproken psi-bevorderende factoren. Daarbij worden vier categorieën gehanteerd: lab-inrichting, houding ten opzichte van deelnemers, interacties tussen onderzoeker en proefpersoon en ten slotte de instelling van de onderzoeker en zijn voorbereiding. Als algemene principes kwamen onder meer naar voren: richt het lab zo in dat een voor de gemiddelde proefpersoon aantrekkelijke, uitnodigende en geruimtelijke sfeer ontstaat, stel de proefpersoon op zijn gemak door een praatje, zorg dat hij zich gewaardeerd voelt, win zijn vertrouwen en roep op succes gerichte verwachtingspatronen op. Kies deelnemers die stabiel lijken, open staan voor en nieuwsgierig zijn naar psi. Kies onderzoeksmedewerkers met goede sociale omgangsvormen en die zich goed kunnen uitdrukken. Zorg dat de onderzoeker zelf positieve verwachtingen over het succes van elke sessie heeft en dat hij die sessies als het belangrijkste werk van de dag ziet. Zoek de medewerkers die in hun dagelijkse leven positief en open denken over psi.

Prácticas y Problemas Importantes para la Facilitación de Psi: Impresiones de Seis Laboratorios Parapsicológicos

Resumen: En el 1989 visitamos seis laboratorios de parapsicología para obtener información relevante al desarrollo del nuevo laboratorio de investigación de la Cátedra Koestler de Parapsicología. La información que presentamos se recopiló a través de observaciones y de entrevistas con investigadores de laboratorio. Ésta estaba relacionada con prácticas para facilitar a psi mayormente anecdóticas y tácitas. La información obtenida trata sobre cuatro categorías generales de aspectos que facilitan a psi: diseño del laboratorio; orientación de los participantes; interacciones entre los participantes y los experimentadores; y la orientación y preparación del experimentador. Algunos de los principios generales que surgieron fueron: preparar el ambiente del laboratorio para crear un ambiente cómodo, de apoyo, y agradable para el participante típico; tomar tiempo para conversar con los participantes para que éstos se sientan bien, sientan que son apreciados, para ganar su confianza y para proveer expectativas de éxito; seleccionar a los participantes que parezcan ser estables, abiertos y curiosos a la idea de psi; seleccionar

experimentadores que tengan buenas habilidades de conversación y habilidades sociales; y, los experimentadores deben tener expectativas de éxito para cada sesión, de forma que las sesiones experimentales sean la actividad principal del día, y deben tener una orientación positiva y agradable hacia psi en sus vidas diarias.

**Wichtige psi-fördernde Verfahren und Fragestellungen:
Eindrücke aus sechs parapsychologischen Labors**

Zusammenfassung: Die Autorin besuchte im Jahre 1989 sechs parapsychologische Labors in den USA, um sich Anregungen und Informationen für die Entwicklung des neuen Forschungslabors am Koestler Chair of Parapsychology zu verschaffen. Die Informationen stammen aus Beobachtungen und Gesprächen mit dem Forschungspersonal. Diejenigen Informationen, die sich auf weitgehend anekdotenhafte, oft unausgesprochene psi-förderliche Praktiken beziehen, werden hier vorgestellt. Die erhobenen Angaben haben vier breit gefaßte Kategorien psi-fördernder Überlegungen zum Gegenstand: Anlage der Laboratoriums; Einstellung zu den Versuchsteilnehmern; Interaktionen zwischen Versuchsperson und Experimentator; und Einstellungen und Vorbereitung des Experimentators. Zu den ermittelten Grundprinzipien gehörten: Gestalte das Laborumfeld so, daß eine bequeme, förderliche und einladende Umgebung für den typischen Teilnehmer entsteht. Nimm dir die Zeit, dich mit den Versuchsteilnehmern zu unterhalten, damit diese sich unbeschwert fühlen; gib ihnen das Gefühl, daß ihre Mitarbeit geschätzt wird; gewinne ihr Vertrauen und schaffe erfolgsorientierte Erwartungen. Wähle Teilnehmer aus, die emotional gefestigt scheinen und die offen für Psi oder an Psi interessiert sind. Wähle Versuchsleiter mit guten Konversations- und sozialen Umgangsformen aus. Experimentatoren sollten mit Erfolgserwartungen an jede Sitzung herangehen, diese zum Kernpunkt des Tages machen und in ihrem täglichen Leben Psi positiv und offen gegenüberstehen.

**Pratiche e questioni rilevanti che favoriscono la psi:
Impressioni tratte da sei laboratori parapsicologici**

Sommario: Allo scopo di acquisire informazioni importanti ai fini dello sviluppo delle attività nel nuovo laboratorio della cattedra Koestler in parapsicologia, nel 1989 sono stati visitati sei laboratori parapsicologici. Le informazioni sono state raccolte guardandosi intorno e conversando con i ricercatori di questi laboratori e qui viene riportato ciò che riguarda il tema implicito e in larga parte aneddotico delle pratiche che favoriscono la psi. Le informazioni ottenute appartengono a quattro classi di considerazioni sulla produzione della psi: la configurazione del laboratorio; l'atteggiamento verso i partecipanti; le interazioni partecipante/sperimentatore; l'orientamento teorico e la preparazione dello sperimentatore. Tra i principi generali emersi figuravano: predisporre lo spazio del laboratorio per creare un ambiente confortevole, incoraggiante e accogliente per il partecipante tipico; dedicare un po' di tempo per parlare ai partecipanti, al fine di metterli a loro agio, farli sentire considerati, ottenere la loro fiducia e favorire un atteggiamento tendente al successo; scegliere partecipanti che appaiono stabili e aperti o curiosi nei riguardi della psi; scegliere sperimentatori con buona abilità di conversazione e di rapporti sociali; gli sperimentatori, infine, dovrebbero essere ottimisti negli esiti delle singole sessioni, rendendole il momento culminante della giornata, e mantenere un atteggiamento positivo e aperto alla psi nella loro vita quotidiana.

Questions et pratiques psi-conductrices importantes: Les impressions de six laboratoires de parapsychologie

Résumé: En 1989 six laboratoires américains de parapsychologie ont été visités afin d'acquérir des informations pertinentes pour le développement des nouveaux équipements du laboratoire de recherche de la Chaire Koestler de Parapsychologie. Les informations ont été recueillies via observation et interviews avec les chercheurs de laboratoire; celles concernant le domaine tacite des pratiques psi-conductrices largement anecdotiques sont présentées ici. Les informations obtenues ont trait à quatre grande catégories de considérations psi-conductrices: l'organisation du laboratoire; l'orientation vis-à-vis des participants; les interactions participant/expérimentateur; et l'orientation et la préparation de l'expérimentateur. Certains des principes généraux qui ont émergés incluait: façonnez l'environnement du laboratoire afin de créer un environnement confortable du point de vue du soutien et de l'accueil pour votre participant type; prenez le temps de bavarder avec les participants afin de les mettre à l'aise, leur faire ressortir leur valeur, gagner leur confiance et fournir des attentes tournées vers la réussite; choisissez des participants qui semblent stables et ouverts au/curieux du psi; choisissez des expérimentateurs qui ont de bonnes aptitudes à la conversation et sociales; et les expérimentateurs devraient avoir des attentes de réussite pour chaque session, en faisant des sessions le point focal du jour, et ils devraient avoir une orientation positive, et accueillante envers le psi dans leur vie de tous les jours.

Práticas e questões psi-conducentes importantes: Impressões sobre seis laboratórios de Parapsicologia

Resumo: Em 1989, seis laboratórios de Parapsicologia foram visitados a fim de se obter informações relevantes para o desenvolvimento das novas instalações do laboratório de pesquisas da Koestler Chair of Parapsychology. Apresenta-se as informações colhidas através de observações e entrevistas com pesquisadores dos laboratórios relacionadas à área tácita e empírica das práticas psi-conducentes. As informações obtidas envolvem quatro categorias amplas de considerações psi-conducentes: o modo como o laboratório foi projetado; a orientação para os participantes; as interações participante/experimentador e a orientação e o preparo do experimentador. Alguns dos princípios gerais que emergiram incluem: adaptar o ambiente laboratorial para criar um local confortável, favorável e acolhedor para o participante típico, conversar por um bom tempo com os participantes para deixá-los mais à vontade, fazê-los sentirem-se mais valorizados, ganhar sua confiança e estabelecer expectativas de sucesso; escolher participantes aparentemente estáveis, abertos e curiosos a respeito de psi; escolher experimentadores que tenham boas habilidades sociais e saibam conversar de forma agradável; e experimentadores devem ter expectativas de sucesso em cada sessão, tornando-as o ponto central do dia, além de ter uma orientação positiva e acolhedora quanto a psi em suas vidas diárias.

Is There a Formula to Success in the Ganzfeld? Observations on Predictors of Psi-Ganzfeld Performance

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Abstract: In order to understand the apparent psi conducive experimenter factors at work in ganzfeld research, it is first necessary to understand what other factors may also come into play that could be considered 'psi conducive'. Included in these factors are physical variables, participant characteristics, and the social setting of the ganzfeld, as well as successful techniques used by experimenters to enhance the performance level of their participants. This report builds on a panel presentation on psi conducive experimenter practices during the 1996 annual parapsychology convention, and presents an exploration of the characteristics and variables indicated by past ganzfeld research to contribute to the success of the ganzfeld technique.

Introduction

Given the increased interest in ganzfeld-psi engendered by the publication of the Bem and Honorton (1994) paper, and the effects of the increasing strength and consistency of recent ganzfeld research, perhaps the most important question one can ask of the ganzfeld technique is, 'What have we learned about reliably predicting psi performance in the ganzfeld?' Observations made from my own experimental work, and that of other ganzfeld researchers, have led me to speculate on the factors that may contribute to achieving a successful result in a ganzfeld setting. In many aspects, these speculations are also applicable to other kinds of ESP work. To that end, even at this early stage of examining the data, several observations can be made.

The ganzfeld research at Psychophysical Research Laboratories (PRL) by Honorton and his colleagues was aimed, in part, at identifying those characteristics that seemed to facilitate psi success in the ganzfeld. Since the PRL series there have been many replications of its successful results (a 33% hit rate overall), many of which were in themselves quite successful (Broughton & Alexander, 1995; Dalton, 1994; Johansson &

Parker, 1995; Morris, Cunningham, McAlpine & Taylor, 1993). The ganzfeld technique as applied to parapsychology originally grew out of research attempting to identify factors that seemed to facilitate successful identification of psi material, that then led to the development of a noise reduction model involving perceptual. This identification of psi facilitative factors is ongoing in psi research.

The relationship between ESP performance and individual differences in psychological traits has been examined in many studies since the 1940s. Numerous variables have been explored, and it appears that several may be consistent in their predictive value (Braud, 1977; Honorton, 1977; Rhine, 1955). In examining the various bodies of ganzfeld research that have been done over the last decade or so, there seems to be a pattern emerging, one that may indicate a formula for success, and that may be translatable to other ESP research. It is hoped that it will not be viewed as premature to list these variables here. They are presented as factors for consideration and exploration in future ganzfeld studies. As levels of importance may vary with study design, the variables are not listed here in order of importance.

PRL Four Factor Model

One of the primary goals of the ganzfeld research at PRL was to identify individual differences and characteristics associated with successful ESP ganzfeld performance. Although PRL's initial model of the four factors facilitating ganzfeld success was directed at novices only (inexperienced ganzfeld participants), it continues to be used as a successful profile for identification of those participants most likely to achieve success in a ganzfeld setting. The four factor model (Honorton, 1992) consists of: previous psi experiences; practice of a mental discipline; prior laboratory psi testing; and Feeling/Perception (FP) preferences on the Myers Briggs Type Inventory (MBTI). Let us address each of these briefly, in turn.

The first factor is that of having had prior psi experiences. It can be argued that participants who have had prior psi experiences may be better at recognizing the psi material when it appears in the ganzfeld. These participants have consistently tended to produce higher rates of success than those who have not had psi experiences (Bierman, Bosga, Gerding & Wezelman, 1993; Broughton, Kanthamani & Khilji, 1990; Honorton, 1985, 1992; Honorton *et al.*, 1990; Honorton & Ferrari, 1989; Kanthamani & Broughton, 1994; Morris *et al.*, 1993; Morris, Dalton, Delanoy & Watt, 1995).

The second factor is the practice of a mental discipline, such as meditation or bio-feedback. This factor's success may be because these participants are accustomed to attending to internal mental processes and are therefore more familiar with internal sources of noise, making the psi information more easily recognizable when it appears (Bem & Honorton, 1994; Bierman *et al.*, 1993; Broughton *et al.*, 1990; Honorton, 1985, 1992; Honorton *et al.*, 1990; Kanthamani & Broughton, 1994; Morris *et al.*, 1993; Morris *et al.*, 1995).

The third factor presented by the PRL model is that of having prior laboratory psi testing, other than the ganzfeld (Bem & Honorton, 1994; Honorton, 1992; Honorton

& Schechter, 1987; Kanthamani & Broughton 1994; Morris *et al.*, 1993; Morris *et al.*, 1995). This variable is harder to find in most populations, as often their participation in the ganzfeld is the first encounter with laboratory psi testing of any type. The reason for the success of this variable may relate directly to the participant's prior familiarity with the laboratory environment before entering what may be a fairly unusual and bizarre situation (red lights and ping pong ball eyeshields). This prior familiarity with the lab environment would lead to a reduction of the stress or anxiety typically caused by entering a potentially threatening or unknown situation. Linked with this point is the use of experienced participants in ganzfeld research. Experienced participants are those who have had a prior ganzfeld session and therefore know what to expect from the experience. Ganzfeld research with experienced participants seems to produce a higher success rate than research designs using only novices, or inexperienced participants (Honorton *et al.*, 1990; Sargent, 1980; Sargent, Bartlett & Moss, 1982). Again, this response may be related to the higher degree of comfort and familiarity with a procedure that initially may seem strange or bizarre for the participant. This familiarity may contribute to the participant's ability to relax in a 'safe' environment and facilitate a deconstruction of psychological barriers.

The last factor put forth by the PRL model is that of Feeling/Perception (FP) preferences on the Myers-Briggs Type Indicator (MBTI). The description of the FP respondent on the MBTI is someone who is flexible & adaptable, has interpersonal sensitivity, seeks new experiences, and analyzes subjective activity. The superior performance of FP's may be related to their adaptability to new situations and motivation for new experience. An evaluation of the MBTI in relation to the five factor model of personality (McCrae & Costa, 1989; Costa & McCrae, 1992) by Honorton (1992) indicated that the Thinking/Feeling (TF) scale of the MBTI correlated positively with Agreeableness and the Judging/Perceiving

(JP) scale correlated negatively with Conscientiousness (i.e., orderliness) and positively with Openness to Experience (Bem & Honorton, 1994; Broughton *et al.*, 1990; Honorton & Schechter, 1987; Honorton *et al.*, 1990; Kanthamani & Broughton, 1994). The studies of van Kampen, Bierman, & Wezelman (1994) and Broughton & Alexander (1995) found positive correlations between psi hitting and the Openness scale of the NEO-PI (a personality scale using the five factor model devised by Costa & McCrae, 1985) in their ganzfeld studies. However, this trend was not exhibited in a follow-up study by Bierman (1995).

Additional Variables

Participant Characteristics

In addition to the four factors proposed by the PRL research, additional variables have emerged from more recent ganzfeld research that seem to indicate a greater measure of success for study designs taking them into account.

The first of these of variables is that of psi belief. Participants who relate a belief in psi, or in the possibility of psi, show a higher success rate than those who relate no such belief (Broughton, Kanthamani & Khilji, 1990; Honorton, 1985; Honorton *et al.*, 1990; Honorton & Schechter, 1987; Morris *et al.*, 1993; Morris *et al.*, 1995). This finding is, of course, linked to the sheep/goat effect and is fairly consistent throughout the parapsychological literature. For a meta-analytic review of the sheep/goat effect, see Lawrence (1993).

A second variable found to facilitate psi success in the laboratory, as well as in the ganzfeld, is that of extroversion (Honorton & Ferrari, 1989; Honorton, Ferrari & Bem, 1990; Morris *et al.*, 1993; Schlitz & Honorton, 1992; van Kampen *et al.*, 1994). However, this variable is somewhat debated (Bierman *et al.*, 1993; Broughton *et al.*, 1990; Dalton & Utts, 1995; Morris *et al.*, 1995) as extroverts are those people who generally feel at ease in most social situations and enjoy interactions with groups of people, and would

thus feel more relaxed in the social setting of the laboratory. Introverts typically prefer to work alone, finding most social interactions with more than one person overwhelming and uncomfortable. For this reason it is felt that introverts may do as well as extroverts in ganzfeld research if some way were found to provide a more conducive social setting for them -- one in which they were not required to speak aloud about normally private thoughts, or interact with more than one person throughout the experiment. An examination of the extroversion/introversion research by Honorton and Schechter (1987) in the PRL work showed that while extroverts tended to produce more hits for that database, there was a significant tendency for extroverts to obtain hits with friends sending, while introverts tended to hit with lab senders.

Another variable that has emerged as a characteristic indicating a higher rate of psi success for the participants possessing this trait, is that of creativity (Braud & Loewenstern, 1982; Moriarty & Murphy, 1967a, 1967b; Morris *et al.*, 1993; Moss, 1969; Moss & Gengerelli, 1968; Schlitz & Honorton, 1992). Creative populations, such as musicians or artists, have produced fairly high success rates in recent ganzfeld research and creativity continues to be an area that shows great promise in contributing to our understanding of psi communication in the ganzfeld (Dalton, 1997; Morris *et al.*, 1995). A ganzfeld study using Juilliard School of the Arts students produced a 50% hit rate overall, with musicians alone obtaining a 75% hit rate and drama students a 40% hit rate (Schlitz & Honorton, 1992). Cunningham (Morris *et al.*, 1993) obtained a 41% hit rate in her study with pairs of musicians at the University of Edinburgh. Ganzfeld research recently completed at the University of Edinburgh using an artistic population consisting of visual artists, musicians, actors, and writers yielded an overall hit rate of 47% (Dalton, 1997). Once again, musicians were the high-scoring group in the study, obtaining a hit rate of 56%. It seems clear from these studies that creativity is a vari-

able that warrants further investigation in future ganzfeld studies.

Characteristics of the participant's environment

The previous variables are characteristics or traits associated with participants in ganzfeld research that have indicated a greater likelihood of success for those possessing them. But there are other, equally important, factors outside of participant characteristics that should be taken into consideration when exploring successful designs for the ganzfeld.

The first of these is the relationship between the sender and receiver. The importance of this relationship is fast becoming clear, with sender/receiver pairs who are close friends or family having the edge over pairs where the sender is laboratory staff, or someone the receiver had not been acquainted with before coming into the lab (Dalton, 1997; Honorton, 1995; Honorton *et al.*, 1990; Morris *et al.*, 1993). While it is always important that the sender and receiver feel they have good rapport with each other (Dalton & Utts, 1995; Honorton *et al.*, 1990), recent research has indicated that the psi connection seems best between pairings who are biologically and emotionally close. Broughton and Alexander compared the PRL database to their work with such pairings (Broughton & Alexander, 1995). They found that parent-child pairs, or sibling pairs, provided higher hit rates than other, non-biologically related pairings. This finding was confirmed in the Dalton (1997) ganzfeld study.

A second variable to consider is the type of target material used in ganzfeld studies. Early ganzfeld studies used static, or still targets, such as art prints or pictures. Later, the target material progressed to viewmaster slides or projector slides with music. PRL first began the use of dynamic, or moving, targets in their automated ganzfeld series (Honorton, 1985; Honorton & Schechter, 1987; Honorton *et al.*, 1990). This target pool consisted of video clips with accompanying sound track inter-

persed on a video tape with successful static targets from previous studies. These dynamic targets enjoyed a large degree of success but it also appears that the impact of sender/receiver relationship on target type plays a role (see Dalton & Utts, 1995 for further discussion). Additionally, in comparisons of targets comprised of negative, positive, or neutral material, people were able to pick up on the material containing either a negative or positive impact to a far greater degree (Bierman, 1995; Dalton, Steinkamp & Sherwood, 1996; Honorton *et al.*, 1990). Therefore, the type of target stimuli used should be chosen carefully, to allow participants the best opportunity of picking up on it. Given what appear to be differences in the way that participants experience the reception of the psi information, and the relevance of meaningfulness of the target for the participant – which can be impacted by cultural and social factors – no universally 'perfect' free-response target can be defined. Recent reviews of the characteristics of successful free-response targets suggest that good GESP targets should be psychologically and physically salient. They should be meaningful, have emotional impact and human interest; and stand out from their backgrounds (Delanoy, 1988; May, Spottiswoode & James, 1994; Watt, 1988).

The third variable is one that apparently affects both the experimenter conducting the sessions as well as the participants involved, namely that the number of sessions conducted per day may affect the success of a ganzfeld study. Research in which two or three sessions, with different sender/receiver pairs, were conducted in one day saw a drastic reduction in the success rates for each session after the first (Sondow, 1979; Morris *et al.*, 1995). This may be the result of a certain amount of both physical and mental wear and tear on the participants as well as experimenters, especially as the experimenter is expected to be energetic, positive and enthusiastic for every session, and sessions can last anywhere from one up to three or four hours (Honorton, 1992; Morris *et al.*, 1995).

We have already discussed the significance of the sender/receiver relationship, but it appears that the gender of the sender/receiver pairs may also play a role. In post hoc analyses (Dalton, 1994) performed on the ganzfeld data from PRL, as well as the ganzfeld data from the studies of Cunningham (Morris *et al.*, 1993), Dalton (1994), and Schlitz & Honorton (1992), the mixed gender pairings of male receiving and female sending seemed to produce more hits, followed by the mixed gender pairing of female receiving and male sending. The gender pairing that appeared to produce the fewest direct hits was that of male/male. This pattern was also found, in post hoc analyses, in the ganzfeld research of Willin (1996) and Zingrone (1994). There is also supporting evidence for this pattern of gender relationship in social sciences research focusing on problem solving and gender pairings (Anderson & Blanchard, 1982; de Angelis, 1987; Rumerick, Capasso & Hendrick, 1977; Shepard, 1981; Wood, 1987).

Finally, we come to what I feel are the two most important attributes associated with success in the ganzfeld. These are the expectations of success generated by the experimenter, and the social setting in which the ganzfeld takes place. The critical nature of these two items to the success of the ganzfeld is becoming more apparent (Dalton *et al.*, 1994; Honorton, 1992; Schlitz & Honorton, 1992) and will be discussed in some depth here.

Early in the history of parapsychology, Rhine produced several very insightful recommendations about characteristics of psi success. Rhine (1955) felt that exceptional psi performance represented a combination of conditions within and around the subject, conditions that favoured the functioning of psi to an exceptional degree and might only continue for a limited period of time. Schmeidler (Rao, 1982) writes of Rhine's attempts to find conditions conducive to PK and ESP in the person being tested. He felt that these might involve a combination of alertness and detachment, a relaxation of all sensory functions and abstraction from all sense-stimuli, effortless, striving, motivation

(in terms of money, kindness, play or display); self-control, capacity for attention, confidence, patient persistence, effort and voluntary attention, easy informality, tendencies to daydreaming, high imaginativeness, artistic ability, hypnotizability and sociability. The types of things he felt to be psi inhibiting included distraction, fatigue, haste, strain, self-consciousness, an unwelcome change in procedure or inhibiting procedures, doubt/negativism, monotony, and drowsiness. His observations also included a prescription for experimenters for successful elicitation of psi in the lab. This included expressing no doubt; showing playful informality and light humour; encouragement; employing short runs; stopping before participants are tired of the task; not giving extravagant insincere praise; and varying procedures to avoid boredom. In short, the type of approach that makes for effective salesmanship in any area.

The social context in which the ganzfeld takes place makes it unlike the types of experiments that take place in other sciences, say for example, physics. For parapsychological research, it is perhaps more important that we try to understand those kinds of environments, personalities, and social situations that are conducive to the psi process, and less important that this research be built along a physics kind of model.

The nature of the social setting of the ganzfeld creates an intimate situation, and it is likely that various aspects of the testing environment may intensify or mitigate this intimacy. Human beings are vulnerable, particularly so in situations such as the ganzfeld or dream research where their normal anchors to reality are removed (Honorton *et al.*, 1990; Honorton & Ferrari, 1989; Honorton, Ferrari & Bem, 1990). So, unless participants are able to feel safe and comfortable with the experimenter, and unless the experimenter can give them some motivation to be successful in the task they are there to do, there is basically no reason to expect success. Building mutual trust in the ganzfeld, and other kinds of psi research, seems to be crucial to its success

(White, 1977). The participant must be willing to relax and open their mind to impressions, and not be preoccupied with anxiety producing thoughts, such as the idea of being cut off from their normal sensory apparatus, or having what they say be evaluated in some way by the experimenter, or perhaps affecting the experimenter's opinion and good will towards them.

In most experimental situations in parapsychology, participants entering the laboratory generally feel nervous, excited, and may not really know what to expect. In this, I have found, they look to the experimenter for an idea of what to expect from the ganzfeld session. This is the perfect opportunity for the experimenter to set the stage for success, to foster an expectation of success in the task while alleviating any concerns or anxiety the participant may have about the process or the lab situation. Part of this alleviating of concerns or anxieties can be accomplished through conveying a positive attitude on the part of the experimenter about the successful outcome of the session. This includes conveying a sense of excitement and enthusiasm for that task, and support and encouragement for the participant's successful completion of the task. At this point, it is essential that the participant feel that this study, this session, is vitally important. It is advisable that experimenters help participants understand that their contribution is immensely valuable and that their time and involvement in the study is important to the researcher. Participants who do not feel their contribution, or success, in the study is important to the researcher, or who feel that there is little chance in their succeeding, generally live up to these expectations (Honorton, Ramsey & Cabibbo, 1975; Schmeidler, 1988). Thus, a positive attitude concerning successful session outcome, fostering of team spirit, and helping participants to perceive the task as challenging but obtainable is indicated.

Lastly, the fear of psi is an issue that we must all face in psi research. In my own research and in my observations of others, I have seen no better weapon with which to

combat this than humour. A light hearted approach, employing easy and playful informality, seems to be the most successful way to relax the participant and help them be open to accepting success as well as expecting it. This approach also allows the experimenter to perhaps face their own fear of psi, not only in the desire for a successful outcome to the experiment, but also in an absence of resistance to it. Additionally, a team approach helps to dispel the fear of psi by dispersing responsibility for the successful outcome of the session. The ganzfeld is at least partly psychological in nature, with the ritual of the ganzfeld providing the participant with an expectation of success. Thus, the responsibility is no longer on the individual, it has been transferred to the situation. This approach of 'testing the technique rather than the individual' allows participants to avoid being ego-laden with the burden of responsibility or guilt over the successful outcome of the session (Dalton, 1994; Schlitz & Honorton, 1992).

In order to build rapport with participants, and to make them more comfortable with the laboratory environment, parapsychologists employ differing techniques. They may strive to achieve some common ground with participants, by trying to anticipate how participants may feel or think throughout the session, and the types of interpretations that participants may impart to events. Most of us subconsciously observe and assess new people that we meet in order to better communicate with them on a comfortable psychological level. This 'scanning' helps us to assess someone's background, experience and education in order to develop rapport and allow us to 'speak the same language', easing communication of ideas and feelings. By using this technique, by bringing scanning into conscious play with participants, interactions between researchers and participants will be facilitated by increasing psychological comfort and confidence in the technique and in the researchers. In the case of a stereotyped technique, such as the ganzfeld, the technique itself is standardised, but not the message that reaches the person. Scanning allows the researcher to

find the world view and language of each person in order to tailor the details of the experiment in such a way as to make the experiment meaningful to them.

Prior research (Schlitz & Honorton, 1992; Morris *et al.*, 1995) has indicated that an environment of warmth, friendliness and openness helps to convey to the participant a sense of excitement about this research. This sense of excitement can be used to promote the feeling of undertaking a shared adventure, a joint venture with participants into a cutting edge area of science. The chat period before a ganzfeld session is generally used to create a warm, friendly, and open environment within the ganzfeld setting. Since people who come into the laboratory to take part in psi research often have had psi experiences of their own, there may be some anxiety that the researcher, who is often seen as an authority figure on the subject, will view them, or their experiences, as bizarre, crazy or abnormal. While an open and accepting environment does not mean that researchers must, or should, validate whatever experience the participant may have had, it is still important to give them a sense that we recognise that they have experienced something which is meaningful to them. This may be particularly true for ganzfeld research where it is important to help participants put the session's outcome in perspective without an over-interpretation of their experience, allowing them to leave the laboratory feeling positive, yet realistic, about the experience.

Discussion

The variables and observations given here are presented only as guidelines, designed to provide a crude best guess as to optimal characteristics of ganzfeld performance, as shown by recent and past ganzfeld research, and as an informal update to PRL's predictor model (Honorton *et al.*, 1990; Honorton & Schechter, 1987). These findings will either be strengthened or weakened by future ganzfeld studies, and added to or deleted from by further independent replications.

There are other factors for consideration when attempting to outline what may be psi-conducive for the ganzfeld, but which currently do not have sufficient past research support to warrant their inclusion in the foregoing section. I would like briefly to mention a few here. One such factor is that of the relationship of the geomagnetic field to ESP tasks, i.e. psi hitting during times of low geomagnetic activity (Berger & Persinger, 1991; Persinger, 1985, 1989; Persinger & Krippner, 1989; Spottiswoode, 1990). This relationship, low geomagnetic activity and ESP success, is still open to debate, but does have some supporting evidence for ganzfeld-ESP work (Dalton & Stevens, 1996; Radin, McAlpine, & Cunningham, 1994). There are as many camps of reasoning on why this may be so as there are factors that could account for it within the geomagnetic field itself.

The length of the ganzfeld session may also play a role, with the current feeling that sessions that last at least thirty but no more than forty five minutes provide participants with the optimal amount of time to become habituated to the ganzfeld stimulus - thus facilitating psi retrieval - while more time seems to create boredom (Stanford, 1984; Sargent & Matthews, 1982a, Sargent, Bartlett & Moss, 1982).

It has been suggested (Rhine, 1955; Dalton, 1997) that a participant's level of self-confidence also directly influences their ability to perform well in psi tasks. As this variable is particularly difficult to tease out from other participant variables (e.g., sheep/goat effect), research incorporating definitive measures of self-confidence levels is needed to clarify this issue.

It seems clearly indicated that more detailed and systematic refinement of the predictors presented in this paper would be more useful than continued direct replication of the PRL model. As was noted in the conclusion of the 1990 paper on ganzfeld work at PRL (Honorton *et al.*, 1990, p. 136):

Recent psi ganzfeld research has necessarily focused on methodological issues arising from the ganzfeld controversy. It is essential that future

studies comply with the methodological standards agreed upon by researchers and critics. But it is equally imperative that serious attention be given to conditions associated with successful outcomes.

I would like to urge ganzfeld investigators to consider designing studies taking the 'psi-conducive' factors discussed here into account. Actively recruiting participants who conform to as many of the given factors as possible, and striving to incorporate as many of the other 'non-participant' type variables as feasible, may not only enhance the likelihood of successful psi ganzfeld performance, but may also increase our understanding of the psi processes.

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Een succesformule voor Ganzfeld-onderzoek? Voorspelling van psi in Ganzfeld

Samenvatting: Als men wil nagaan welke van de onderzoeker afhankelijke factoren in een Ganzfeld-experiment wellicht een psi-bevorderende invloed kunnen hebben, dan moet men eerst bekijken welke andere factoren die zelfde rol zouden kunnen spelen. Tot die andere factoren behoren fysieke variabelen, eigenschappen van de deelnemers en de sociale aspecten van een Ganzfeld-experiment, maar evengoed de technieken waarmee eerdere onderzoekers erin slaagden de prestaties van hun proefpersonen te verhogen. Dit artikel is gebaseerd op een panel-discussie tijdens de PA Convention 1996, over psi-bevorderende methoden die Ganzfeld-onderzoekers toepassen. De auteur behandelt een analyse van eigenschappen en variabelen waarvan eerder Ganzfeld-onderzoek aantoonde dat ze tot het succes van deze techniek bijdragen.

¿Existe una Fórmula de Éxito en el Ganzfeld? Observaciones sobre Predictores de Psi en el Ganzfeld

Resúmen: Para entender los aparentes factores experimentales que facilitan a psi en el ganzfeld es necesario entender que otros factores también pueden afectar al fenómeno, factores que pueden considerarse 'facilitadores de psi.' Algunos de estos factores son variables físicas, las características de los participantes, y el contexto social del ganzfeld, al igual que las técnicas exitosas usadas por los experimentadores para aumentar el desempeño psi de sus participantes. Este artículo proviene de una mesa redonda sobre prácticas experimentales facilitadoras de psi presentadas durante la convención anual de la Parapsychological Association de 1996 y contiene una exploración de las características y variables mencionadas que la investigación pasada ha señalado que han contribuido al éxito de la técnica ganzfeld.



2 para breaks

Erfolgsrezept für das Ganzfeld? Beobachtungen zur Vorhersagbarkeit von Psi im Ganzfeld

Zusammenfassung: Will man die augenscheinlich psi-fördernde Faktoren seitens des Experimentators in der Ganzfeld-Forschung verstehen, muß man zunächst einmal erkennen, welche anderen möglicherweise 'psi-fördernde' Faktoren eine Rolle spielen können. Zu diesen Faktoren zählen physikalische Variablen, Eigenschaften der Versuchsteilnehmer und das soziale Gepräge des Ganzfelds ebenso wie erfolgreiche Techniken von Versuchsleitern, die dazu dienen, das Leistungsniveau der Teilnehmer zu steigern. Vorliegender Bericht setzt die Überlegungen eines Panels über psi-fördernde Experimentatoren-Verhalten fort, das während der PA Convention 1996 stattfand. Er stellt eine Untersuchung der Charakteristika und Variablen vor, für deren Beitrag zum Erfolg der Ganzfeld- Technik die bisherige Forschung Hinweise gibt.

Esiste una formula per avere successo con il ganzfeld? Osservazioni sulla predittibilità del successo nelle prove psi in ganzfeld

Sommario: Per comprendere quali siano i fattori che in apparenza rendono lo sperimentatore un elemento che agevola la manifestazione della psi nelle prove di ganzfeld, è necessario prima di tutto capire quali altri fattori, potenzialmente favorevoli la psi, possono intervenire. Tra questi ultimi figurano le variabili fisiche, le caratteristiche dei partecipanti all'esperimento e il contesto sociale del ganzfeld, nonché le tecniche positive usate dagli sperimentatori per aumentare il livello di riuscita dei loro soggetti. Questo articolo nasce dalla discussione sulle pratiche che rendono lo sperimentatore un induttore di psi svoltasi nel Congresso 1996 della Parapsychological Association e prende in considerazione le caratteristiche e le variabili indicate dalle passate ricerche con il ganzfeld come elementi che contribuiscono al successo di questa procedura.

PREDICTORS OF PSI-GANZFELD PERFORMANCE

Existe-t-il une formule pour le succès au Ganzfeld? Des observations sur les prédicteurs de la performance Psi/Ganzfeld

Résumé: Afin de comprendre les facteurs liés à l'expérimentateur facilitant apparemment le psi en oeuvre dans la recherche ganzfeld, il est d'abord nécessaire de comprendre quels autres facteurs peuvent aussi se mettre en jeu que l'on pourrait considérer 'psi-conducteurs'. Parmi ces facteurs il y a les variables physiques, les caractéristiques des participants, et le cadre social du ganzfeld, ainsi que des techniques couronnées de succès utilisées par des expérimentateurs afin d'augmenter le niveau de performance de leurs participants. Ce rapport se fonde sur une présentation des pratiques des expérimentateurs psi-conducteurs lors de la convention annuelle 1996 de la parapsychologie, et présente une exploration des caractéristiques et des variables dont la recherche ganzfeld passée a indiqué qu'elles contribuaient au succès de la technique ganzfeld.

Há alguma fórmula para conseguir êxito em ganzfeld? Observações sobre prognósticos de psi/desempenho em ganzfeld

Resumo: Para entender os fatores relacionados ao experimentador que aparentemente contribuem para a ocorrência de psi no trabalho com a pesquisa ganzfeld, é preciso primeiro compreender que outros fatores também estão em jogo e podem ser considerados psi-conducentes. Esses fatores incluem as variáveis físicas, as características dos participantes e o contexto social do ganzfeld, assim como as prósperas técnicas utilizadas pelos experimentadores para realçar o nível de atuação do emissor e do receptor. Este relatório baseia-se no painel sobre as práticas do experimentador psi-conducente apresentado na convenção anual de Parapsicologia realizada em 1996. Explora as características e as variáveis indicadas pela pesquisa ganzfeld feita anteriormente a fim de contribuir para o sucesso dessa técnica.

Psi-Conductive Experimenters and Psi-Permissive Ones

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Abstract: Some experimenters whose research is properly rigorous usually find significant evidence of psi; other experimenters usually find nonsignificance. Either of two explanations (not mutually exclusive) can account for this difference. One explanation is the psychological experimenter effect. Experimenters can, by tone of voice and other nonverbal cues, create a warm experimental climate in which subjects are at ease, interested, cooperative. This mood permits subjects to feel free and work well. Since psi is a natural ability, they are likely to show psi. Other experimenters, by tone of voice and other nonverbal cues, create a cold climate with expectation of failure. Their subjects feel inhibited and are unlikely to show psi. The other explanation is that an experimenter gifted in ESP or PK can temporarily transfer the ability to subjects, who then make high scores. These experimenters are psi-conductive; those who create a warm climate are merely psi-permissive.

Psi-conductive experimenters who hope to support an invalid hypothesis could conduce high scores that apparently confirm the hypothesis. They thus can threaten the orderly accumulation of scientific knowledge. The discussion proposes methods of damage control and suggests some research with the psi-conductive that might lead to understanding psi-inhibitory experimenters.

Some experimenters, using well-controlled methods, rather consistently find significant ESP or PK data that support a plausible hypothesis. Other experimenters who apparently use the same method rather consistently find data that are nonsignificant. It has become customary to call the former psi-conductive and the latter psi-inhibitory. The terms describe the experimenter's past results. They also have some predictive value because in general, though not invariably (and the exceptions are interesting) experimenters labeled psi-conductive continue to find significant data in well-controlled research, and those labeled psi-inhibitory continue to find nonsignificance.

What causes the difference between experimenters? Two major hypotheses have been proposed. (There are also many frivolous hypotheses, such as attributing all such observed differences to a capricious demon who intervenes in human affairs, or to the kind of bizarre coincidence that

Eddington suggested could make a pot of water freeze when a flame was lit under it, or to fraud.) One hypothesis is that the difference is an example of what is called in psychology the experimenter effect. Research has found that factors not mentioned in the formal protocol, such as the experimenter's tone of voice and other nonverbal behaviour, influence subjects' responses either positively or negatively. The experimenter effect thus suggests that some experimenters habitually use nonverbal cues that influence subjects favorably; other experimenters do the opposite. The second hypothesis is that the experimenter uses psi to make the subjects respond as desired. Clearly, the second hypothesis does not exclude the first. An experimenter who uses psi to make subjects respond as desired may also create a warm experimental climate.

This paper will defend and discuss both of the major hypotheses. It will also suggest

a change in our vocabulary: that we reserve the term psi-conductive for experimenters who seem to use psi to influence outcomes. We would then apply some milder term, like non-inhibitory or psi-permissive, to experimenters whose significant results seem instead to have been helped only by the warm climate of the usual psychological experimenter effect.

The Classical Experimenter Effect

It has long been laboratory lore that even when a finding seems well supported, some experimenters obtain null results when they test for it; and conversely, that even when some test has been found invalid, it gives valid results when administered by its inventor. Though generally recognized, these curious observations seldom were noted in publications. They would imply that colleagues made some kind of mistake; they would be tactless. They were treated almost as taboo. Rosenthal (1966) broke the taboo by giving a name, the experimenter effect, to the systematic differences; by performing brilliant research on them; and by compiling and analyzing his own research and that of others. Later (Rosenthal & Rosnow, 1984) he showed how well they fit into other research findings.

The clearest demonstrations of the experimenter effect came from meta-experiments that compared one set of experiments with another. All followed the same formal protocol, but preliminary remarks to half the experimenters would make them expect their subjects to fail and remarks to the other half would make them expect their subjects to succeed. In one striking case, all were told that the rats they were testing had been bred for ability. Half were told their rats were exceptionally bright and would run mazes well; the other half that their rats had been bred for poor performance and were stupid. In fact, all rats were from the same strain, and yet those labeled bright ran the mazes far better than those labeled stupid. Observation of the experimenters showed the reason. All had properly used the same formal proce-

dure, but there was an informal difference. Those who believed their rats were superior lifted them gently from their home cages, often fondled them on the way to the maze, and put them down gently, while those who believed their rats were stupid handled them more roughly. The rats had responded to the differences in handling, yet the handling of rats outside of their mazes is not ordinarily specified in the experimental method. Similar meta-experiments with humans as subjects yielded similar results. When some experimenters were told their subjects were inferior and likely to perform badly and others were told their subjects were superior and likely to perform well, all experimenters correctly used the same formal procedure but their nonverbal behaviour differed. Frequent or infrequent smiling and eye contact, body stance that leaned toward or away from the subject, leisurely or impatient speech or movement patterns, and so on, created a warm or a cold experimental atmosphere. Not surprisingly, this experimental climate influenced how the subjects performed. With a warm experimental atmosphere, and especially when experimenters expected them to succeed, subjects' scores were higher than in a cold experimental atmosphere, when the experimenter expected them to fail.

In the careful research that established the experimenter effect, verbal instructions and setting were identical for the contrasting conditions. Each, however, can be a key factor. It seems obvious that two sets of instructions that give the same information can, with different wording, convey warmth or coldness, and indicate high or low expectation of success. Setting can be important too. In two well known series of experiments, for example, both examined the same response, a response that was affected by anxiety. Each series obtained clear results, but their results were contradictory. Null data were consistently found when the tests were administered by a white-coated experimenter in a medical building with cases of medical instruments prominently displayed; positive results were consistently found when the tests

were administered by a casually dressed experimenter in a familiar college building. The medical setting apparently produced enough anxiety to disrupt the expected response; the familiar setting did not. What is noteworthy is that an experienced experimenter had selected the medical setting for his own convenience, neglecting how the subjects might respond to it.

After research had established that the experimenter effect occurs, ESP research tested for it. Experimenters deliberately manipulated the pleasantness or unpleasantness of the experimental atmosphere and a high or low expectation of success. Each variable, and especially both combined, had the predicted effect on ESP scores (see, e.g., Crandall, 1985; Honorton, Ramsey, & Cabibbo, 1975; Taddonio, 1975 and 1976). But years before Rosenthal gave the experimenter effect its name, ESP research had stumbled across it. One early experiment will be cited here, to exemplify a point mentioned earlier: that an experimenter sometimes shifts between being conducive and inhibitory. Someone who can usually set up a warm experimental climate may inadvertently find that with a different kind of subject, he has produced a cold one.

Pratt & Price (1938) designed research to study sex differences in children. Pratt was a quiet, careful, methodical young man; Price was a charming, friendly, outgoing young woman. Pratt tested boys; Price used the same procedure to test girls from the same institution. When they found that girls had significantly high scores but boys did not, they modified their design. In their new series, both tested equal numbers of boys and girls. Each also acted as the other's research assistant, so that they constantly monitored the procedure and made sure that it stayed uniform. The results were clear. The difference between boys' and girls' scores was now negligible, but Price's subjects again had significantly high ESP scores, and Pratt's subjects did not.

Their interpretation of the findings was that Price's manner, and her friendly conversation with subjects on their way to the experimental room, accounted for the dif-

ference in results. Should they have considered the possibility that Pratt was a psi-inhibitory experimenter? Perhaps it would have been appropriate if this had been the first experiment he conducted, but it was inappropriate here. His previous experiments had found high ESP scores when he worked with friends or with others of about his age. Even stronger refutation of the possibility came later, in the extraordinarily significant scores he obtained over ten years of research with a gifted subject, Pavel Stepanek (Pratt, 1973). Stepanek was a shy man, of approximately Pratt's age, who clearly enjoyed their association. It also seems relevant that Stepanek was a pharmacist. To a pharmacist, Pratt's punctilious correctness and careful adherence to protocol would seem congenial and be worth respect. It would produce a warm experimental climate, although to others like the young boys of the Pratt & Price series, the same correctness and care might well produce a cold one.

The conclusion suggested by Pratt's diverse results is that what seems cold and off-putting to one person may seem agreeably warm to another. It is what 'everyone knows.' We greet a friend differently from the way we greet the friend's baby or from the way we greet some authority figure with whom we are only slightly acquainted. Psychological research designed to test for such factors has found that not only the manner of an experimenter but also the sex and the age, the style of dress, and the apparent earnestness can influence how subjects respond to the experimenter's instructions. Some subjects would respond warmly, and others coldly, to a young experimenter wearing sloppy clothes who gave instructions in a casual, breezy manner.

Indeed, the whole principle underlying the experimenter effect is consistent with common sense. Most of us, especially in an unfamiliar testing situation, will feel constrained with a person who seems unfriendly and discouraging, will pull into ourselves, and will do less than our best. And most of us will work more freely and thus more effectively with someone who

seems friendly and whose manner implies that what is asked of us is likely to go well. The principle, of course, extends beyond the laboratory and it has broad social implications. Research in the schoolroom, for example, has found that children whose teachers expected them to succeed not only had higher achievement scores but also scored higher on intelligence tests than comparable school children whose teachers expected them to fail.

These general principles are sometimes hard to apply in specific cases. Consider the recommendation that a leisurely chat before the formal experiment, accompanied by light refreshments, will help produce a warm experimental atmosphere in which subjects feel cooperative. This is usually good advice, but it would have been counterproductive in the subway college where I taught. Volunteers among its students, many holding part or full time jobs, were kind enough to give an hour of their tightly scheduled time to act in my research. Most would have resented spending fifteen or thirty minutes in prolonged small talk, and they would have thought it bizarre for me to serve refreshments. Or consider that having one's chair close to the subjects and leaning forward rather than away will usually imply friendliness. To certain individuals, however, (or to anyone when the distance is too small) an experimenter's physical closeness impinges upon one's private body space and implies that the experimenter is dominating and hostile. Similar cautions apply to almost every recommendation, such as frequent smiling or eye contact. Either can seem unnatural and oppressive if carried to an extreme. Here is one further example. Indicating that a task is within a subject's capabilities is encouraging, but it also when carried to an extreme can create an unfavourable impression. It can imply that the task is trivially easy and not challenging enough to deserve effort.

There may be some ironclad rules for avoiding an unfavourable experimenter effect, such as being on time for appointments and having an orderly presentation of research materials, but most of the rec-

ommendations for producing the desired experimenter effect carry no single best way to apply them.

I will add, though it may seem out of place in a general discussion, my suggestion to a novice experimenter who wants to produce both a warm experimental atmosphere and an expectation of success that hits the right balance of encouragement and challenge. It is a one-word suggestion: Pretest. Ask your friends to act as trial subjects, and find from them how they think a stranger would respond to what you did. Modify those parts of your method that seemed to create the wrong impression, and pretest again, with different friends. When you think you are ready, begin the formal procedure but use the debriefing period (after testing is completed) to ask each subject about the impressions you created. If what they tell you shows you created impressions different from what you had hoped, scrap your preliminary data, modify your procedure, and start again.

To return to general discussion: the classical psychological experimenter effect is clearly consistent with parapsychology's best established findings about personality and attitude. A cold experimental climate is likely to make subjects feel defensive and a warm one is likely to make them feel more open; and meta-analysis of defensiveness vs. openness shows lower ESP scores with defensiveness (Watt, 1994). Expectation of success is by definition higher among sheep than among goats, and meta-analysis shows sheep to have higher ESP scores (Lawrence, 1993). Psychological research on extraversion gives us two more relevant findings. Group testing is likely to seem a warm environment to extraverts, but a cold one, compared to one-on-one tests, to introverts; and extraverts' group ESP scores have typically been found higher than introverts' (see, e.g., Palmer, 1978). Extraverts are likely (unless instructions are especially challenging) to feel that forced-choice responses are cold and uninteresting but they usually enjoy free responses. Meta-analysis showed high ESP scores for extraverts with free response but not with

forced choice (Honorton *et al.* 1990). These and other lines of research converge on the thesis that psi is a natural ability and that, like other abilities, it can be inhibited by a cold experimental climate or expectation of failure, and by uncongenial requirements. Conversely, better psi scores, like better scores for other abilities, are likely to appear in a warm experimental climate, under conditions that the subjects find pleasant, and when subjects have some expectation of success. Some experimenters habitually try, often by the use of extensive pretests, to set up favourable conditions, and they often find significant and meaningful patterns of psi success. Other experimenters do not make the same effort, and (since formal tests are likely in themselves to be inhibitory) those experimenters often find null results. It is as if the 'warm' experimenters try to put their subjects at ease and thus encourage them to respond naturally, in the way that permits them to use their own capacities more fully; the 'cold' ones do not. To call the former 'psi-conducive' implies that their efforts controlled psi and brought it forth, but what they do seems rather aimed at not inhibiting it. I therefore suggest that we describe them as making effective use of the experimenter effect or if that is too long a phrase for convenience, that we describe them with some other mild term, like non-inhibitory, or psi-permissive.

The Experimenter's Psi as an Influence on the Subject

Can someone, by psi, influence someone else? The answer is a clear Yes. Strong evidence from research and dramatic reports about gifted subjects show that psi can influence not only thought content and mood (the usual two topics of telepathy) but also behaviour and physiological processes. Although each of the four deserves a full scale review, I will limit myself to single samples of the supporting material and move quickly to a fifth area relevant here, use of psychic ability.

For thought content, a well controlled experiment by McMahan (1946) used random, shielded targets that consisted

only of her thoughts. There was no objective record of the targets, so that clairvoyance was ruled out, and yet her subjects' thoughts corresponded significantly with her own. For mood, Kreidler & Kreidler (1982, 1984) found in meticulously double blind research that schoolboys showed more anger when their schoolmates were angry than when the schoolmates were not. For behaviour, the brilliant reflexologist Bechterev reported that while he was hidden from them and a blind assistant recorded their behaviour, dogs obeyed his mental commands (Vasiliev, 1963). For body processes, careful research by Wirth (1990) found faster healing of surgical wounds when a concealed healer hoped for it than when no healer was involved.

To this wide range of psi effects, another must be added. Psi ability can also be influenced by someone else's psi. Accounts of suddenly enhanced PK or ESP, often mediated by touch, abound in folklore and the lives of the saints. Reports of gifted psychics sometimes show it. An early one, attested by many witnesses, is that D.D. Home could not only hold a burning coal without hurting his hand but could transfer this ability, temporarily, to another person (Crookes, 1874). Since then, many reports have described how different psychics have transferred various abilities. A recent account by Vilenskaya, for example, tells of testing one of the psychics who made objects stick to their skin. The psychic did this with objects Vilenskaya had brought and the psychic had not touched. Vilenskaya then found that while she was there she herself could do so too, with coins the psychic had not touched, but that she lost the ability when she left and did not regain it (Vilenskaya, 1995).

The cases argue that psi ability (whatever it is) can be transferred from one person to another for a limited period. This means, for the specifics that concern us here, that an experimenter who is gifted in ESP or PK may be able to transfer ESP or PK ability to subjects, so that they score high. If so, we should accept as corollaries that a gifted experimenter (or sender) can keep the

subjects from using their psi (Braud, 1985) or can make them use their psi for misses rather than hits. Many experiments support the argument and its corollaries, but I will cite only two.

On the heels of the well-known Pratt & Price research (above) that shows the psychological experimenter effect, came another comparison of two experimenters that had equally clear results but is almost forgotten. MacFarland (1938) reports that his previous ESP researches had found high scores, but a colleague's had not. In a new experiment, MacFarland and his colleague tried simultaneously to act as senders, each with his own set of targets, while subjects made a single set of ESP calls. The senders sat side by side in a room two floors from the subjects' room, with no normal communication from sender to subject during the sessions. They used two procedures. In one, each sender looked at his successive targets and tried to send them; in the other each sender merely held his unopened target deck. When subjects' ESP calls were scored against MacFarland's targets, the scores were significantly high in each of the two procedures; when the calls were scored against the other man's, scores were at chance for each procedure. This cannot be interpreted as the classical experimenter effect because of the absence of either verbal or nonverbal cues. Its results need a less conventional, more radical theory.

What is perhaps the most striking demonstration of the same effect was reported by West and Fisk (1953). West had previously been finding null ESP scores; Fisk had been finding high ones. The two did a joint experiment where experimental materials were mailed to subjects, and the subjects responded by mail. Subjects to whom West mailed materials had null ESP scores; those to whom Fisk mailed them had high ones. When Fisk did all the mailing but half the targets had been prepared by West from a random number table and half by Fisk using the same method and the same table, subjects had null scores on the targets West prepared but high scores on the targets Fisk prepared.

Results like these occurred often enough to be given labels. 'Psi-conductive' was used to denote experimenters like MacFarland and Fisk, and 'psi-inhibitory' for experimenters like MacFarland's colleague and West. Psi-conductive is a strong term, with connotations of an active process. It seems appropriate for results like those MacFarland and Fisk produced, and in my opinion it should be used only for similar effects.

Though the term psi-conductive has become familiar, it is shocking to work through its implications. It must make us question the validity of any conclusions from a psi-conductive experimenter's data. Suppose, for example, that a psi-conductive experimenter thinks some condition, let's say a large target, makes for high psi scores. He runs tests with large targets and his subjects score high. Do his data show that large targets are favourable for psi? Not necessarily. He may merely have brought forth or conducted the high scores that he wanted. Replication in different laboratories will not resolve the issue. Successful replications may mean only that several psi-conductive experimenters in different locations all hoped the hypothesis would be supported. Nor can the question be answered by introducing the usual control condition, a comparison of large targets with small ones, because a psi-conductive experimenter might influence subjects to produce null or negative scores in the control condition. This line of reasoning must make research workers wonder if all our efforts and our attempts at rigor when we conduct an experiment yield meaningless findings that invalidly support whatever bias we hold. More broadly, it casts doubt on a large body of research. The accumulating data that have been so gratifying to process-oriented theorists, the successful replications and the converging results when the same concept was studied by different methods, all now become suspect. When experimenters can be psi-conductive in this strong sense of the word, it threatens the scientific enterprise of parapsychology and its body of knowledge.

But like it or not, the fact remains that some experimenters are psi-conductive. We must confront it; we must consider the issues it raises. I will address at some length the problem of damage control, then mention other questions that may have constructive outcomes. Not every experimenter is psi-conductive. When must the possibility of a psi-conductive effect be taken seriously, and when is it so remote that it can safely be disregarded? On the assumption that only those with exceptionally strong psi can be psi-conductive, three avenues of inquiry open. (1) When the experimenter acted as a subject in psi experiments, how did he or she score? (2) If the experimenter conducted other research, what scores were obtained? (3) What spontaneous experiences has the experimenter had?

We can expect a psi-conductive experimenter acting as a subject to make unusually high scores (or unusually low ones if the research was disliked). Acting as experimenter, we can similarly expect significant outcomes. And there is at least an informal norm for spontaneous experiences. When asked about them, most subjects report having had some, or suspecting that perhaps they did so, and the reports usually fall into a few familiar categories like a vague premonition of good or bad news or occasionally, when the telephone rings, knowing who is on the other side of the line. It is also not infrequent for a subject to report one or a very few experiences that are more striking, such as a dream that anticipates the death of a loved person. We can expect a psi-conductive experimenter to have had more frequent and more striking experiences.

For me, running through this short checklist is reassuring. In my early days as a subject, my scores on ESP cards were so-so: an average that hovered just below 5.2 where 5 is expected by chance. Though I made one hit in Honorton's laboratory, it must be corrected for selection; it was preceded by failures. On spontaneous experiences: some time ago I tried for another purpose to compile mine, and the list was a meagre one. As for my record of research, there were indeed a good many cases of

supporting the hypotheses I tested, though in the sheep-goat replications the successful series were interspersed with null series (see Schmeidler & McConnell, 1958, p.47). In later work it often was necessary for me to modify my procedure again and again before finding the results I had anticipated (e.g. Schmeidler, 1961; Schmeidler, 1983; Schmeidler, 1985) and this is consistent with my slowly achieving clearer instructions and conditions that the subjects found more acceptable; it is consistent with the classical experimenter effect. Further, one set of experiments was a real disappointment to me. My hypothesis was that ESP finds its target by successive approximations, homing in on it as more information becomes available. Three formal series were devoted to testing this hypothesis (Schmeidler, 1968; Schmeidler & Lewis, 1968; Schmeidler & Lewis, 1969). Each series showed psi occurring in one or another unexpected way, which implies that the experimental climate was warm enough, but not one series, or even the three combined, gave any support to my hypothesis. This leads me to a conclusion that pleases me but that you may discount as self-serving. The conclusion is that I could find affirmative data only when examining a hypothesis that deserved affirmation.

One method of damage control, then, is using data from experimenters who are not psi-conductive. Others will depend on the limits of experimenter-conducted psi. Once those limits are learned, they can be built into the research design. Suppose we find, for instance, that a psi-conductive experimenter is not effective at one remove. In that case others can conduct the actual testing of his or her hypotheses (and in exchange he or she could run tests, blind, for the hypotheses of those other experimenters). If psi-conductive effects are only short-term, the latter data of prolonged sessions would be usable; given other limits, other designs can be used. There may also be many other methods of damage control. One that is sometimes practical is to test a hypothesis by using data from research that had been conducted for another

purpose, in ignorance of the hypothesis now being studied.

It is time to turn to different issues. A key question asks: What characterises the psi-conductive? This is a variant of an old question that has not yet been answered, about the causes and concomitants of psychic ability. Psi-conductive experimenters might provide parapsychology with its most useful opening wedge here, because they are highly intelligent participants who are already deeply interested in the inquiry. My impression is that they all tend to be open, enthusiastic, and concerned with others; but these general traits are not unique to the psi-conductive. If, however, they discuss with each other what they have in common, their insights may uncover some special facts in their life histories, or some body characteristics, or personality quirks, or even some pattern of brain function that would not occur to an outsider. Follow-up research might then find that any such commonality is a key factor, or one of the key factors, in strong psychic ability. Discussion among the psi-conductive would also identify how they differ from each other, and a difference would indicate that that particular characteristic is not, by itself, a necessary constituent of strong psychic ability.

The same general approach should, of course, be made with the other group that seems to have an unusual effect upon psi scores: those who are called psi-inhibitory. Inquiry may find that some have been producing a cold experimental climate and thus discouraged the openness that is so helpful for psi success, as it is for success with other abilities. But there may be some who are the counterparts of the psi-conductive, and who during experimentation inhibit their subjects' psi. They would be truly psi-inhibitory rather than psi-discouraging. If the research with the psi-conductive is productive and some special commonality found among them, it would not surprise me to find that the psi-inhibitory have the same characteristic — but that in them it is accompanied by a deep reserve instead of by the openness that the psi-conductive seem to show. The control group

for studying the psi-conductive is not the psi-inhibitory; it is the part of the population that has shown no unusual psi ability.

The basic question raised by psi-conduciveness is, of course, what happens when it occurs? Only four possibilities have occurred to me. All four are vague and unsatisfactory. I can think of no experimental test for most of them, but mention them briefly here in the hope that others will take them as a point of departure and find a better answer. One is that the experimenter sets up a field within which the psi process functions more readily. (But what is 'a field'? How is it set up?) Another is that a psi field exists and a psi-conductive experimenter can provide a bridge to it or can conduce others to gain access to it. A third is that the experimenter somehow acts upon the targets to make them more accessible to psi. (This is testable by having others, not the previously designated subjects, work with the same targets.) The fourth is that the experimenter uses upon the subjects the sort of process that must be postulated for psychic healing, either by directly influencing their responses (which seems unlikely when they are calling separate sets of shielded targets) or by creating in them the mood which makes psi success more likely.

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Onderzoekers die psi bevorderen versus onderzoekers die psi toelaten

Samenvatting: Sommige onderzoekers vinden in goed opgezet onderzoek regelmatig significant bewijs voor psi, terwijl andere geen significante effecten meten. Daarvoor zijn twee verklaringen mogelijk (die elkaar niet wederzijds uitsluiten). De eerste is een psychologisch experimentatoreffect. Een experimentator kan door de intonatie van zijn stem en andere nonverbale aanwijzingen een prettige onderzoekssituatie oproepen, waarin de proefpersonen op hun gemak, geïnteresseerd en welwillend zijn, zich vrij voelen en hun taak goed doen. Omdat psi een natuurlijke vaardigheid is, is de waarschijnlijkheid groot dat het zal optreden. Daartegenover staat de onderzoeker die op dezelfde wijze een killere situatie oproept, waarin de proefpersoon minder hoop op succes krijgt en de kans op het optreden van psi daalt. Een tweede verklaring is dat de experimentator zijn eigen ESP- of PK-vermogens tijdelijk aan proefpersonen overdraagt, die vervolgens hoge scores behalen. Dit zijn de psi-bevorderende onderzoekers. Zij die alleen een aantrekkelijke omgeving creëren, doen niet meer dan psi toelaten. Psi-bevorderende onderzoekers die een onjuiste hypothese hopen te bevestigen kunnen door hun gedrag resultaten oproepen die die hypothese lijken te bevestigen. Zij bedreigen zo de uitbreiding van wetenschappelijk verantwoord vergaarde kennis. Dit artikel bespreekt methoden die dit gevaar bestrijden en doet aanbevelingen voor onderzoek naar psi-bevorderende factoren, die meer inzicht kunnen geven in experimentatoren die psi belemmeren.

Experimentadores que Facilitan Psi y que Permiten la Ocurrencia de Psi

Resúmen: Algunos experimentadores cuya investigación es rigurosa usualmente encuentran evidencia significativa de psi; otros experimentadores usualmente obtienen resultados que no son significativos. Cualquiera de las siguientes dos explicaciones (las cuales no se excluyen entre sí) pueden explicar esta situación. Una es el efecto psicológico de los experimentadores. Los experimentadores pueden crear un contexto experimental amigable en el cual los sujetos se sienten cómodos, interesados y cooperativos a través del tono de su voz y de otros factores no verbales. Esta disposición de ánimo permite a los sujetos un sentimiento de libertad y los ayuda a trabajar bien. Debido a que psi es una habilidad natural lo más probable es que ellos muestren psi. Otros experimentadores crean un contexto frío con expectativas de fracaso a través de su tono de voz y de otros factores no verbales. Sus sujetos se sienten inhibidos y es poco probable que muestren psi.

La otra explicación es que un experimentador dotado de percepción extrasensorial y de psicokinesia puede transferir temporariamente la habilidad a los sujetos, quienes entonces obtienen altas puntuaciones. Estos experimentadores son facilitadores de psi; los que crean un ambiente amigable son meramente tolerantes de psi. Los experimentadores que facilitan psi y que esperan obtener apoyo de una hipótesis no validada podrían facilitar altas puntuaciones que aparentemente confirman la hipótesis. Ellos pueden amenazar la acumulación sistemática de conocimiento científico. En la discusión se proponen métodos para controlar este problema y se hacen sugerencias sobre investigaciones con aspectos que facilitan a psi que pueden ayudarnos a entender a los experimentadores que inhiben a psi.

Psi-fördernde und psi-zulassende Experimentatoren

Zusammenfassung: Einige methodisch rigoros arbeitende Versuchsleiter finden in der Regel signifikante Beweise für Psi; dagegen erhalten andere gewöhnlich nichtsignifikante Resultate. Dafür kann es zwei (sich wechselseitig nicht ausschließende) Erklärungen geben. Die eine ist ein psychologischer Versuchsleitereffekt. Experimentatoren können mithilfe ihrer Stimme oder anderer nonverbaler Signale ein warmherziges Versuchsklima schaffen, in dem sich die Versuchspersonen wohlfühlen, interessiert und kooperativ sind. In dieser Stimmung fühlen die Probanden sich frei und arbeiten gut mit. Da Psi eine natürliche Fähigkeit ist, werden sie diese

Fähigkeit wahrscheinlich zeigen. Andere Experimentatoren erzeugen dagegen, wiederum mithilfe ihrer Stimme oder anderer nonverbaler Signale, ein kühles Klima, das Mißerfolge erwarten läßt. Ihre Versuchspersonen fühlen sich gehemmt, und es ist unwahrscheinlich, daß sie Psi zeigen.

Die andere Erklärung lautet, daß ein ASW- oder PK-begabter Experimentator seine Fähigkeiten zeitweilig auf seine Probanden übertragen kann, die dann gute Testergebnisse erzielen. Letztgenannte Experimentatoren sind psi-fördernd, jene, die ein warmes Klima schaffen, sind lediglich psi-zulassend. Psi-fördernde Experimentatoren, die hoffen, eine nicht stichhaltige Hypothese zu retten, könnten hohe Testresultate herbeiführen, die vermeintlich ihre Hypothese stützen. Sie könnten so den wissenschaftlichen Wissenszuwachs gefährden. Die vorliegende Diskussion schlägt Methoden zur Schadenskontrolle vor und regt Forschungen mit psi-fördernden Experimentatoren vor, die zu einem besseren Verständnis ihrer psi-hemmender Kollegen führen könnten.

Sperimentatori psi-favorenti e psi-permissivi

Sommario: Alcuni sperimentatori che compiono indagini in maniera correttamente rigorosa in genere trovano significative indicazioni di psi; altri invece di solito non ottengono niente di significativo. Due spiegazioni (non reciprocamente esclusive) possono render conto di questo dato. Una consiste nell'effetto-sperimentatore di natura psicologica. Con il tono della voce o con altre indicazioni non-verbali gli sperimentatori possono creare un'atmosfera sperimentale calda nella quale i soggetti sono a proprio agio, interessati e collaborativi. Questo stato d'animo permette loro di sentirsi liberi e di lavorare bene. Poiché la psi è una dote naturale, è probabile che in questo modo possano dimostrarla. Con il tono della voce o con differenti indicazioni non-verbali, altri sperimentatori creano invece un'atmosfera fredda, dalla quale c'è da aspettarsi un insuccesso. I loro soggetti si sentono inibiti ed è poco probabile che manifestino la psi.

La seconda spiegazione è che uno sperimentatore con doti ESP o PK può temporaneamente trasferire queste abilità ai suoi soggetti, che ottengono allora punteggi elevati. Questi sperimentatori sono psi-favorenti; quelli che creano un'atmosfera calda sono solo psi-permissivi. Gli sperimentatori psi-favorenti impegnati a dimostrare un'ipotesi non valida potrebbero provocare punteggi elevati in apparente conferma di quell'ipotesi; essi possono perciò rappresentare una minaccia per l'ordinato accumulo delle conoscenze scientifiche. La discussione propone alcuni metodi per circoscrivere questo rischio e suggerisce qualche ricerca con sperimentatori psi-favorenti che potrebbe portare a comprendere quelli che invece inibiscono la psi.

Les expérimentateurs psi-conducteurs et ceux psi-permissifs

Résumé: Certains expérimentateurs dont la recherche est rigoureuse comme il le faut, trouvent habituellement une évidence significative de psi; d'autres expérimentateurs ne trouvent habituellement pas d'évidence significative. Deux explications (non exclusives mutuellement) peuvent rendre compte de cela. Une est l'effet expérimentateur psychologique. Les expérimentateurs peuvent, par le ton dans leur voix et d'autres indices non-verbaux, créer un climat expérimental chaleureux où les sujets sont à leur aise, intéressés, coopératifs. Cette humeur permet aux sujets de se sentir libres et de bien travailler. Etant donné que le psi est une aptitude naturelle, ils en montreront probablement. D'autres expérimentateurs, par le ton de voix et d'autres indices non-verbaux, créent un climat froid avec l'attente d'un échec. Leurs sujets se sentent inhibés et ne montreront probablement pas de psi.

L'autre explication est qu'un expérimentateur doué d'ESP ou PK peut transférer temporairement son aptitude à ses sujets, qui alors ont des scores élevés. Ces expérimentateurs sont psi-conducteurs; ceux qui créent un climat chaleureux sont simplement psi-permissifs. Les expérimentateurs psi-conducteurs qui espèrent soutenir une hypothèse non-valide pourraient

conduire à des scores élevés qui confirment apparemment l'hypothèse. Il peuvent donc menacer l'accumulation ordonnée de la connaissance scientifique. La discussion propose des méthodes de contrôle des dommages et suggère une recherche avec les psi-conducteurs, qui conduirait à la compréhension des expérimentateurs psi-inhibiteurs.

Experimentadores psi-conducentes e psi-permissivos

Resumo: Alguns pesquisadores, cuja pesquisa é extremamente rigorosa, em geral encontram evidências significativas de psi; outros pesquisadores comumente não encontram dados significativos. Qualquer uma das duas explicações para esses fatos (que não se excluem mutuamente) podem dar conta disso. Uma é o efeito psicológico do experimentador. Os experimentadores podem, pelo tom de voz e outras pistas não-verbais, criar um clima experimental caloroso que faz com que os sujeitos fiquem tranquilos, interessados e cooperativos. Isto permite que os sujeitos se sintam livres e trabalhem bem. Uma vez que psi é uma habilidade natural, provavelmente eles demonstrarão psi. Outros experimentadores, através do tom de voz e de sinais não-verbais, criam um clima frio, com expectativas de fracasso. Os sujeitos se sentem inibidos e provavelmente não demonstrarão psi.

A outra explicação é que um experimentador dotado de ESP ou PK pode temporariamente transferir essa habilidade aos sujeitos, que então atingem resultados elevados. Esses experimentadores são psi-conducentes; aqueles que criam um clima caloroso são meramente psi-permissivos. Os experimentadores psi-conducentes que desejam corroborar uma hipótese inválida poderiam contribuir para pontuações elevadas que aparentemente confirmariam a hipótese. Assim, eles podem ameaçar a acumulação ordenada de conhecimento científico. A discussão propõe métodos de controle de danos e sugere pesquisas com psi-conducentes que podem levar a compreender experimentadores psi-inibidores.

Psi-Conductive Protocols

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We believe that trust and openness among the participants in the experiment are essential to the process that elicits reliable psi. It is important for the researchers to bring both their passion for understanding psi, as well as their intellectual abilities, to bear on the experiments they carry out. Based on our experience, we offer the following suggestions and reservations to anyone wishing to carry out remote viewing or any other psi experiment.

Proposed Guidelines for Remote Viewing

- Use viewers who are open to and even excited about the prospect of psychic experiences
 - Pay attention to each viewer by giving consideration to his or her mental state at the time of the experiment
 - Provide trial-by-trial feedback of only the correct target, and do it as soon as feasible
 - Create trust by full disclosure, and no hidden agendas
 - Psi is a partnership, not a master/slave relationship
 - Seriousness of purpose provides motivation both to the viewer and the experimenter
 - Targets should be physically and emotionally attractive, and uniquely different. No tarantulas for those who don't want to experience them
 - Do not create large target pools. Have 2 to 4 items at most
 - Take enough time to achieve rapport, plus 10 to 30 minutes for each trial. One trial per day is plenty. One trial per week is better, to maintain seriousness of purpose

- Practice allows viewers the opportunity to recognise mental noise and separate it from the psi signal.

It is possibly because of its humanistic approach, which emphasizes rapport, that the remote viewing protocol appears to be the most reliable (with the largest effect size) of the various parapsychological paradigms being examined today. Cooperative efforts and the maintenance of rapport among experimenters is paramount through the experimental psi process. When necessary, all involved in the experiment should take the time to debrief discordant moods of participants in an honest and intimate fashion, and through it all, an enduring community of spirit should prevail.

We believe that such commonality of purpose and mutual trust are essential prerequisites for the appearance of psi. Such agreement and coherence among individuals is often difficult to achieve and maintain. Fear of psi often results from fear of uncontrolled intimacy.

When doing remote viewing, our consciousness becomes liberated in space and time, and is directed by our intention to acquire or access some information. Such liberation from self-consciousness can also be attained whenever people surrender their individual identities and join their minds together, focusing their attention on creating a common goal. The trust and rapport that we have been talking about can then be quickly achieved.¹

¹ This contribution is an abstract of Russell Targ's panel presentation. For further information please contact either Russell Targ or Jane Katra at: Bay Research, 1010 Harriet Street, Palo Alto, California, 94301, USA, or by email at: targ@LMSC.lockheed.com or radiant@pacbell.net

Suggestions for Exploring and Recording the Inscape of Psi Researchers

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Abstract: This article was initially addressed to newcomers to parapsychology, but much of it could apply to seasoned investigators also. Suggestions are based on the author's 43 years of experience in parapsychology, graduate studies in sociology, and what she has learned from studying the broad class of exceptional human experience. The suggestions are presented under 11 headings: Beginner's Log; Deciding What to Investigate; A Note on Methodology; The Participants; Concomitants of Experiments/Experiences; A Sense of Process; Interpersonal Dynamics; Participant Logs; The Investigator Log Again; The Report of the Investigation; and Possible By-Products of Maintaining a Log. The majority of the suggestions are in line with a more qualitative approach to supplement parapsychological investigations. Some key handbooks of qualitative methodology are cited.

Prologue

I am honoured to be asked to offer suggestions to persons new to psi research based on my experience in parapsychology, what I learned as a doctoral candidate in sociology at SUNY Stony Brook (regrettably abandoned because of holding two jobs and the burgeoning work of the Exceptional Human Experience Network) and informed by what I have learned from studying the broader field of exceptional human experience. This latter covers all the types of anomalous, nonordinary, paranormal experiences people have. I have organized these experiences in five sub-groups: mystical experiences, psychic experiences, encounter experiences, death related

Author note: An early version of this paper was written in response to a request in 1996 from Deborah Delaney to provide advice for some new parapsychology students being trained at the University of Freiburg. I appreciate the comments on this paper made by Montague Ullman, Caroline Watt, and an anonymous referee. The paper has been much strengthened — and lengthened — in responding to their suggestions.

experiences, and extended perception/performance (to an extent synonymous with peak experience). The aim of coining the term 'exceptional human experience' (EHE) was not to come up with yet another sanitized phrase for the paranormal to make it sound respectable. Rather, it was to delineate a new area of investigation in which all these different types of experiences are considered generically, as if they were members of a single class. I wanted to see if the 90 or so specific types of experiences I have isolated could provide generalizations that fit many if not all of them. I also wanted to see if they indicated that there might be a continuum of experience involved, and if so, whether its outline could be at least partly discerned.

My suggestions will largely be based on the exceptional human experience paradigm rather than the parapsychological one. By the 'parapsychological paradigm' I refer to the definition of parapsychology presented by the Parapsychological Association in its first position paper, where it states that parapsychology is the study of psi phenomena, which

concern organism-environment interactions (including those between

organisms) in which it appears that information or influence has occurred which cannot be explained through our current understanding of sensorimotor channels. In other words, these reports are anomalous because they appear to stand outside of science's traditional conceptions of time, space, and force. (Parapsychological Association, 1988, p. 353)

I find it difficult to think solely in terms of psi any more, but view it as just one of the five types of exceptional experience. Preliminary observations indicate that one type of EHE can often shed light on another type. Not only do boundaries become blurred, but as far as the experiencer is concerned, lessons learned from one type of experience can be applied to an entirely different type of experience, say, a precognitive dream and a UFO encounter.

All of the suggestions below are general ones, and all are directed to anyone involved in doing psi research, although the emphasis is on newcomers, especially in the first one. I address my readership in the second person as 'you' or 'your' to personalize the suggestions, and because they concern not so much public knowledge about parapsychology but touch on the individual, unique, and usually private aspects of persons pursuing parapsychology. I think, however, that the personalities of the various personnel involved in the conduct of psi research may play an important role, perhaps more than in any other science (see Kennedy & Taddonio, 1976; Thouless, 1976; White, 1976a, 1976b, 1977; also see the companion papers in this issue on psi-conducive experimenter factors). Beyond this, if we were to explore our own subjectivity in relation to our research, we might shed new light on the research process in every field.

Remarks About Previous Training

Before presenting the 11 suggestions I want to address not only what parapsychology can give the neophyte but what neophytes and new associates from other

fields can bring to parapsychology. Almost everyone who comes into parapsychology has had training in another discipline or is currently being educated in one, whether it be psychology, engineering, anthropology, education, sociology, philosophy, statistics, physics, or physical education — it doesn't matter. Or they may be from a different culture or their native language may not be English. This presents parapsychology with many opportunities to catch a glimpse of how psi looks from differing viewpoints. Thus, parapsychologists should welcome newcomers not simply as people they may turn into parapsychologists but as persons who are capable of enriching parapsychology in ways that established parapsychologists cannot.

As newcomers become identified with parapsychology, they are in a position to speak to both disciplines — their own and parapsychology itself — about the interface they see between the two. Especially at the growing edge of any field there are bound to be anomalies and questions that may even be psi-determined in part. Or, if the psi hypothesis were applied to basic phenomena, functions, methods, or theories of another discipline, it may well fructify that field. Instead of trying to establish parapsychology as a separate discipline, we might better concern ourselves wherever possible with assimilating what other disciplines have to offer us and urging them to do the same with what we have to offer them. The neophyte parapsychologist's field of expertise is a gift to parapsychology that establishment parapsychology needs to recognize and honour. Later, what a person from another discipline learns from becoming a parapsychology insider should be communicated back to his or her original discipline, using the language and concepts of that field and/or culture, not those of parapsychology except when absolutely necessary. A good example of this is Michael Winkelman's (1982) article on magic and psi in *Current Anthropology*. An example of fertilization from another field to parapsychology is Debra Weiner's (1984) very interesting article on the similarities between geography and parapsychology.

In my own case, I received a lifetime award from the PA as 'parapsychology's bibliographer' (Krippner, 1992) but I never would have thought beyond the reference lists of my own writings if I had not pursued a dual career as a librarian in order to help fund my parapsychology work. This led not only to my compiling several types of reference works on parapsychology that were used both by libraries and parapsychologists but I also published several pieces on parapsychology in the literature of librarianship, most notably, White, 1992.

The Suggestions

1. *Beginner's log*

From your first moment of involvement in parapsychology, I recommend that you start keeping a personal log. It should begin with

(a) as complete a definition as you can give as to what you think parapsychology is — or what parapsychology is to you. Never mind what the laboratory director or instructor says or what you have read, unless of course it resounds in you as well. This is very important. You are fresh and new to the field. You need to be aware of where you stand in relation to this field you are entering. Furthermore, I suggest that each time you undertake a project, whether instigated by yourself or, as is more likely, the laboratory director, you should write down a description of what you think the area of research involves, as you start out. It is important here to get your fresh unstudied response. Don't bone up on it before you write — you will be doing that, presumably, as part of working on the project itself. What you should be capturing initially are your preconceived notions about the subject matter, not necessarily the textbook discourse on it.

This approach may not simply benefit you personally. Because you are approaching the field afresh, you may have some new insights or information that, especially when developed further as you

become familiar with the field, will benefit parapsychology itself.

After you have concluded the course or experiment or have worked in the field for several years, it might be salutary to go back and compare your actual experience with your initial expectations. You may find that some were unfounded, others were met, and still others were answered beyond your (then) capacity to envision. And there may be a residue still unanswered. If so, this might indicate an area for you to address or to urge the field itself to address, if it is likely apply to others as well as to yourself.

(b) Write an essay which states as explicitly as possible why you are entering or instigating an association with this controversial field. List as many reasons as possible, such as that you had a precognitive dream or psychic experiences run in your family and you want to find out more about it. Or you saw a TV show about parapsychology and it looked challenging and offered persons a chance to make significant contributions because it is a pioneer area. If there are strange and wondrous synchronicities involved in how you became interested in the subject or how you came to be where you are (i.e., at a particular laboratory or school or other place providing an opportunity to do research or even if you are setting out on your own), note them all down, and new ones, as they occur to you. This may be of great benefit to you not only in knowing where you stand now, but years hence you may need to go back to why you entered the field. You may even have forgotten what may be so clear to you now. Rereading your essay will help you to 'reload' at a time when you feel a need to refresh your vision, which can become very fuzzy and dim once you get involved with the field and identified with its primary paradigm.

(c) Try to think out for yourself what benefits you expect to gain by this step you are taking by signing up for a course, an experiment or other investigation, or joining the staff of a laboratory. This differs from Point (a) in that you are not so much concerned with your conception of the field or

with a specific project per se but with what your expectations are of what the field or the participation in the project will give you. This could benefit not only yourself but the field. Parapsychologists need to be aware of what it is about their field that attracts newcomers and if necessary, they may need to alter their response to be more in line with those needs, as long as it can be done with integrity.

(d) Try to describe your emotional and even spiritual reaction to parapsychology and to becoming a part of the field with its long tradition. Think of all the areas of investigation and the methods that have been developed to study them — at whatever level of familiarity you have with them at this time — and then write about the area or areas with which you would like to be involved, and what sorts of innovations you would like to make. Here you get a little deeper into your dreams and visions for the field. You may touch on what your unique approach may be — the piece of the parapsychology puzzle that is yours to find or fashion and put in place. Again, this is something to come back to in the future when you need to refresh your motivation.

(e) Finally, describe what, in the best of all possible worlds, you would like your role *vis a vis* parapsychology to be. You can do this even though you may have no interest in being a career parapsychologist. Maybe you are taking a course just so you can be more knowledgeable about this interesting subject or to help a friend who is having upsetting psi experiences. Maybe your goal is simply to increase what you know about the field so that you can converse intelligently about it. Later, at the end of the course or period of time in parapsychology, you can assess what you have learned and accomplished. This will set the stage for you to decide if you want to continue your association with the field, and if so, in what way. It may be time to write a new vision statement for yourself.

2. Deciding what to investigate

The most important suggestion applies to any type of investigation, whether it be

experiment, field study, or case study. It has to do with deciding what problem or situation to investigate (once that is decided upon, you can turn to what would be the best method or approach).

There is some likelihood that one's productivity in the field may be enhanced by choosing to investigate topics that are personally meaningful (White, 1977). By this I do not simply mean 'intellectually challenging,' in which one might, say, tackle an experimental verification of the observational theories because of their potential far-reaching significance; or 'appropriately rational,' as when you see it makes good sense to extend the base of knowledge concerning an area of parapsychology that has already demonstrated promise, such as remote viewing or the Ganzfeld research. I think from the very beginning budding researchers should follow up on what is of personal interest to them. This is the opposite of the way it tends to work now, once you are working in an established laboratory, at least. One does what the director of the laboratory wants you to do, which often involves working on projects the laboratory is already involved with. This is a practical necessity, but it may not be especially psi-conducive.

There are some indications that being personally involved and challenged by psi research is a quality of psi-conducive experimenters (see White, 1977). Certainly J.B. Rhine was challenged by the idea of psi and by the need to prove its existence under laboratory conditions. But his motivation went beyond psi itself, as was evident to any who knew him or who have read his editorials and books. His motivation was legendary and tended to rub off on his staff, especially in the early days when some of the researchers (and subjects) were his students. Personally, I worked very closely with Margaret Anderson who was such a psi-conducive experimenter I would not be surprised if even a stone would produce statistically significant psi scores working with her. I believe her psi-conducive ability lay largely in the personal meaning of psi for her, which was based on intuitions

gained from many years of experience as an outstanding high school teacher. For more on Anderson, see White (1987).

Ideally, if you have had any psychic or other type of EHEs, you should become well-versed in the literature of that subject and talk to fellow experiencers. This might be the best source of investigative possibilities for you. Your own experience would serve as a kind of initiation that gives you 'inside' knowledge. It makes you especially qualified, in one important sense, to look into that type of experience, whether in laboratory or field. You will be aware of certain nuances involved that might not occur to an investigator who has not had such an experience.

Some people interested in parapsychology have never had what they would call an incontrovertible psi experience, including myself. Here is where the larger exceptional human experience paradigm may be helpful: very few people who understand what an EHE really is can deny having had one. Perhaps the most relevant is the type of synchronicity that seems to attend any new project or effort in which you are intensely interested. Increased attention can explain some of it, but not all. If you don't follow up on your own personal interests, you will not be so likely to have this synchronistic assistance, which in itself augments research and may sometimes even be psi based.

If you insist you do not have any personally meaningful interest in parapsychology beyond the challenge of the field itself, this too should be noted. A comparison of personally involved as opposed to intellectually involved investigators might be worth doing. But before you decide you have no personal interests, I suggest you read the contents of the major parapsychology journals for the preceding 20 years and see if any topics 'leap' out at you and make you spontaneously feel the desire to work on that topic. An idea that arouses you emotionally to me is a personal interest.

In determining what research you will actually do, perhaps a compromise approach would be feasible in which a laboratory director would encourage

newcomers to describe their primary interests and exceptional experiences. The director would then point out ways in which the projects assigned to newcomers could provide useful grounding for eventually researching their own interests. This may increase the newcomer's motivation for participating and learning from what otherwise might be perceived as a 'necessary task,' or at best, a worthwhile project but unconnected to the newcomer's primary research concerns. This approach should be psi-conducive, because it should promote a harmonious and stimulating work atmosphere in the laboratory, and it also would be educational for the newcomer.

When eventually you work into a project that is highly meaningful personally, to an extent as you grow in understanding your subject matter you will also increase your self-understanding, and increases in self-understanding may freshen your research approach. In the physical sciences and even in psychology this can be considered a contaminant. One must be as objective as possible. In parapsychology, I believe, if we are to come to grips with our subject matter, which is intangible and nebulous, we must also come to grips with what is intangible and nebulous in ourselves. Choosing a personally meaningful topic is one way of doing this. The aim of a parapsychologist should not simply be to extend our objectively verifiable database, but also our store of clinical impressions and laboratory lore not only about our subjects (the American Psychological Association, I am happy to say, now suggests that they be referred to as 'participants') but about ourselves, not only as investigators, but as human beings. This involves what my mentor, Gerald Heard, called the three basic questions every human must seek to answer: Who am I? Where am I? Why am I here? Definitely these are not questions scientists today can answer, yet their work can shed light on possible answers, as well as on the way you choose to live and work in the world.

3. A note on methodology

Information on conducting psi experiments is plentiful but if a person is interested in investigating experiences, the only guides available emphasize ruling out counterhypotheses. I do not mean to minimize their importance, but there are other questions to be asked about psi experiences, such as their personal meaning, for one. It is important to find a method suited to the question. There are methods being developed in psychology and the social sciences to do just that. Today's parapsychologist should know about the burgeoning array of qualitative methods that are available. The latest guidebook is the 643-page *Handbook of Qualitative Research* edited by Denzin and Lincoln (1994). Moustakas' (1990) *Heuristic Research: Design, Methodology, Applications* is already a classic. Two companion volumes edited by psychologists Smith, Harré, and Van Langenhove (1995a, 1995b) are excellent for providing the theoretical basis for these methods and describing the methods themselves. Soon to appear is a volume compiled by Braud and Anderson (in press) aimed at psychologists as well as social scientists.

I would like to call special attention to Robin Wooffitt's (1994) application of a form of discourse analysis to first-hand descriptions of psychic experiences related during interviews. His approach has the great virtue of being an objectively verifiable empirical method that can be repeated by others. It also is an excellent example of applying a method developed in another field (in this case sociology) to parapsychological data. Future students and scholars interested in conversation analysis are likely to turn up references to Wooffitt's work in their own literature searches. This will help to legitimize the study of parapsychological topics within nonparapsychological disciplines.

4. The participants

The fourth suggestion has to do with the second step, after you have decided what question you want to tackle. Ordinarily,

parapsychologists have their experimental design, interview questions, and whatever preliminary work is required for their investigation settled before they approach a participant. In some areas of sociology a different approach has been advocated, especially by symbolic interactionists, and particularly by pioneer symbolic interactionist Herbert Blumer. His approach might be useful in parapsychology, whatever method is subsequently chosen for the formal study. Blumer's basic methodological premise is that in doing research on a particular aspect of human life you should begin, not with a research protocol or hypothesis but with exploratory investigations of the research population itself. Say you are interested in whether any genuine psi effect is present in Tarot readings. You don't begin to design your study until you have spent considerable time talking to many Tarot readers. You find out how they got interested, how they do it, how they learned to do it, what they get out of it, what they give others, what those others give back to them, what they think the meaning of it is, etc. Only after you have steeped yourself in their empirical world can you possibly be in a position to devise hypotheses and a research design. It doesn't matter if it is a forced-choice experiment or a field investigation. In a sense, methodology comes last, not first. Otherwise, you would just be asking armchair questions.

Blumer (1969, pp. 21-60) especially advocates getting as much feedback as possible from those individuals who are very knowledgeable about the empirical reality to be studied and willing to share their ideas and offer advice on the applicability of your research ideas as well as subsequent formal research possibilities. You check with them and/or with the larger research population at every step of the way, including drawing conclusions from the results. Blumer contends this is the only way truly to conduct an empirical investigation. To me he makes a lot of good sense.

When you come to design the experiment or field investigation, try to create a

situation that will capture both your personal interest and that of the majority of the participants. In a final meeting with the participants, go over the tentative protocol with at least some of the participants and get their feedback. Make changes, if necessary (if they do not compromise your design) until the participants are happy with it. If their suggestions do compromise the design, then tell them so and explain why. Maybe they can come up with counterproposals that would not occur to you.

Meeting with the participants to discuss the results afterward might also be important, especially in light of observational theory. If the results were not statistically significant or if in a field investigation nothing observable happened, then engage the participants or psychic claimants in discussing why this disappointing result may have occurred. If they have psi ability as they claim, then confront them with the problems their psi must contend with if it is to be demonstrated under controlled conditions and let them rise to the occasion. Do not make them feel they 'failed' or imply that they only could have succeeded by artifice. Psi research is extremely delicate and difficult. Let them see the researcher's side and appeal to them to assist in building a bridge across the existing gap between the researcher's requirements and those of the participant. Admit that the lack of statistical significance might have been due to a fault on the investigator's side. Even if you do not have an opportunity to do a second investigation, get this feedback from your participants. It might be useful not only to include it in your notes but to at least provide a summary of it in your report of the investigation.

I realize this approach would greatly increase the time involved in conducting an investigation, but the quality of the yield might make it worthwhile in the long run.

However, as one referee of this paper pointed out, this interchange between investigator and subjects could lead to expectancy effects and self-fulfilling behaviour. Any psi experiment, I believe, is open to this criticism, because you cannot

hide from psi. Psi is not blind to our stratagems, as Jule Eisenbud (1963) has so eloquently pointed out. At least with the method proposed here, we would be more consciously aware of the factors feeding into the results, which should give us a better chance of shedding light on the results than the unconscious assumption that if we don't talk about our preferences to anyone, psi won't be able to figure them out. (As a matter of fact, there are some experiments that indicate it is just those features that the investigator seeks to hide that psi tends to spotlight! See, for example, Reed, 1994; White, 1975.)

There is also the counterbalancing reality that just because one consciously wants something to happen does not mean it will be reflected in the experimental results. At least here parapsychology is way ahead of experimental psychology in that the very design of the testing situation rules out sensory and rational contamination. The psi test itself cannot be penetrated or tampered with except by a process implicating psi itself.

5. Concomitants of experiments/experiences

In studying EHEs I have repeatedly noted three very important areas to be aware of and formally note: (a) the predisposing circumstances of the experience and/or the immediate triggers; various concomitants of the experience: physical, physiological, psychological, and spiritual; and the aftereffects. Aspects of these three areas may be observable in experiments as well. Your own log should provide insight into the predisposing circumstances and triggers.

If you have done a careful and complete job of recording, as you participate in successive experiments you may note that those in which synchronicity or even serendipity played an important role may have achieved more significant and clear-cut results than those in which many obstacles had to be met before you could begin the experiment or field study. Or the reverse

may be true. The important thing is to look for patterns.

I have made the surprising (to me) discovery that many widely varied types of EHEs have several similar concomitants that are sometimes experienced as physical: temperature changes, electrical or at least electric-like effects, sounds, or lights. There are also similar physiological concomitants, regardless of type of experience, involving heart rate, gooseflesh, raised hairs, trembling, feelings of faintness. The same applies to psychological concomitants: a sense of peace, calm, joy, awe, detachment, stillness, wonder, surprise, and changes in self awareness. And there also are some concomitants that could be called spiritual: meaningful contact with another being or with the divine; a sense of the numinous; heightened meaning and significance; a sense of being called to or entrusted with a mission.

Aftereffects are the most difficult to observe because many occur long after the experience itself, though they seem undeniably to refer back to it or stem from it. Some immediate aftereffects of experiences are sometimes observable, however, such as a feeling of having been in an altered state during the experience; the sense that one's life will henceforth never be the same; a desire to find out more about the experience so intense it can be likened to physical appetite; and the desire to share the experience, even though people may think you are crazy (even if the experiencer does not share, for whatever reason, the desire is still there). We need to monitor the aftereffects of psi experiments for both experimenters and participants. Whether or not an experiment is repeatable may be related to the quality of its aftereffects. It might even be worthwhile to check on the relationship between psi scores and positive, negative, and absent aftereffects.

6. *A sense of process*

The general act of being introspective about an experiment from its very inception through the final draft of the report, and making a careful record, as well as being on

the lookout for triggers, concomitants, and aftereffects, points to the possible existence of another factor: a sense of process. This has been evidenced especially in studying aftereffects of EHEs, in which there is continuous reference back to some of the concomitants of an experience. Being able to see that a process is involved that can be generalized across many different types of EHEs, including psychic ones, is the most important observation I have made. Suzanne Brown and I are hoping to do more formal research on what we are calling the EHE process.

This raises the possibility of there being a process involved in experiments as well. It would not necessarily be the same process, and it would revolve around the concerns of the experimenter rather than the participants. But if you log your experiments from the beginning to the end, over time you may make pioneer observations about such a hypothetical process. As you do more experiments, a sense of process may become more evident in statistically significant experiments than in those with null results. I do not know. This is an area that to my knowledge has not been investigated. A good example of what I mean is the recently published autobiographically-slanted book on psi research by Dale Graff (1997). He shows clearly how his own experiences fed into and in turn were affected by his research.

7. *Monitoring interpersonal dynamics*

If an investigation is being conducted over a period of time, there is need not only to monitor intrapersonal responses to it and one's role in it but also to keep track of the interpersonal aspects. This should probably be the responsibility of the senior investigator or his or her designate — ideally, the person actually overseeing the conduct of the research. It is especially important to note disruptions, intrusions from outside, changes in personnel, or methodological-theoretical personality-based disagreements or cliques that may develop over the course of the research. These should be noted in an Interpersonal Log. If there is another

person continuously involved with the research — even if at the clerical level — it might be useful to have that person make a second, independent record. A person in another position may observe or hear things the primary experimenter or person in charge will not.

The purpose of the Interpersonal Log is not to snoop on people or tell tales behind their backs. But if halfway through the experiment it is subsequently discovered that a major decline effect set in or if in one week in particular the psi effect was much larger (or less) than at any other time, then it might be useful to consult the Interpersonal Log(s) to see if anything unusual happened during or just prior to the shift in psi scores. Certainly such a log would improve the quality of post hoc theorizing. And in a field such as parapsychology in which so much still needs to be discovered, such theorizing plays an important role.

There is yet another potentially very important step that could be taken. It was suggested to me by psychiatrist and pioneer dream explorer Montague Ullman (personal communication, December 17, 1996) in his comments on an earlier draft of this paper. I have his permission to quote the following:

About your Advice paper. Too bad it wasn't available years ago. It should be compulsory reading for young investigators. When will they ever learn that psi effects happen to people and that research has to be humanized and the only way to do that is to take account of the context regardless of what the specific goal of the research might be. Interpersonal dynamics are intrinsic to psi research. To throw my bias into the pot — there is no better way to access such dynamics than through dream work. This came out so beautifully in the ongoing dream group I had at the ASPR. That's where the impact of the Lab, the people involved, and the nature of the project will truly emerge.

To carry through on Ullman's suggestions, ideally, all the people involved in an

investigation would meet to share their dreams while the experiment is ongoing. At the least, those involved could record their dreams and share them with the others once a week perhaps. This would be the best place to discover, as Ullman suggests, where psi is really present in the experiment. Even if the ideal of recording all dreams at least while the experiment is being conducted is not practical, I recommend that outstanding dreams (however the dreamer wants to define 'outstanding') be recorded and shared with the group, at least once a week.

It could be that all psychic experiences (and by extrapolation perhaps all EHEs) are dreams, whether waking or sleeping. In monitoring the research process as it goes along, it could be insightful to record and share dreams, and synchronicities, insights, and other possible EHEs as well.

Ullman is correct that recording dreams can shed much light on the research process and might even provide recorded on-the-spot psi experiences.

8. Participant logs

A sense of process may also be present for some of the participants in an experiment. We will not know until they, too, keep logs from the time they were first aware of possibly participating through at least a few weeks after the experiment has been completed. Perhaps it could become a practice to check back with them just when the experimental report is being finalized to see if there are further aftereffects.

A one-time experiment, such as is common in parapsychology, is not likely to yield any striking participant observations, but it might be worth incorporating in longitudinal studies, such as some of the psi development research in which the Koestler chair has specialized. (I was informed by one of the referees that in fact the participants in the training studies were given the opportunity to record observations in a diary, but it was promised that the contents would be confidential. I wonder if a compromise is possible such that the investigators could at least generalize as to

the relevance — or not — of some of the diary entries to the ongoing experiment itself? No names need be mentioned nor actual quotations given.)

9. *The investigator log again*

The ninth general suggestion is that after an investigation is over, the persons involved on the investigative side should note in their personal logs how this affected them personally. They should describe their sense of success and/or disappointment as fully as possible and they should record any clues that might be helpful personally or in future research by themselves and others. This should be done as soon after the end of the investigation as possible, but if additional thoughts come to mind in the following days or weeks, they should be logged also.

A few weeks after the investigation is completed, it might be helpful to assemble a group meeting of all the investigative participants involved. The purpose of the meeting would be to share their logs, if not by reading them verbatim, then by an oral summary. Any fresh ideas arising from the meeting should also be noted in the log, as well as any disagreement with suggestions offered by other members.

10. *The report of the investigation*

We have tended to assume in parapsychology that although results that are not statistically significant should be reported, they do not merit being reported in as much detail as those that are statistically significant. I disagree. I think it might be useful to record as many hints and guesses as to why a project failed as we do when one succeeds.

In writing the report, the logs should be consulted and relevant information quoted or summarized in the published report, regardless of the nature of the results, especially today when results are more often presented as effect sizes. Here the number of trials and subjects is an important factor and just because an effect size in itself may not be statistically significant, relatively

speaking it may be commensurate with statistically significant effect sizes reported in research with more subjects/trials. But in regard to statistical significance, maybe the impressions following just one insignificant and one significant investigation will not mean much. But if fuller reports were to become common practice, we may begin to notice different patterns associated with statistically significant and insignificant investigations that will help us to get a better handle on producing psi even as we study it. Also, because so few investigations are being conducted, it is all the more important that we glean as much information as we can from each one. And it is equally important that we publish this information, not simply keep it to ourselves or only communicate it to a few chosen fellow researchers or within our own laboratory complex.

11. *Possible by-products of maintaining a log*

All this log writing will prove to be very time consuming, but no more so than in the 1950s when I can remember the routine of copying thousands of numbers out of a random number table converted to ESP symbols on hundreds of ESP record sheets in preparation for experiments.

In a chapter in a forthcoming book on transpersonal research methods for the social sciences, I (White, in press) emphasize the role various EHEs may play in the research process and the importance of recording them as they happen and looking for connections between them. I point out that it may shed light on the research process itself, and such experiences may also help to advance the personal growth of the experimenter/researcher.

One of the types of EHEs that is commonly associated with doing research is synchronicity, along with serendipity, dreams, visions, and the creative 'aha' experience. My informal observation of EHEs and the EHE process indicates that synchronicity is not simply another EHE. It plays a seminal role in the EHE process by influencing the direction of a project at key

points, especially when a stalemate has been reached. Jung thought that synchronicity and psi were very alike. At the least, one could say that synchronicity may sometimes be instrumental in psi and psi may sometimes be instrumental in synchronicity. Recording synchronicities and other EHEs as they occur during the various stages of psi experiments may provide us with new insights about the psi process.

Concluding Remarks

When I started looking into studying psychic experiences in 1990, I felt very strongly that the frame of investigating them by parapsychologists had been too narrow. The event/phenomenon/experience, which usually consumed only a few seconds or minutes in its actual occurrence, customarily is all that is studied. I wanted to extend the frame by studying the antecedent conditions as well as aftereffects. Thus far doing so not only for psychic experiences but for the wide range of EHEs has been quite useful and has led to some key insights. At base, what I am suggesting in this paper is that parapsychologists lead the way in developing a longitudinal, introspective, adjunctive approach to all of their investigations, including experimental ones, as Watt has recommended (1996). The introspective accounts are not simply collected for their immediate value to the writer but they should be considered and treated as data. The immediate aim would be to increase the efficiency and yield of psi experiments. But beyond these very worthy goals, such observations may reveal a process underlying the research itself that would be relevant to studies of the sociology of science, human motivation, personal development, and identity. If so, this research approach could not only enrich the science of parapsychology per se but enlarge its interface with mainstream science and social science.

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De aard van psi-onderzoekers onderzoeken en vastleggen

Samenvatting: Dit artikel was oorspronkelijk bedoeld voor nieuwkomers in de parapsychologie, maar bevat veel informatie die ook doorgewinterde onderzoekers van pas kan komen. De aanbevelingen van de auteur berusten op haar 43 jaar ervaring in de parapsychologie, op haar studie sociologie en haar conclusies uit onderzoek aan een breed scala merkwaardige gebeurtenissen. De aanbevelingen zijn in 11 categorieën gerangschikt: Logboek voor de beginner, Beslissing over onderwerp van onderzoek, Opmerking over methodologie, Deelnemers, Aspecten van experimenten/ervaringen, Procesgericht werken, Intermenselijke relaties, Logboek van deelnemers, Opnieuw het logboek van de onderzoeker, Rapportage van onderzoek, Nevenproducten van logboek. De meeste aanbevelingen passen in een meer kwalitatieve benadering als aanvulling op parapsychologisch onderzoek. Daarbij worden enkele handboeken over kwalitatief gerichte methodologie geadviseerd.

Sugerencias para Explorar y Registrar la Perspectiva Interior de los Investigadores Psi

Resúmen: Este artículo fué escrito inicialmente para los principiantes en parapsicología, pero mucho de su contenido podría aplicarse también a investigadores de experiencia. Las sugerencias ofrecidas se basan en los 43 años de experiencia de la autora en parapsicología, en estudios graduados en sociología, y en lo que ella ha aprendido estudiando la amplia gama de experiencias humanas excepcionales. Las sugerencias son presentadas bajo 11 temas: Diario de un principiante; decidir lo que se va a investigar; una nota sobre metodología; los participantes; aspectos que acompañan a los experimentos y a las experiencias; un sentido de proceso; dinámicas interpersonales; diarios de los participantes; el diario del investigador otra vez; el informe de investigación; y posibles resultados de mantener un diario. La mayoría de las

sugerencias son congruentes con un acercamiento cualitativo como suplemento a la investigación parapsicológica. Algunos manuales importantes de metodología cualitativa son citados.

Die Innenansicht des Psi-Forschers: Vorschläge zur ihrer Erkundung und Erfassung

Zusammenfassung: Dieser Beitrag wandte sich ursprünglich an Neulinge in der Parapsychologie, doch könnte vieles ebenso für erfahrene Untersucher gelten. Die Anregungen gehen auf die 43jährige Erfahrung der Autorin in der Parapsychologie, ihr Hochschulstudium in Soziologie und auf ihre bei der Untersuchung außergewöhnlicher menschlicher Erfahrungen gewonnenen Einsichten zurück. Sie werden unter 11 Überschriften vorgestellt: Anfänger-Tagebuch; Entscheidung für den Untersuchungsgegenstand; Eine Bemerkung zur Methodologie; Die Teilnehmer; Begleiterscheinungen von Experimenten/Erfahrungen; ein Gespür für das Vorgehen; Zwischenmenschliche Dynamik; Teilnehmer-Tagebücher; Erneut: Untersucher-Tagebuch; Untersuchungsbericht; und Mögliche Nebenprodukte aus dem Führen des Tagebuchs. Die Mehrheit der Vorschläge läßt sich im Sinne eines qualitativen Ansatzes als Ergänzung parapsychologischer Forschung lesen. Auf einige wichtige Lehrbücher qualitativer Methoden wird hingewiesen.

Suggerimenti per studiare e registrare i processi interni dei parapsicologi

Sommario: L'articolo era inizialmente destinato ai neofiti della parapsicologia, ma in gran parte potrebbe essere valido anche per i ricercatori più esperti. I suggerimenti esposti si fondano su 43 anni di esperienza parapsicologica dell'autrice, sui suoi studi universitari di sociologia e su quanto ha imparato studiando l'intera gamma delle "esperienze umane eccezionali". I suggerimenti vengono presentati divisi in 11 classi: Dalla parte del principiante; Decidere che cosa studiare; Una nota metodologica; I partecipanti; Le concomitanti dell'esperimento/esperienza; Una sensazione di processo; Dinamiche interpersonali; Dalla parte dei partecipanti; Ancora dalla parte del ricercatore; Il resoconto dello studio; Possibili sottoprodotti del collocarsi in un certo ruolo. La maggior parte dei suggerimenti sostiene un approccio più qualitativo alle indagini parapsicologiche. Vengono segnalati alcuni importanti manuali di metodologia qualitativa.

Des suggestions pour explorer et enregistrer l'expérience des chercheurs psi

Résumé: Cet article s'adressait initialement aux nouveaux-venus de la parapsychologie, mais la plupart de son contenu pourrait s'appliquer aux investigateurs expérimentés également. Les suggestions sont basées sur l'expérience de 43 ans qu'a l'auteur de la parapsychologie, des études supérieures en sociologie, et ce qu'elle a appris en étudiant la classe étendue de l'expérience humaine exceptionnelle. Les suggestions sont présentées sous 11 intitulés: Le journal de bord du débutant; Décider quoi investiguer; Une note sur la Méthodologie; Les participants; Les aspects concomitants des expérimentations/expériences; Un sens du procédé; La dynamique interpersonnelle; Les carnet de bord du participant; Le carnet de bord de l'investigateur encore; Le rapport de l'investigation; et les Sous-produits possibles du maintien d'un carnet de bord. La majorité des suggestions sont dans la ligne d'une approche plus qualitative afin de compléter les investigations parapsychologiques. Certains manuels-clés de méthodologie qualitative sont cités.

Sugestões para explorar e registrar a visão interior dos que investigam psi

Resumo: Este artigo foi inicialmente dirigido a neófitos em Parapsicologia, mas boa parte dele poderia se aplicar também a investigadores experientes. As sugestões são baseadas nos 43 anos de experiência em Parapsicologia da autora, em estudos graduados em Sociologia e no que ela (a autora) aprendeu ao estudar as vastas classes de experiências humanas excepcionais. As sugestões são apresentadas em onze tópicos: Diário do Iniciante; Decidindo sobre o que investigar; Uma nota sobre metodologia; Os participantes; Qualidades concomitantes dos/das experimentos/experiências; O sentido do processo; Dinâmica interpessoal; Diários do participante; Novamente, o diário do investigador; O relato da investigação; e Possíveis subprodutos da manutenção de um diário. A maior parte das sugestões estão alinhadas com uma abordagem mais qualitativa para complementar as investigações parapsicológicas. Alguns manuais-chave de metodologia qualitativa são citados.

The Challenge of Experimenter Psi

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Abstract: The author suggests that parapsychologists in general have paid insufficient attention to the role of experimenter psi (e-psi) in parapsychology, arguing that the evidence dictates that the burden of proof should fall on those who maintain that e-psi is *not* at least a contributing factor in most successful psi experiments. E-psi is a special case of nonintentional and unconscious psi, which has received strong support from Stanford's PMIR model. E-psi is also a special case of the source of psi problem. Psi sources must be limited to account for what reliability there is between psi scores and human intentionality, and it is proposed that this limit be psychological involvement in the experiment as such. The standard interpretation of so-called fieldREG effects precludes such a constraint, and partly for this reason they seem best interpreted as e-psi. Recommendations are offered for assessing e-psi, which include orthogonal manipulation of the cognitive state of the principal investigator with behaviour of the experimenter toward the subject, and direct comparisons of personal psi-test scores between psi-conducive and psi-inhibitory investigators.

Introduction

There is no more reliable finding in parapsychology than the experimenter effect. Although there has never been a formal analysis, it is widely accepted, even by conventionalists, that some investigators have much better track records of obtaining significant evidence for psi and confirming their hypotheses than do others. It is a major source of variance in psi experiments.

Not counting the conventionalist argument that psi-conducive experimenters are sloppier or less honest than their less successful colleagues (for which there is virtually no evidence so long as the argument is applied exclusively to the fraternity of professional parapsychologists), there are two competing but not mutually exclusive explanations for the experimenter effect. The first is that some experimenters are better than others at putting their subjects at ease and inspiring confidence in task performance, either because the less successful lack the requisite social skills or they do not adequately apply them. I will hereafter refer to this as the *experimenter interaction* hypothesis. The second hypothesis is that

to varying degrees experimenters psychically influence their own experiments, either directly or by releasing the psi ability of their subjects. This is the *experimenter psi* (e-psi) hypothesis. [A third way experimenters might influence test outcomes is through selection of subjects (Morris, Dalton, Delaney & Watt, 1995), but this is a matter of methodology that, in my opinion, should not be subsumed under the experimenter effect.]

Despite a compelling case for e-psi published over 20 years ago by Kennedy and Taddonio (1976), most parapsychologists have yet to give it the serious attention it deserves, even though they sometimes mention it in the discussion sections of experimental reports. This attitude expressed itself unwittingly in a symposium on the experimenter effect held at the 1996 Parapsychological Association Convention, which symposium served as the stimulus for the present set of papers. Although there was plenty of discussion of experimenter interaction variables, e-psi was barely mentioned at all. Having anticipated this allocation of priorities, I prepared a few remarks about e-psi that I delivered during

the question period. I am grateful to Deborah Delanoy, who chaired the symposium, for inviting me to expand on these remarks in the *Journal*.

The paper will include a discussion of the a priori arguments and empirical evidence for e-psi. Not only will I refute the argument (which I have heard expressed informally by more than one parapsychologist) that the e-psi hypothesis is objectionably ad hoc, but I am willing to go so far as to assert that the burden of proof now falls on those who would argue that e-psi is *not* at least a contributing factor in most, if not all, successful and methodologically sound psi experiments. I will then discuss possible mechanisms for e-psi and offer some thoughts on approaches we might adopt to address it in our experiments. But first, it is necessary to place e-psi in its broader context.

The Source of Psi Problem

One of the most baffling conundrums confronting parapsychologists is the so-called source of psi problem. I define a source of psi as any living being who causes a psi interaction to take place, whether by acquiring information from the external environment, transmitting information to another living being, or affecting a physical object or process. The source of psi problem has traditionally been a major issue in research on post-mortem survival; for example, investigators have debated whether the source of evidential mediumistic communications is a discarnate entity or a living person with intimate knowledge of the deceased, as described by Gauld (1982). In later years, the argument was broadened to include discussions of whether the agent or the percipient was the most likely source of psi in cases of spontaneous telepathy (e.g., Hart, 1958; Rhine, 1957). The challenge presented by the source of psi problem was increased considerably by the discovery of precognition (Rhine, 1941). Persons unaware of the target identity at the time of the subject's response now had to be considered potential psi sources if they came to know its identity at some time in

the future, and it was never clear how far in the future that could be. Not surprisingly, the source of psi problem has never been satisfactorily resolved in any of its applications.

Nonintentional and Unconscious Psi

It took a long time for these examples of the source of psi problem to be taken account of by experimental parapsychologists in their research. The first parapsychologist fully to appreciate its implications was probably Eisenbud (1963), whose insights have been further developed by Braude (1979). Until recently, it was almost universal practice implicitly if not explicitly to place a key restriction on the identity of the psi source: it had to be someone who was attempting to transmit or receive psychic information. This limitation is inherent in the very definition of the experimental subject, whose role is to attempt to produce psi at a particular time and place.¹

This restriction of potential psi sources has always been implausible to the extent that credence could be given to the non-experimental literature of parapsychology. The term *spontaneous cases* highlights the fact that in the 'real world' ESP is ordinarily something that happens to people, not something they invoke. On the PK side, ostensible poltergeist agents generally claim that they were not attempting to create the mayhem attributed to them, and they seem to prefer (consciously) that it stop.

An important conceptual advance was made by Stanford (1974a) when he drew attention to anecdotal reports in which not only was there was no conscious attempt to

¹ It is important to be clear exactly what is meant by the word *attempt*. It is not the same as *effort*. PK subjects might be told to adopt an attitude of 'passive volition' to bias the output of a random number generator (REG), but they are still attempting to exhibit psi, even if they are doing so with a minimum of effort. It can also be said that such subjects *intend* to produce psi, whether or not they exert effort to fulfill the intention. On the other hand, a person who is merely *hoping* for psi to occur would not be defined as *attempting* to produce it.

acquire information by ESP, but there were no relevant cognitions at all. Many such cases involve fortuitous timing, as in one of Stanford's examples where a couple seeking a restaurant for dinner happened during lunch to overhear the conversation of an adjacent party describing just such a restaurant, including its location. Assuming such cases are not chance coincidences, they describe a kind of psi that is both *nonintentional* and *unconscious*.

Stanford developed a model called Psi-Mediated Instrumental Response (PMIR) that translated these insights into a set of experimentally testable propositions. Subjects who were not even aware they were involved in a psi experiment completed a word-association test in which certain randomly selected response alternatives, if selected, would cause them or a partner subsequently to be assigned either a pleasant or unpleasant task (e.g., Stanford & Associates, 1976). In the methodologically simplest PMIR experiment, which differed somewhat from the above description, subjects could escape from a boring task whenever the output of an REG met a specified criterion (Stanford, Zenhausern, Taylor & Dwyer, 1975). Results revealed that on average the REG met this criterion significantly sooner than expected by chance.

The PMIR model also made specific predictions about what factors should influence this nonintentional and unconscious psi. Six of six predictions of this type were confirmed with respect to the direction of the effect, and three of the six were statistically significant (Palmer, 1985).

Data such as these force us to broaden our definition of who is a potential psi source in parapsychological experiments. No longer can we assume that consciously attempting to produce psi or having some experience of psi is necessary for a psi effect, yet these are the only attributes that distinguish subjects from other participants in most psi experiments. Does this mean that there are no limits at all on who is a psi source? I suppose this is theoretically possible, but if a large number of people were influencing every psi experiment, each in

their own way (which we must assume given the variety of different kinds of psi effects), the expected result would be chaos in the data. Although psi is admittedly 'elusive', the data show sufficient reliability and covariance with the intentions of particular individuals that this pessimistic prospect can be rejected. There must be limits, but what are they?

Psychological Involvement and Experimenter Psi

As for possible physical limits of psi, there is little evidence that it is affected by distance (Palmer, 1978), and the evidence for precognition suggests that psi can operate in the future, although it weakens as the time interval between event and cognition increases (Honorton & Ferrari, 1989). A far better candidate is offered by the Observational Theories (Millar, 1978), which are based on quantum mechanics. According to these theories, potential psi sources are limited to persons who have sensorially observed the data from an experiment, although it is not entirely clear exactly in what form the data must be for the observation to be effective: must observers see the *raw* data, or is it sufficient to observe the statistical summary of the data, or even a reference to the data in a literature review? These issues aside, the Observational Theories are a serious candidate for dealing with the source of psi problem. However, their truth is not considered by most parapsychologists to be established, and I am not persuaded of their truth myself, partly for reasons to be discussed later.

As Rao (1966) and Schmeidler (1988) have pointed out, the variables that have most clearly (although not conclusively) been shown to influence psi are psychological rather than physical.² They cite a num-

² Some very recent evidence suggesting a correlation between free-response ESP and geomagnetic field fluctuations in conjunction with local sidereal time (Spottiswoode, 1997) could prove to be the discovery of another physical mediator of psi.

ber of psychological variables that correlate with psi success, but these are not quite the same as limits. Until better data are available, I propose that we postulate just one psychological *limit* of psi in our experiments, namely that a psi source must somehow be *psychologically involved* in the experiment. Although I am not aware of any hard evidence for this assumption, it is plausible and I can find no evidence against it; that is to say, I am aware of no evidence that someone *not* psychologically involved in the experiment has ever been a psi source. This assumption immediately eliminates the vast majority of living beings as psi sources in any given experiment, something we must do if the source of psi problem is ever to become manageable. These potential psi sources overlap somewhat with those proposed by the Observational Theories because observers of data are most often persons psychologically involved with the research, a possible exception being low-level research assistants. Conversely, there may be persons psychologically involved with a study who never observe the data, at least in its raw form.

I intentionally restricted my limitation to psi experiments, because I am not sure it applies to spontaneous ESP experiences. There obviously are cases in which people gain psychic impressions of external events that are totally unrelated to them. The example that comes to mind are premonitions of disasters, like airplane crashes. If the problem population could be restricted to disaster cases, the argument could be made that the psi sources are the victims, who, the hypothesis would need to assume, are 'calling out' to 'anyone out there' in the midst of their plight. (Obviously, we cannot define the psychological involvement of telepathic agents simply as involvement in their immediate circumstances; by that criterion we would all be potential psi sources all the time and the limitation would be meaningless. We must assume some conscious or unconscious intent to communicate, even if to just anybody.)

Psychological involvement still allows a number of persons other than the subjects to

be psi sources in any given experiment. The most obvious example is the experimenter. However, the preceding discussion dictates that the experimenter, if defined as the person who interacts with the subjects, does not exhaust the possible psi sources. For example, if we agree that psi is not limited by distance, the psi source could be the principal investigator, who might be in an office three doors down the hall or even at home when the experimental session is being conducted. If we agree further that psi is at least somewhat independent of time, the psi source could be a data analyzer who does not become involved in the study until after the data have been collected. For ease of exposition, I will broaden the definition of experimenter in this paper to include these other possible sources unless otherwise stated.

It is reasonable to suppose that not just the fact of psychological involvement, but also the *intensity* of involvement, is a factor in determining the degree of psychic influence. Intensity of involvement is often reflected in the *need* of someone to achieve a certain experimental outcome. Interestingly enough, need is included in Stanford's model as one of the factors determining the strength of PMIR³, and empirical support exists for this proposition (Stanford & Associates, 1976). In many experiments, particularly those with unselected subjects (who may participate merely out of curiosity), the need for success might be much greater for the experimenter than for the subjects.

The reader may have noticed a certain paradox in my reasoning. I cited the results of subjects in PMIR experiments to support the notion of e-psi, but to accept this interpretation implies that the subjects may not have been the psi source in these experiments. In one of them (Stanford *et al.*, 1975), confirmation of the hypothesis depended on the scores of subjects tested by just one of two student experimenters. Because this experimenter was more extro-

³ In a revision of his theory, Stanford (1990) subsumed 'need' under the broader term 'disposition'.

verted than the other one, Stanford speculated that she was successful because of superior social skills. However, there is evidence that extroverts also might have more psi ability than introverts (Honorton, Ferrari & Bem, 1990), so Stanford's secondary finding could also be taken to support e-psi. But this 'evidence' regarding extroversion and psi could itself be attributable to e-psi, thereby rendering it worthless as support for e-psi in Stanford's experiment. No wonder thinking about e-psi can lead to vigorous hair pulling!

Some comfort can be derived from the likelihood that subjects contribute at least a portion of the psi in most successful psi experiments. All other mental faculties are broadly distributed in the population, even allowing for small extreme subpopulations such as idiot savants. It would be surprising if psi were any different. Nonetheless, the evidence for subject psi in studies with unselected subjects is far from conclusive. Even with selected subjects, e-psi might be necessary to release the psi of the subject. For example, the gifted subject Bessent provided straightforward evidence of intentional psi only in studies in which Honorton was involved as one of the experimenters (Honorton, 1971; Honorton, 1987; Krippner, Honorton & Ullman, 1972, 1973; Krippner, Ullman & Honorton, 1971). It is even possible, although in my opinion unlikely, that Honorton was the sole psi source in these experiments.

Empirical Evidence for Experimenter Psi

In addition to the a priori arguments, there is a growing body of empirical evidence for e-psi. The best evidence comes from studies in which the experimenter does not interact directly with the subjects, thereby eliminating experimenter interaction as a counter-hypothesis. The classic example is the mail-correspondence ESP study by West and Fisk (1953), in which target packs assembled by Fisk (a reputedly psi-conductive experimenter) led to significant hitting, whereas those assembled by West (a reputedly psi-inhibitory experi-

menter) produced chance results. One might also place in this category studies confirming the so-called *checker effect*, in which results covaried with who analyzed the data (e.g., Weiner & Zingrone, 1986). For a good review of the evidence for e-psi up to the mid-1970s, see Kennedy and Taddonio (1976). I also discussed e-psi in an earlier paper of my own (Palmer, 1993).

FieldREG effects

A recent group of experiments that also did not involve subject-experimenter interactions were designed to explore what I will call fieldREG effects (Bierman, 1996; Nelson, Bradish, Dobyns, Dunne & Jahn, 1996; Radin & Rebman, 1996).⁴ In each experiment, one or more REGs were activated at a time corresponding to some event in which a number of people were focusing attention on the same thing, usually with a great deal of interest or emotional involvement. The hypothesis was that during the event, or more precisely during especially captivating epochs within the event, a sort of psi field was created that biased the output of the REGs.

Although the authors of all these studies acknowledged e-psi as a possible counter-explanation of their generally significant results, I find that a stronger statement on its behalf is warranted. The clearest example is an experiment by Radin and Rebman (1996), in which an REG was activated during a Las Vegas comedy show attended by two members of Radin's research staff. These investigators noted times during the show that were especially captivating and, sure enough, these were the periods during which the REGs behaved nonrandomly.

However, Radin and Rebman's results present a serious conceptual difficulty for the field hypothesis. Along the famous Las Vegas 'Strip' are a number of hotels in close

⁴ Different investigators describe this body of research differently. I will use the term introduced by Nelson *et. al* (1996) because, so long as 'field' is taken to mean the location of the REG, it provides a concrete and theory-neutral label for the effect.

proximity to one another that present nightly shows of top-rated entertainment, each of which surely creates various periods of intense audience involvement. The problem is that there is no reason to suppose that these intense periods at the different hotels are temporally synchronized. The audience at the comedy show attended by the investigators might react to a hilarious joke at 10:15, whereas an audience at another hotel that is relatively unfocused at 10:15 might be engrossed in a spectacular magic trick performed on stage at 10:33, when the comedy routine is in a lull. The only reason that the REG output covaried with the ebb-and-flow of the comedy show and presumably not the magic show (and/or several other shows in town) is that the investigators went to the comedy show. The alternative explanation that the effect occurred at the comedy show because that is also where the REG was located is ruled out because the effect is known from other studies (including some reported in the Radin and Rebman paper) to occur when the REG is located some distance from the putative psi sources. Thus, it is most likely that at least one of the experimenters was the psi source in this experiment.

The e-psi interpretation might seem less compelling in those cases where the event is witnessed by such a large group of people that contamination by equally large groups during control periods is unlikely. Examples chosen by the investigators include the 'Super Bowl' championship game of professional American football and the notorious O. J. Simpson trial. However, because e-psi is a viable explanation for all the fieldREG studies and the field hypothesis for only some of them, e-psi is preferable for reasons of parsimony. Moreover, the effect sizes in the large group studies appear comparable to those of the small group studies (one might expect the effect size to be greater when more people are focused on the same thing), as well as laboratory studies by the same investigators (Bierman, 1996).

The authors of all three published sets of fieldREG experiments suggested problems with the e-psi interpretation as applied to

their data. Radin and Rebman (1996) actually conducted a control experiment designed to test the e-psi hypothesis. Although the experiment provided results that seem to support Radin and Rebman's hypothesis, it focused exclusively on retroactive PK, which (as we shall see later) is only one of several mechanisms by which e-psi could manifest, and arguably not the most likely one. Moreover, if the Observational Theories (which supply the primary theoretical basis for retroactive PK) are true, Radin and Rebman's field hypothesis would have to be false, because the audience never observed the REG data. This same point applies to all the other fieldREG studies conducted so far.

Nelson *et al.* (1996) noted that their design allowed for persons not associated with their laboratory to 'install and operate the fieldREG equipment'. Such persons are indeed unlikely psi sources because of their lack of psychological involvement, but it follows from the above discussion that investigators more psychologically involved with the experiment need not have been present during the sessions or have interacted sensorially with the equipment to exert a psi influence. Bierman (1996), who came closer than the other authors to endorsing an e-psi interpretation, nonetheless made reference to the fact that in one of the two field studies he reported (a poltergeist case), the significant results were in the opposite direction from that expected by the experimenters. But significant reversals of hypotheses are not that infrequent in parapsychology, especially among investigators who fall in the midrange of psi-conductiveness. In any event, this reversal of direction is even less congenial to the field hypothesis, which has always predicted that the REG should be biased in the direction of increased 'coherence' (which it was not in the poltergeist case).

If the field hypothesis is true, one wonders why REGs do not more frequently produce identifiably biased outputs during randomicity checks. Intense group focusing is likely to occur at some place(s) within the boundaries of the hypothesized field (except possibly late at night), and most

analysis programs can detect the squared deviation effects that are most commonly the dependent variables in fieldREG experiments.

The implications of the field hypothesis go much farther than REG randomness checks. Indeed, if the field hypothesis were true, we should expect a tremendous amount of nonrandom 'noise' in all our psi data. This includes ESP data, because even if Decision Augmentation Theory (May, Utts & Spottiswoode, 1995) does not carry the day, the mechanisms of ESP and micro-PK are likely to be closely related. The specific reason for expecting such noise is that the field hypothesis contradicts the assumption that psi sources are restricted to persons psychologically involved with the experiment. As I argued previously, I think that a much more restrictive assumption must be retained in order to explain what order we do see in psi data. If we retain such an assumption, the field hypothesis must be rejected.

The field hypothesis and the e-psi hypothesis converge in one important respect: each assumes that the psi can be both nonintentional and unconscious, as defined above. In fact, the fieldREG studies provide some of our best evidence that psi can operate in this manner, thereby confirming the foundation on which the e-psi hypothesis is built. From the theoretical standpoint, the reason for preferring the e-psi interpretation of these studies is that the experimenters are much more psychologically involved in the *experiment* than are the groups.

I understand that both Nelson and Bierman have conducted or plan to conduct more sophisticated studies designed more incisively to discriminate between the e-psi and field interpretations of the fieldREG effect, and we will have to take a second look at things after these data have been published. In particular, it is important to note that the two hypotheses are not mutually exclusive: experimenters and audiences might both be psi sources in a single study. Nonetheless, at some point it will be necessary for proponents of the field hypothesis to address the logical points raised in the

preceding paragraphs. For now, it is safe to say that Radin and Rebman's Las Vegas entertainment experiment, at least, provides empirical evidence for e-psi, even if there were additional psi sources.

Experimenters as subjects

An indirect but nonetheless important kind of empirical evidence for e-psi comes from studies which demonstrate that experimenters who are successful in eliciting psi from others are also highly successful as subjects themselves (e.g., Honorton & Barksdale, 1972; Radin, 1988; Schlitz & Haight, 1984). Such data suggest that these experimenters have the ability, at least, to contribute psi to their experiments. In a remarkable report, Schlitz (1987) described interviews she conducted with three psi-conductive experimenters, at least some of whom admitted that they intentionally entered psi-conductive states of consciousness during their experimental sessions. This sort of behavior makes e-psi a particularly tempting hypothesis.

A Personal Anecdote

At this point, I would like to interject a personal anecdote that I must confess has influenced my personal evaluation of the e-psi hypothesis. Much has been made of how well the late Charles Honorton treated his research subjects, and this has often been cited as a major reason for his success in eliciting psi from them (e.g., McCarthy, 1993). Several years ago when I was living in California, I paid a brief visit to Honorton's lab in New Jersey as part of a trip to the east coast of the U. S. Although in many ways Honorton was a warm and congenial person, it is well known that he sometimes could be nasty with people if they did something he did not like (McCarthy, 1993). In my experience, this manifested as short, cutting comments that could occur at any time. As I anticipated I might be on the receiving end of one or more such comments, I approached the visit with mixed feelings.

Shortly after I arrived I served as subject in a ganzfeld session. Although I did not encounter any cutting remarks before the session, I did not expect them to occur then, and I was still apprehensive that they might occur later. The point, of course, is that I was not in the state of ease and comfort that was supposed to be key to Honorton's success.

As the reader has probably guessed, I obtained a direct hit. To my mind it was also an impressive hit, and I had at least two vivid images that were directly related to the target. Compared to other ganzfelds I had experienced, I found both the quality of my imagery and its correspondence to the target unusual.

However, what made the experience truly memorable was that two of my most distinct images that did not relate to the target were matched by sensory images I experienced shortly thereafter. The first image was of a cowboy riding a horse standing on its hind legs. It matched precisely a scene I encountered in the movie on my flight back to San Francisco that evening. The second image was of a sphere consisting of alternating red and white crescent-shaped wedges that I interpreted at the time as a beach ball. The day after I arrived back home I visited Golden Gate Park in San Francisco for the first time. Shortly after I arrived, I noticed some paper globes or lanterns hanging outside in an oriental exhibit. They looked exactly like the 'beach ball' of my ganzfeld session.

I am a hopelessly poor imager who almost never has precognitive impressions of any kind, either awake or in dreams, so I found this whole series of events quite extraordinary. Rightly or wrongly, I have always felt that some psychic input from Honorton was at least partly responsible for 'my' sudden outburst of psi. (By the way, the dreaded cutting remark never occurred during the visit.)

The Mechanism(s) of Experimenter Psi

By what mechanism(s) might e-psi express itself? In PK experiments, the mechanism seems quite straightforward.

The experimenter does exactly what he or she asks the subject to do, except the experimenter does it nonintentionally and unconsciously. I have never fully understood why retroactive PK experiments (e.g., Schmidt, 1976) are interpreted as providing strong evidence for the Observational Theories, when a much simpler explanation is that the experimenter nonintentionally and unconsciously biased the REG output at the time it was recorded on the tape, before it was observed by the subjects. Although it is true that 'retroactive PK' effects were predicted by the Observational Theories, these same effects (objectively defined) follow just as readily from the e-psi hypothesis.

The possible mechanisms in ESP experiments are of necessity more complicated, but not exceedingly so. The most attention has been paid to the possibility that an experimenter might bias the supposedly random selection of targets by means of PK. This is especially likely when the targets are generated by an REG. It is noteworthy in this connection that in Honorton's automated ganzfeld experiments (Honorton *et al.*, 1990), one particular target pack was selected by REG much more frequently than expected by chance (Bierman, Bem, Berger & Broughton, 1996). Although this fact in no way invalidates the evidence for psi from these studies, one wonders if it might represent an e-psi effect. It would be interesting to know if Honorton or one of his experimental associates had a particular affinity for one or more targets in this pack. It must have had some salience for Honorton, because he selected it as the single target pack to be used in one of his later ganzfeld series (Honorton *et al.*, 1990). Other parapsychologists have proposed ingenious ways to frustrate psychic target selection bias by minimizing the effect of psi-influenceable 'random' decisions on the process (e.g., Stanford, 1981). However, such decisions are never eliminated entirely (if they were, the method would not be valid), so these procedures, worthwhile as they may be, are unlikely to eliminate e-psi. This is especially true if one accepts the no-

tion that psi is 'diametric' (Foster, 1940) or 'goal-oriented' (Kennedy, 1978).

Target selection is not the only possible vehicle for e-psi in ESP experiments. A more likely mechanism, in my opinion, involves two stages. First, the experimenter nonintentionally and unconsciously acquires the identity of the target by clairvoyance or precognitive telepathy. Second, the experimenter nonintentionally and unconsciously sends this target information telepathically (i.e., by Stanford's (1974b) MOBIA) to the subject, who is unaware of the source of the information. Although this process might be considered unparsimonious in the sense that it requires two steps, each step is no more demanding than what we attribute to subject psi in the same situation.

Finally, some approaches to explaining psi, such as Stanford's (1978) Conformance Behavior Model, postulate that there is no mechanism at all involved in the acquisition of psychic information, as the term mechanism is commonly understood. For example, the brain simply 'conforms' to the state of the REG. If we adopt such a non-mechanistic approach, any conceptual difficulties in accounting for ESP by e-psi recede even further.

Some Methodological Approaches for Addressing Experimenter Psi

As is true for the source of psi problem generally, there is no way conclusively either to confirm or refute the presence of e-psi in an experiment. However, steps can be taken to estimate, and to some degree control, its likelihood. Even these more modest objectives are difficult to achieve. The best I can do is offer some general strategies that researchers might consider. All of these strategies assume that psi performance is influenced by certain cognitive and motivational variables, and their viability rests on the validity of these assumptions.

Cognitive factors

First, it is necessary to be clear about one's objectives. If the goal is simply to maximize psi and the researcher doesn't care who the source is, he or she should follow the lead of the psi-conductive experimenters interviewed by Schlitz (1987) and attempt to enter a psi-conductive state during the session. This could even go to the point of actively attempting to influence the outcome, although a passive 'hoping' might actually be more effective (Debes & Morris, 1982; Honorton & Barksdale, 1972; Palmer, 1996). Conversely, if the goal is to eliminate e-psi, the researcher should avoid deliberately entering a psi-conductive state during the session. This might be a good time to analyze data from another experiment or carry on an intellectual discussion with a colleague. Paradoxically, intense focusing on the session might have the desired inhibitory effect, but the researcher would need to maintain that focus throughout the session as well as immediately afterwards, to minimize possible release-of-effort effects (Stanford & Fox, 1975). Whether the goal is to facilitate or inhibit e-psi, it is obligatory that the researcher frankly acknowledge in the experimental report exactly what was done.

The best way for researchers to determine how to facilitate or inhibit their own psi in experiments is through self-testing with the same psi task to be given to the subjects. It is reasonable to suppose that the states which have the desired effect in self-testing will have comparable effects in experiments. To maximize the benefits of this approach, researchers should explore their psi performance in a variety of different states.

The third objective, which I would like to see more investigators adopt, is to assess the effect of e-psi as distinct from other factors such as experimenter social skills. The ideal way to achieve this objective is through experimental manipulation. For example, a researcher might implement a design in which two variables are manipulated orthogonally. The first is the experimenter (narrow definition) - subject

interaction. The researcher would need to recruit a tester who has psi-conductive social skills as best these can be currently defined. It would be desirable for such persons *not* to perform well themselves on the relevant psi task. A good method actor or actress is a possible choice. In one condition, this experimenter would maximize efforts to put subjects at ease, make the experiment fun, inspire confidence, etc. In the other condition, the *same* experimenter would minimize these skills, but not to the point of being rude or inspiring a lack of confidence. Not only would this latter approach fly in the face of how parapsychologists think subjects should be treated, but it would undercut the generalizability of the finding to well-meaning psi-inhibitory experimenters. The goal should be to do the 'right thing', but ineptly. The second independent variable would be the mental state of the *researcher*, the person who designed the study and presumably has the strongest stake in its outcome. In one condition, this person would enter a psi-conductive mental state whereas in the other condition he or she would not. The researcher should not be informed of the condition assigned to the tester, or vice-versa.

Motivational factors

Although cognitive states such as those discussed above are relatively easy to manipulate, the same cannot be said for desires and expectancies, which also could be expected to influence psi. Unless I am a very good hypnotic subject undergoing hypnosis, I can tell myself all I want to that I will like Brussell sprouts, but if I don't, I won't. Likewise, if I don't expect to do well on an exam, telling myself that I will is unlikely to make a difference, and my grade will still suffer. This could be a major factor that distinguishes psi-conductive and psi-inhibitory experimenters as their careers progress. Psi-conductive experimenters develop a track record of success that gives them confidence for their next study, while just the opposite happens for psi-inhibitory experimenters. This factor would be expected to impact both the likelihood they

will be able to communicate confidence to their subjects and the likelihood they will contribute their own psi to the outcome.

The only reliable way to address these motivational factors is through a correlational approach. For example, experimenters might keep track of their moods at each session and see how these ratings correlate with psi scores. Unfortunately, desires regarding outcome are likely to remain constant during an experiment, and this lack of variability dooms a correlational strategy. An exception might be if during the course of the study the experimenter sees the results reversing the hypothesis and thus hopes for this trend to continue so that significant evidence of psi, at least, will be obtained. The important thing to consider is what experimenters *actually* believe or want, which is not necessarily the same as the experimental hypothesis or what they 'should' believe or want. Finally, all these motivational variables could affect how the experimenter interacts with the subject, so this factor would need to be assessed as well.

It is possible that some experimenters might not be aware of their true desires, which also would sabotage the correlational approach. This is most likely to apply to psi-inhibitory experimenters who unconsciously might want a study to fail, either because they unconsciously fear the social consequences of being identified as a successful psi experimenter or because they unconsciously fear psi itself (Tart, 1984). (Let me hasten to add that the converse of this statement is not necessarily true; just because someone is a psi-inhibitory experimenter does not mean that the above psychodynamic factors are applicable.)

Comparisons of experimenters

A more indirect approach might also be of value. Although there is no official list of psi-conductive and psi-inhibitory experimenters, I am confident that a reasonable consensus exists within the parapsychological community about who at least some of these persons are. This raises the possibility that the two groups could be compared on

characteristics relevant to e-psi. Such an approach has already been used to assess the experimenter interaction hypothesis. Schmeidler and Maher (1981) and Edge and Farkash (1982) asked students to blindly evaluate tapes of psi-conducive and psi-inhibitory experimenters making presentations at a Parapsychological Association convention. These interesting studies should be followed up by taping experimenter performance in actual test situations, or even by having subjects rate their experimenters on relevant characteristics at the end of their test sessions.

This approach could be applied to the e-psi problem by having psi-conducive and psi-inhibitory experimenters serve as subjects in a common psi task. Although we already have evidence of exceptional psi performance from some psi-conducive experimenters (see above), a systematic comparison has never been attempted.

Unfortunately, motivational factors could compromise the efficacy of such an experiment. The reason is that a crucial number of psi-conducive experimenters might at some level want the experiment to fail, in which case they probably would not exhibit their true level of psi ability, even if they sincerely tried their best to succeed. This concern springs from my impression that most psi-conducive experimenters attribute their success to social skills rather than e-psi. There are at least three reasons why one might expect this to be the case, even in the absence of any data on the matter. First, e-psi is tantamount to self-testing, and self-testing is often frowned upon by other scientists. Although I have never heard a rational argument put forth in defense of this dubious proposition,⁵ the fact that it has currency among mainstream scientists means that if a finding were attributed to e-psi it likely would carry even less weight outside parapsychology than it

would otherwise. Second, social skills are more highly valued in our culture than are psi abilities, so it is only human nature that psi-conducive experimenters would prefer the former as the reason for their success. Last but not least, the experimenter interaction hypothesis is plausible and not without its own empirical underpinnings (White, 1977). A complete understanding of the experimenter effect will require that we pay attention to both e-psi and social psychological factors.

Conclusion

It is obvious that nonintentional psi and e-psi pose great difficulties for parapsychological experimentation. They also tell us something distressing about psi itself, namely that it is at least partly out of our conscious control and even our awareness. However, there is a brighter side to the picture, and I would like to close on a more positive note by briefly discussing what that brighter side is. Many people, including many parapsychologists, are attracted to the transpersonal viewpoint that we are all interconnected at some fundamental level. By broadening the range of potential psi sources in our experiments, nonintentional and unconscious psi lend credence to that viewpoint, even though they do not fully confirm it. For years, parapsychologists sympathetic with this perspective have complained that our research methods are inadequate to cope with psi's presumed holistic nature, but these complaints have never led to viable methodological alternatives that meet the epistemological standards of consensual evidence that are central to the identity of our field. Nonintentional and e-psi force us to recognize that these problems cannot be avoided in *any* of our experiments and thereby provide impetus to the quest for viable new methods, which could have the added payoff of making psi less elusive. I hope the ideas presented in this paper will help with this endeavor, but we have a long way to go. If we are to advance further, we must start to confront the e-psi problem more openly and directly than we have in the past, despite

⁵ I do not deny that there are circumstances in which an experimenter would not be an appropriate subject, as, for example, when it is necessary that the subject be blind to the hypothesis. I am referring to circumstances, which often occur in parapsychology, when such considerations do not apply.

any short-term advantages there might be to keeping it in the background.

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Onderzoeker als psi-bron blijft een uitdaging

Samenvatting: De auteur betoogt dat parapsychologen in het algemeen te weinig aandacht besteden aan de rol van de experimentator als psi-bron (e-psi), met name zij die ontkennen dat e-psi op zijn minst bijdraagt tot het succes van een psi-experiment. E-psi is een vorm van onbedoelde en onbewuste psi, die sterk wordt ondersteund door Stanfords PMIR-model. Bovendien speelt het een rol in de vraag naar de bron van psi-effecten. Psi-bronnen moeten beperkt worden als men de betrouwbare samenhang tussen de psi-scores en de intentie van de proefpersoon wil verklaren. Die beperking moet de psychologische betrokkenheid bij het experiment op zich zijn. De gangbare interpretatie van zogeheten 'fieldREG'-effecten sluit zo'n beperking al bij voorbaat uit. Daarom kunnen die effecten maar het beste als e-psi worden verklaard. Het artikel doet aanbevelingen voor het inschatten van e-psi, waaronder orthogonale manipulatie van de cognitieve status van de hoofdonderzoeker door het gedrag van de onderzoeker naar de proefpersoon en directe vergelijkingen van individuele scores in een psi-experiment tussen onderzoekers die psi wel en die psi niet bevorderen.

El Reto de Psi Proveniente de los Experimentadores

Resúmen: El autor sugiere que en general los parapsicólogos han prestado poca atención al rol de psi de los experimentadores (e-psi) en parapsicología. Se discute que la evidencia exige que el peso de la prueba debe caer en los que dicen que e-psi no es al menos un factor contribuyente en la mayor parte de los experimentos psi exitosos. E-psi es un caso especial de psi no-intencional e inconsciente que ha recibido fuerte apoyo a través del modelo PMIR de Stanford. El e-psi también es un caso especial del problema de la fuente de psi. Las fuentes de psi deben ser limitadas para explicar la confiabilidad que existe entre puntuaciones psi y la intención humana. Se propone que este límite sea el involucramiento psicológico en el experimento. La interpretación usual de los llamados efectos de campo de generadores de eventos aleatorios impide esta limitación, por lo cual en parte estos parecen ser mejor interpretados como e-psi. Se ofrecen recomendaciones para evaluar a e-psi, las cuales incluyen manipulación ortogonal del estado cognoscitivo del investigador principal con el comportamiento del experimentador hacia el sujeto, y comparaciones directas de las puntuaciones psi personales entre investigadores que son facilitadores o inhibidores de psi.

Versuchsleiter-Psi als Herausforderung

Zusammenfassung: Der Autor vertritt die Auffassung, daß Parapsychologen im allgemeinen der Rolle unzureichende Beachtung geschenkt haben, die Psi innerhalb der Parapsychologie auf seiten des Versuchsleiters oder Experimentators (E-Psi) spielen kann. Die Beweislast sollte jenen

zufallen, die behaupten, daß E-Psi zu den meisten erfolgreichen Psi-Experimenten nicht wenigstens beiträgt. E-Psi ist ein besonderer Fall von unabsichtlich und unbewußt eingesetztem Psi - eine Auffassung, die durch Stanfords PMIR-Modell wesentliche Stützung erfährt. E-psi ist zudem ein Musterbeispiel für die Ursprünge des Psi-Problems. Psi-Quellen müssen beschränkt werden, will man die Verlässlichkeit zwischen Psi-Leistungen und menschlicher Intentionalität erklären, und diese Begrenzung muß in der psychologischen Verwicklung in das Experiment selbst liegen. Die gängige Auslegung sog. Feld-REG-Effekte schließt solch eine Beschränkung aus, weshalb diese Effekte, teils gerade deswegen, am ehesten als E-Psi interpretierbar scheinen. Es werden Empfehlungen für die Feststellung von E-Psi gegeben. Zu diesen zählt die orthogonale Einflußnahme auf den kognitiven Zustand des Versuchsleiters durch das Verhalten des Experimentators gegenüber der Versuchsperson ebenso wie direkte Vergleiche persönlicher Psi-Test-Ergebnisse zwischen psi-fördernden und psi-hemmenden Untersuchern.

Studiare la psi degli sperimentatori

Sommario: L'autore suggerisce che in generale i parapsicologi non abbiano rivolto una sufficiente attenzione al ruolo in parapsicologia della psi degli sperimentatori (s-psi), mentre tutto sembrerebbe indicare che l'onere della prova spetti a chi sostiene che la s-psi non è nemmeno un fattore che contribuisce alla riuscita degli esperimenti di maggior successo. La s-psi è un caso particolare di psi involontaria e inconscia, che ha ricevuto un forte sostegno dal modello PMIR di Stanford. La s-psi è un caso particolare anche del problema dell'origine della psi. Le fonti della psi andrebbero limitate, se si vuol capire quale rapporto ci sia tra punteggi psi e intenzionalità umana e viene proposto che il limite risieda nel coinvolgimento psicologico nell'esperimento in quanto tale. L'interpretazione corrente dei cosiddetti effetti REG di campo impedisce una tale limitazione ed è in parte per questo motivo se tali effetti sembrano interpretarsi meglio come s-psi. Vengono forniti alcuni consigli per valutare la s-psi, tra i quali una manipolazione diretta dello stato cognitivo del ricercatore principale con il comportamento dello sperimentatore verso il soggetto, e confronti diretti tra i punteggi psi ottenuti dai ricercatori che favoriscono e da quelli che inibiscono la psi.

Le défi du psi de l'expérimentateur

Résumé: L'auteur suggère que les parapsychologues n'ont en général pas suffisamment payé attention au rôle du psi de l'expérimentateur (e-psi) en parapsychologie, en argumentant que les évidences dictent que le lourd fardeau de la preuve devrait retomber sur ceux qui argumentent que l'e-psi n'est au moins pas un facteur contribuant à la plupart des expérimentations psi réussies. L'e-psi est un cas spécial de psi non-intentionnel et inconscient, qui a reçu un soutien fort par le modèle PMIR de Stanford. L'e-psi est également un cas spécial du problème de la source du psi. Les sources psi doivent être limitées afin de rendre compte de quelle fiabilité il existe entre les scores psi et l'intentionnalité humaine, et l'on propose que cette limite soit l'implication psychologique dans l'expérimentation en tant que telle. L'interprétation standard des effets terrain-REG (Générateur d'Événement Aléatoire) exclut une telle contrainte, et partiellement pour cette raison ils semblent être mieux interprétés en tant qu'e-psi. Des recommandations sont offertes afin d'évaluer l'e-psi; parmi elles il y a la manipulation orthogonale de l'état cognitif de l'investigateur principal avec le comportement de l'expérimentateur envers le sujet, et des comparaisons directes de scores personnels à un test-psi entre investigateurs psi-conducteurs et ceux psi-inhibiteurs.

O desafio do experimentador que testa psi

Resumo: O autor sugere que os parapsicólogos em geral não têm dado a atenção necessária ao papel do experimentador que testa psi (e-psi) em Parapsicologia, alegando que a evidência dita que o fardo da prova deve recair sobre aqueles que argumentam que o e-psi não é nem ao menos um fator que contribua nos experimentos psi que alcançam melhores resultados. O e-psi é um caso especial de psi não intencional e inconsciente, que recebeu forte apoio do modelo PMIR de Stanford. O e-psi é também um caso especial de fonte do problema que gira em torno de psi. As fontes de psi devem se limitar a dar conta da confiabilidade que há entre os resultados dos testes de psi e a intencionalidade humana. Propõe-se que esse limite seja o envolvimento psicológico no experimento como tal. A interpretação padrão dos assim chamados efeitos de geradores de eventos aleatórios de campo impedem tal restrição e, em parte por esta razão, eles parecem melhor interpretados como e-psi. Recomenda-se avaliar o e-psi, o que inclui a manipulação ortogonal do estado cognitivo do principal investigador com o comportamento do experimentador para com o sujeito, e comparações diretas dos pontos alcançados nos testes pessoais de psi entre investigadores psi-condutores e psi-inibidores.

Book Review:

Parapsychology, Philosophy, and Spirituality: A Postmodern Exploration.

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A review of *Parapsychology, Philosophy, and Spirituality: A Postmodern Exploration*, by David Ray Griffin. Albany: State University of New York Press, 1997. Pp.292+notes £15.50 pbk. ISBN 0-7914-3316-1, LC 96-21472..

The title of this book is wide-ranging. However, although the book's scope is indeed broad, its content differs from its title. Strictly speaking, the book has only a little emphasis on parapsychology. Indeed, the author himself notes that by 'parapsychology' he really means what is usually termed as 'psychical research'. As a result, most of the emphasis is on spontaneous cases (albeit the more well-researched examples). Moreover, his focus in Chapters 4-8 is on psychical research's prime territory — the question of survival after bodily death.

The subtitle is also a little misleading. The book is only secondarily a *postmodern* exploration. From the subtitle one might have expected Griffin's book to be one in which psychical research is interpreted in the light of current postmodern thought. Instead, the postmodern aspect is brought to light only in the very last chapter and almost as an afterthought. There is no reference to any contemporary postmodern philosophers in the book at all (although it is noted in the Introduction that the term 'postmodern' can mean many things).

Similarly, the use of the word 'spirituality' in the very title of the book is surprising when it becomes a topic only in the final chapter. The overall impression — perhaps not surprisingly — is that the title was chosen to sell the book rather than to reflect its content.

In reality the book is an attempt both to show how Whitehead's process philosophy overcomes many of the problems inherent in the philosophy of mind and how it can accommodate the phenomena from psychical research. The latter half of the book assesses whether or not there is any good reason to think that survival of bodily death may be possible. Griffin takes many different types of evidence (e.g., evidence for reincarnation, apparitions etc.), discusses whether they necessarily imply survival of death and then tries to explain them according to a Whiteheadian metaphysics. As a whole the book is a mixture of philosophical reasoning and of case studies in psychical research.

The main philosophical content of the book is located in Chapters 1, 3 and 9. In the first chapter Griffin gives a historical overview as to how paranormal phenomena came to be dismissed by the contemporary materialistic worldview. He then claims that there are three basic types of people. There are paradigmatic thinkers (who think in terms of worldviews), data-led thinkers (such as scientists) and wishful thinkers (who are led by what they want to be the case). Most people are a mixture of these. He argues that paranormal phenomena do not fit into the current worldview and that a shift in worldview is necessary.

The terminology in the chapter is sometimes a little too enthusiastic. For example, he describes the evidence for

paranormal functioning as 'overwhelming' and yet, given the continued controversy over the data — including controversy about some of the examples he actually cites — it evidently cannot be overwhelming in fact. It is hard to say whether others are too fearful or whether Griffin is too wishful, but fortunately in the rest of the book Griffin tries to persuade paradigmatic thinkers first and foremost with additional arguments for those who are data-led.

The third chapter is probably the one that is most based in traditional philosophical debates. Here Griffin discusses problems that arise if one holds a dualistic understanding of the mind-body problem (i.e., that the mind is a non-material thing in a material body); problems that a materialistic view of the mind (i.e., that the mind is a material thing identical with the brain) has to answer; and the problems that both dualism and materialism share. Griffin argues that if one adopts a panpsychic or 'panexperientialist' (Griffin's term) view — i.e., the idea that all individuals enjoy experience — then all of the problems connected to dualism and materialism fall aside. The panexperientialism that Griffin holds is a Whiteheadian one.

Griffin explains Whitehead's notion of 'prehension' which is a form of nonsensory perception. Examples of prehension would be the fact that we know that there is an external world and that values (such as goodness, beauty etc.) exist. Neither of these pieces of knowledge can be gained purely through sensory perception. Griffin argues that once we accept the notion of prehension, then we can also accept the possibility of extra-sensory perception. Moreover, if prehension is possible, then life after bodily death is likewise a possibility. Perception is now no longer limited to what the materialistic worldview permits.

This chapter covers a lot of ground in a short space, so readers should not expect to receive a full insight into the many issues that plague the philosophy of mind. Instead, the chapter serves best as a summary of some of the main problems involved. It also serves as a springboard for

further reading, criticism and thought. Moreover, even though the chapter is clearly written, given the shortage of space some of the Whiteheadian terminology necessarily remains a little unclear (such as what precisely constitutes a 'dominant individual' and how to assess whether something has a 'self-determining response to the environment').

The final chapter explains that the approach taken in the book is a postmodern one because it breaks down the distinction between subjectivity and objectivity. The main aim of the chapter is to take various assumptions that underlie the idea that life is a spiritual journey and to show how paranormal phenomena support these assumptions. Griffin sees the term 'spirituality' as reflecting the idea of a non-institutionalised religion. He ends by claiming that if life is a spiritual journey, then there must also be life after death.

The rest of Griffin's book is far more devoted to giving examples from parapsychology and from psychical research to help data-led thinkers rethink their perspective. The philosophical chapters are primarily given for the benefit of the paradigmatic thinkers.

The second chapter is the first one to discuss evidence for the paranormal and its focus is on the notion of repeatability. The four types of replicability that Griffin cites are those of i) laboratory experiments; ii) spontaneous events; iii) subjects in tightly controlled conditions; and iv) subject population with belief in the paranormal. As regards this last point, Griffin notes that many sceptics believe that only those with deficient intelligence accept the paranormal. However, he says, many people of exceptional calibre have expressed publicly their belief in paranormal events. Given that Griffin makes this point here, it might have been best for him not to have made the same point in the previous chapter (e.g., p.13, p.24) by listing various impressive names. Unfortunately, the overall impression is that Griffin is arguing from authority (and sceptics are always keen to remark that someone who excels in one subject does not

necessarily excel at detecting fraud in parapsychology). Similarly, a more extended discussion of the various issues involved may have provoked more interest. For instance, no mention is made of alternative interpretations of the results from micro-PK experiments (e.g., that they could just be due to selecting precognitively the appropriate group of data points) and that some people therefore doubt the existence of PK. Consequently, it appears that because the author has a point of view to argue (in which PK is possible but precognition is not), only the appropriate information for that point of view is given. A more balanced approach may have been more persuasive.

Chapters 4-8 all assess the evidence for life after death. The topics in turn are: mediumistic messages; possession; reincarnation; apparitions; and OBEs. These chapters follow on directly from the conclusion in Chapter 3 that a Whiteheadian metaphysics suggests that life after death may be possible, but that it is by no means necessary (either for parapsychology or for Whitehead). Thus the aim of the second half of the book is to see whether survival of bodily death is required by the available data. Each of the following four chapters begins with a short justification for taking seriously the evidence to be presented. They then provide the strongest cases for the phenomenon in question (e.g., mediumship) and they subsequently discuss whether this evidence must be taken as evidence for postmortem survival.

For most of this evidence Griffin brings forward his own theory of 'retroprehensive inclusion' as an alternative to the survival hypothesis. This theory is similar to the superpsi hypothesis. With retroprehensive inclusion, though, a person can apprehend experiences of others as if they were their own experiences. Retroprehensive inclusion thus has the advantage over superpsi, because it enables a far more accurate acquisition of information than is generally thought possible even through superpsi. Griffin believes that virtually all the cases outlined in chapters 4-8 could theoretically be explained by retroprehensive inclusion,

but not without some problems. For example, he notes that retroprehensive inclusion suggests that a past personality could be reincarnated by more than one person and yet the evidence does not appear to point in this direction. His overall conclusion from these chapters is that although the theory of retroprehensive inclusion can be invoked to explain the phenomena, the survivalist interpretation is nevertheless the most likely.

There seems to be some inconsistency in these chapters as to what Griffin will regard as the 'boggle factor' in respect of superpsi. In chapter 8 he appears somewhat dismissive of the possibility of super clairvoyance to explain OBEs, but in previous chapters he seems to accept this possibility in a quite radical form. It is also difficult to see how retroprehensive inclusion is compatible with a dualism that is not an ontological one — that is, retroprehensive inclusion seems to suppose (contrary to Griffin's stated position) that the mind or soul is distinct in kind from the body.

Nevertheless, these criticisms should not take away the value of these chapters for those interested in the question of survival of bodily death. The careful assessment of the evidence and of the theory under consideration certainly illustrates very well the complexity underlying any interpretation of the evidence.

Griffin's book is clearly written. However, it would have benefited from being structured more closely as a book on the problems that confront philosophers and psychical researchers when they consider the possibility of postmortem survival. Even the initial chapters are ultimately directed towards laying the groundwork for the issues that need to be considered. Instead Griffin spreads his net a little too wide — wishing also to validate parapsychology in the eyes of academics and to construct his own worldview as the new paradigm. This is just too large a scope for one book; chapter 3 alone had enough material for an entire volume (although Griffin does refer to other works of his that address many of the issues).

Griffin clearly hopes that the book will encourage other academics to look at the existing evidence for the paranormal. Although I share this hope, the project is one that needs its own separate book with a more thorough assessment both of the evidence and (for philosophers) of the sheer difficulty of the philosophical issues involved. Nevertheless, the book is informative, it provides a good assessment of the survival issue and it raises other interesting questions that, by the very fact of their sketchiness, provoke the reader to think. I,

like Griffin (presumably), hope that readers will be inspired.

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Book Review:

Healing Research: Holistic Energy, Medicine and Spirituality. Volume 2

Jerry Solfvin

A review of *Healing Research: Holistic Energy, Medicine and Spirituality. Vol. 2. Holistic Energy Medicine and the Energy Body* by Daniel J Benor, 1987, 1992, 1994. Munich, Germany: Helix Editions Limited.

When I first encountered volume I of this planned four-volume series on healing, I was delighted that Dan Benor's years of hard work were finally coming out in book form. Dr. Benor has been gathering this hard-to-find literature since the early 1980's. He has produced several partial bibliographies on healing in the form of Xeroxed manuscripts, nicely annotated, which he gave to anyone who was interested. As the years went by, several literature reviews and bibliographies of healing studies have been published by others, including reviews by Solfvin (1984), Dossey (1993), and Murphy (1994), but there is certainly room for more. So I smiled broadly as I opened the book.

As expected, in the first volume Benor reviews an impressive amount of psi healing research including published and unpublished reports from around the world which most readers would not otherwise know existed. After some introductory material, including a brief romp through the world of parapsychological research, the final chapters detail the controlled and uncontrolled studies of 'healing action' on various kinds of living systems. For each study, the method and results are presented in sufficient detail to eliminate the need for readers to refer to the original article, and for each, Benor provides a brief commentary and criticism to assist the reader in interpretation. What a valuable resource Benor has provided!

It was not without disappointment, however. As I read through Benor's commentaries on the studies, I detected a tendency to treat the studies which showed positive results differently than those which showed negative results. This was subtle. For example, Benor describes Randall Byrd's (1991) study as 'excellent'. To me, Byrd's highly publicized study is a good preliminary study, but it wouldn't fly, on its own, in a peer reviewed medical journal. Byrd had interesting results in this double blind study, with patients receiving intercessory prayer showing less mortality, need for antibiotics and intubation, and pulmonary edema than the controls. But Byrd's study is ambiguous and, in several important respects, uncontrolled. In a one-shot study, the research process requires that we eliminate alternative explanations for the results in order to establish a causal relationship between the prayer and the group differences which resulted. It is the job of the researcher to show convincing evidence that the results were not due to fortuitous randomization, to one group being loaded with patients with less social support, less effective coping strategies, or less experienced doctors. Random assignment does not guarantee that the groups are balanced. Moreover, it is the job of the researcher to assure that the prayer was actually conducted as planned, that the control group did not also receive prayer treatments (from friends or relatives), and that the between-group differences were

due to positive outcomes in the prayer group rather than negative outcomes in the control group. And it would be nice to show that the outcomes varied systematically with some aspect of the prayer treatments (e.g., quality, quantity, or experience of the one who prays). Byrd did not do this.

Contrast this with Benor's discussion of the Dutch study of paranormal healing for hypertension (Beutler, Attevelt, et al, 1991), a study which was designed as a confirmatory study, had specific hypotheses, addressed the possible alternative explanations, and which was accepted by a peer reviewed medical journal (British Medical Journal). This study did not show significant evidence for the paranormal healing intervention (though there was a tendency in the predicted direction). Benor does not call this an 'excellent' study, though he concedes that it was 'carefully performed.' Reading these two studies in sequence in Benor's volume I, the reader gets the sense that Byrd's study is just as good, and maybe better, than the Dutch study, a point I would vociferously argue.

Moreover, I was irritated by the numerous typographical errors in volume I. There were also some factual errors, such as that Daniel Wirth's (1990) original therapeutic touch study was his master's thesis at John F. Kennedy University. It was not. Such errors are a nuisance for the reader, but they also suggest that the author was not careful in preparing and finalizing his manuscript. They leave the impression that the book was carelessly slapped together, which detracts from the professionalism one would hope to find.

So I approached volume II with a bit of trepidation. It does appear that the error rate has been reduced from volume I, but certainly not to zero. And the sloppiness factor is still in evidence, such as misspelling Arthur DYKEMAN (should be DEIKMAN) in the text as well as in the references. Like volume I, this volume needs editing.

As for content, Benor says that volume II deals with 'aspects of healing which are less well documented, partly for reasons

inherent in their nature. They involve subtle energies which healers sense with their hands and which some can perceive as auras of color around living beings.' This is slightly misleading, since the largest of the four chapters is on self-healing, including psychotherapy, suggestion, hypnosis, bio-feedback, and brain-mind interactions. And the next largest chapter deals with alternative and complementary treatment approaches, such as yoga, acupuncture, spinal and cranial manipulation, homeopathy, visualization, and meditation. Only the last two chapters (about 60 pages) deal with auras, kirlian photography, biological energy fields, dowsing, radionics, and astrology. Benor attempts to bring this diverse list together, pointing out possible common features and overlaps about which he freely speculates. He also speculates about the possible relevance of each topic for psi healing.

'Speculates' is the key word here. A part of science is for knowledgeable colleagues to get together informally, kick off their shoes and lock the door, to talk long into the night about personal reflections, unfettered speculations, and 'what ifs'. Benor's volume II reads as though he'd recorded such a session and published it unedited. This is not a scholarly, scientific work in the traditional sense. Rather, it is the work of a would-be scientist who has taken his lab coat off, jumped into his own test tubes to experience the object of his study firsthand, and has now emerged eager to tell us what he has found. In reading volume II, I didn't get the feeling that Benor was intentionally trying to fool me, though I did wonder, at times, if he was fooling himself.

I say this because the work is uneven, wavering from the detailed examination of research reports with descriptions, analyses, criticisms, and discussion, to entirely uncritical statements that are presented as if they were absolute fact. A key piece occurs on page 116, where he quotes Jahn & Dunne (1987):

...we find ourselves fishing in a metaphysical sea with a scientific net

far better matched to other purposes. information we seek will slip through the net, leaving us only skeletal evidence to retrieve, but it is on that alone that we can base systematic analysis and scientific claim.

Benor then continues, 'It is in this spirit that we approach these areas of healing which are more difficult to define. We must also explore bits which could slip through our more rigorously constructed net of scientific study and elude our observation, while hoping to develop new nets which may hold them for our closer scrutiny.' But Benor has missed Jahn & Dunne's key point, that '...it is on this [high consensus evidence] alone that we can base systematic analysis...' Benor has chosen to include this quote, and claims to approach his topic 'in this spirit', but he doesn't. In fact, he does just the opposite. Benor goes on to sweep the ocean with a big canvas bag that does not discriminate at all, and then throws a bagful of old boots, tires, fish hooks, stones, and a few fish onto the table and tells us what a fine meal we're about to have!

Volume II is, actually, highly selective in a different sense. Unlike volume I, it is far from comprehensive, favoring the research and interpretations that best tell Benor's story. This is fair enough, actually, since Benor is on a mission to show us what he believes about psi healing and why. About halfway through volume II, it became obvious to me that this was not a standard literature review, and that this book might best be read by disabling my critical mind and simply going along with Benor for the ride. He is constantly weaving the multi-colored threads of his story into a patterned fabric. In this, we can see Benor's intelligence, his long and deep involvement with psi healing professionally and personally, and his intensity and excitement about connecting ideas. Benor is highly skilled in this regard, and these skills are in evidence in volume II. Benor leads us through a maze of data and concepts to bring us to the door of his pet theory. He is very fond of the notion that human beings possess an energy body -- perhaps a conglomeration of many diverse energy fields -- which healers

Inevitably, much of the anomalous influence and which, in turn, acts upon the physical body. When I reactivate my critical mind, however, it seems to me that I've just watched a master carpenter build a fine looking, highly crafted house out of materials without structural integrity -- precisely the concern of the Jahn & Dunne quote above.

Benor makes a number of good points. The early sections of the book, for example, are aimed at showing '...how very extensive and real are the body's capacities to both allow illnesses to develop as well as to sort them out.' (p. 11). This is an extremely important point which all too often gets drowned out by the data intended to show the efficacy of a particular therapeutic intervention, alternative or otherwise. It is particularly important for the investigation of psi healing, because it gives us a very plausible avenue for its operation, based on telepathic exchange which we know occurs, as opposed to psychokinetic influence, which is not at all established in parapsychological circles. Benor also points out the dangers of falling into the same pit that we have with standard western medicine: the pit of looking at psi healing as a magic pill or miracle drug. We westerners seem always to be looking for something outside of ourselves to cure us of our ills. For this reason, Benor reminds us of the importance of personal responsibility in managing one's health care.

There are also two appendices of some interest: a table of references to healing in the Bible, and a listing of organizations, primarily in the U.K., which provide help and information regarding psi healing. These appendices are apparently repeated from volume I. I do have concerns about what criteria Benor has used to select these organizations for inclusion in this series. There is always an implied recommendation attached to such lists, and if Benor does not intend this, he should make it clear to his reader. If he does intend it, I'd certainly like to know why.

Based on my readings of volumes I and II, I have several suggestions for the future volumes. First and foremost, they should be carefully edited before going to press. In

retrospect, all of my disappointments with volumes I and II could have been reversed by editing. The editing of the typos, misspellings, and factual errors would improve the quality substantially, but I wouldn't stop there. I had the feeling that there were many statements which Benor made in the first two volumes without being fully cognizant of the impact the statement would have on the reader. For example, it would have made so much of a difference to me if Benor had changed a statement like "They [sensitives who claim to see auras] can diagnose one's state of health at a glance," to read "They say they can diagnose one's state of health at a glance." Carefully editing such statements would not change the content, but would have a major impact on the tone. Finally, I would include editing for clarity and organization. A good editor will catch this, such as Benor's use of 'energy medicine' and 'vibrational medicine' in volume II without having a clear definition (they do not even appear in the glossary!) I would hope that there is still time to save volumes III and IV from the problems of volumes I and II. A good book, like a good research project, is a product of good editing before it goes public!

In volume III, which Benor tells us will deal with the 'spiritual dimensions' of healing, I would hope to see a good modern review of the survival research literature. It seems appropriate to blend this with healing, since illness and healing are always linked implicitly with questions of death and survival. Volume IV is supposed to synthesize the material from the first three volumes and present 'a range of theories' to explain psi healing. Given that Benor favors a particular line of theorizing, I hope that he will put his scientist hat back on and present a more comprehensive and critical overview. The theories of psi healing have never, to my knowledge, been comprehensively reviewed. Volume IV of Benor's series would provide a splendid opportunity to do so.

Finally, I have struggled with the issue of the best audience for volume II. I have no hesitation recommending volume I of this series to anyone, professional or non-

professional, interested in learning about the research in this area. Volume I is a must for their reference library. I would not say the same for volume II, which seems more of a personal statement than a scholarly one. It is, however, a personal statement of someone who is particularly knowledgeable and invested in this area, and who will continue to contribute to our ever increasing understanding of psi healing in the future. For that reason alone it is worth buying and reading for those who would help support the work of the few who have devoted themselves to this fascinating and potentially valuable area of investigation.

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Book Review:

The Lotto Effect: Towards a Technology of the Paranormal

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A review of *The Lotto Effect: Towards a Technology of the Paranormal* by Damien Broderick. Hawthorn, Victoria, Australia: Hudson Publishing, 1992. Pp. 272+index. Aus \$16.95. ISBN 0 949873 41 1..

If psi is real, then commonly reported spontaneous psychic experiences ought to be verifiable through carefully planned laboratory tests. And so they are (cf. Radin, 1997). But evidence for psi ought to exist in other realms as well, especially in contexts combining the motivations of real life with the controlled environments and precise recordings of the laboratory. In particular, we would expect to find evidence for psi in casino gambling and in lottery games.

Author Damien Broderick examines this idea in depth in *The Lotto Effect*. In an engaging, narrative style reminiscent of a mystery story, he reviews the twists and turns of the evidence for psi, some of the leading theories, and typical skeptical reactions. This forms the background for the main topic of the book: That psi may be detectable in lottery games. Through tremendous persistence, Broderick managed to test his idea by obtaining data from one of the popular Australian lottery games played from February through April in 1991. This database consisted of over 800 million guesses recorded on 141 million lottery entries in 23 consecutive games.

In a detailed examination of this data, Broderick excluded the likelihood that common preferences for certain numbers (like 7 or 11) were impressed into the data by PK through the accumulation of nearly a billion wishes. (However, it is worth nothing that an analysis of winning numbers listed on page 27 of *The Lotto Effect* indicate that odd numbers were selected significantly more often than even numbers.)

Broderick then considered whether the ratio between the numbers that people selected vs. the actual winning numbers may provide evidence for precognition. He considered in detail the problems of response bias and noise introduced by natural fluctuations in hit rates, and eventually settled on the residuals of the linear regression of weekly hit rates, per selected number. These residuals were used to see whether people selected certain numbers more often when they turned out to be the winning numbers.

Analysis of the top one percent of the largest residuals provided intriguing evidence for precognition, with odds against chance of 122 to 1 for lotto games played during midweek data and 763 to 1 for games played on Saturday. Given this result, confirmed by independent analyses of lottery and casino data (Zilberman, 1995; Radin, 1997), it is a pity that the stupendous amounts of data generated daily by lotteries and casinos around the world are rarely available for analysis. After reading *The Lotto Effect*, one gets the impression that if a few years' worth of daily lottery or casino data suddenly landed on Broderick's desk, then the question of whether psi influences gambling profits would be quickly settled. Perhaps this is precisely why the data is not readily available.

For the "technology" part of his book, Broderick considered statistical methods of amplifying weak psi effects. After discussing methods used by Ryzl, Lozanov, Brier and Tyminski, and Puthoff, he provided a good description of how to use

majority vote techniques to enhance psi in practical applications.

The Lotto Effect impressed me as a thoughtful, critical, and accessible review of the evidence and possible pragmatic uses of psi from a well-informed observer. In a few of the more technical sections, I would have preferred the concise use of mathematical equations over lengthy narrative descriptions, but in a popular book it is understandable why math was avoided.

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Book Review: *Critical Reflections on the Paranormal*

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A review of *Critical Reflections on the Paranormal*. Edited by Michael Stoeber and Hugo Meynell. Albany, New York: State University of New York Press, 1996. Pp. 224. £15.50 pbk. LC 96-1517. ISBN 0-7914-3064-2.

As with many books that attempt to unite two disciplines (here predominantly: Philosophy and Parapsychology) *Critical Reflections on the Paranormal* has as its immediate problem the definition of its readership. The book consists of nine chapters by nine different authors, the majority of whom are professional philosophers. One might imagine, therefore, that the book would be aimed primarily at philosophers and that the writings would as a consequence be intricate, tightly woven and somewhat heavy as philosophical writings are wont to be. But herein enters the problem. Whereas historical philosophers, philosophers of science, philosophers of mind or continental philosophers may all presuppose a common ground of knowledge and a common vocabulary amongst their proposed readership, those philosophers debating about parapsychology can often not make such assumptions. As a result the ground and the vocabulary has to be laid within the essays themselves. In some ways this has its advantages as it makes the writings accessible to a larger audience – namely to parapsychologists, philosophers and to the intelligent layperson – and in other ways it is frustrating as philosophical depth can be compromised by such an approach as can a properly indepth discussion of parapsychology.

Another problem that enters in – and this is probably true of virtually all academic books – is the scope that any given book can hope to cover. The rather all-embracing title of this book is a little over-ambitious. All of the essays could

probably be lumped into roughly two topics – the appraisal of reasons for the continued controversial nature of parapsychology and the issue of survival. Those hoping for the wider range of discussion suggested by the title of the book will be disappointed.

The book opens with two chapters, one by each of the editors. The individual contributions by the authors are, incidentally, actually termed in the book as chapters. I found this rather counter-intuitive, because although the contributions do interlink, the book is not written as a collective treatise; it is presented more as an invited collection of essays on the given topic. Notes are at the end of each chapter and are not always consistent in form (Donald Evans' paper has endnotes followed by references, all other papers have endnotes which include the references within the notes when needed); this too can be confusing. Although these are only minor irritants, they do give the impression of careless editing..

Michael Stoeber opens the book by deftly summarizing and linking the contents of the individual chapters that are to follow. Although this is a standard way of introducing a collection of papers, it is unfortunate that Stoeber continually refers to psi as 'human powers' thereby pandering to the popular terminology that the book purports to go beyond. It is also made clear in this introduction that 'the paranormal' (and hence the book) goes beyond 'the discipline of parapsychology proper' (p.2). At this point, with the passing mention of angelology, mediumistic communication and possession, the reader may hear

warning bells going off in the distance, particularly when Stoeber follows this by referring to the New Age movement on the one hand and CSICOP on the other. Stoeber then claims that the aim of the book is to examine sweeping statements critically. This juxtaposition, however, thereby gives the impression that the book is primarily concerned with analysing popular conceptions of parapsychology rather than parapsychology proper. Nevertheless, these warning bells are merely a false alarm and they should not deter the reader from reading further.

Hugo Meynell's paper is the first of the following three essays which focus on problems in examining paranormal phenomena. Meynell states that the purpose of his contribution is to consider how one should investigate so-called 'paranormal' phenomena and to examine what relevance these phenomena have to the issue of survival. He distinguishes between scepticism and pseudo-scepticism; pseudo-scepticism being the dismissal of the paranormal *a priori*.

Meynell argues against pseudo-scepticism and he divides scepticism proper into scepticism-a and scepticism-b. Those in the former category believe that all claims about the paranormal should be assessed in the light of available evidence, whereas those in the latter think that, all evidence considered, there is still insufficient reason to believe in the paranormal. Scepticism-b may follow on from scepticism-a. Meynell claims that too many investigators act as if they are lawyers pleading for the prosecution or defence. He cites Honorton's ganzfeld work and Hyman's criticism of it as an example. Although there is some truth to Meynell's point, the discussion is somewhat brief (he does not mention, for example, that Honorton replied to Hyman's criticisms and that work has since been undertaken taking Hyman's criticisms into account), this brevity unfortunately rendering his point less convincing than it could be. Meynell's paper is also somewhat swift when he considers mediumship, NDEs and automatic writing. The structure of the essay is, in addition, a little confusing. For

example, the introduction of mediumship first appears as if its purpose were primarily to show that non-experimental evidence should also be taken into account. The paper, however, continues by discussing other phenomena associated with life after death. Only then does Meynell return to the idea of evidence in both experiences and apparent communications because of their similarity, even though the overall discussion is now centring on the issue of survival. Meynell concludes his contribution by saying that he thinks that life after death is possible. The essay covers a lot of ground in a short space and it is perhaps best regarded as introductory and as setting the general background for the other contributions.

Donald Evans' paper 'Parapsychology: Merits and limits' is a lengthy, but well-written and interesting contribution to the collection. It discusses and differentiates between two possible approaches to the paranormal. These approaches are the 'causal mechanism' or positivist approach and the 'psi ability' approach.

The causal mechanism approach requires that an anomaly be established and that an appropriate explanation for the anomaly be provided. The psi ability approach, however, does not require there to be an anomaly that requires scientific explanation; it focuses instead more on agent causality. Evans argues for a psi ability approach.

He discusses the principles of scientific method and he shows how the experimental method generally presupposes a causal mechanism approach. Evans notes that if scientific tests should be repeatable at will, scientists are embroiled in a contradiction, for they are thereby maintaining both a causal mechanism approach and that there is a volitional (i.e., agent driven) component. He continues by outlining the difficulties involved in applying an experimental method to determine mental causality. These difficulties are that (i) mental events cannot be observed directly from the third person viewpoint; (ii) they tend to be elusive; and (iii) they are not easy for an experimenter to summons. If the

mental event is to be summonsed by the participant, then one is assuming agent causality. Evans discusses in detail Braud and Schlitz's DMILS experiment.

He concludes his essay by suggesting that some people require greater statistical significance in order to be convinced of the operation of psi than others is because they are concerned about establishing an anomaly (which Evans takes to inherently presuppose a positivist approach to psi), whereas others are more interested in psi as an ability and in the way in which psi can be practically applied.

David Ray Griffin's paper 'Why critical reflection on the paranormal is so important — and so difficult' is primarily a historical account of how and why the current, mechanistic worldview came into prominence. It is an interesting contribution and it is the last one in this set of papers concerning the nature of parapsychological investigations. By examining the historical roots and discerning the overall context in which the modern worldview is placed, Griffin shows why critical reflection on the paranormal is so difficult.

By 'difficult' Griffin is referring to practical difficulties rather than to the apparent intractability of some of the individual problems within parapsychology *per se*. It is difficult, in Griffin's sense, to discuss parapsychology, because the current worldview came about for deep-rooted historical reasons such as preserving the authority of the church ('miracles' were the purview of God, not of humans), to overcome the witch craze of the sixteenth century and because all known causal influence was explained through contact (and paranormal events are those which involve 'influence at a distance'). Griffin argues that 'critical reflection' about the paranormal involves an open minded consideration of the evidence and a careful consideration of its implications. These two criteria mirror his earlier contention that opinions are formed on empirical evidence and on the basis of one's worldview.

Interestingly, he does not include a criterion to mirror his claim that opinions are also based on wishful thinking — on

what one would like to be the case. Perhaps the term 'open-minded' along with the omission of a counterpart to wishful thinking in the criteria for 'critical reflection' was supposed to imply that wishful thinking should not play a part in assessing the paranormal. However, the inherent presupposition that one can assess anything without one's inner hopes and wishes playing any part whatsoever — even if only at a very implicit level — may be a trifle optimistic. Thus I would suggest that to these criteria for critical thinking there should be added the requirement that one should analyse, and have an awareness of, the effect that one's own deep-rooted predispositions have on the way in which one reflects about the paranormal.

Griffin argues that if one interprets precognition in such a way that backwards causation is not necessary, then although the changes to the modern worldview will be extensive, they need not be revolutionary. Critical reflection about parapsychology is important because it could lead to a more coherent worldview.

The following four chapters all focus in some way on the evidence for discarnate life or survival. Although survival was one of the leading topics in the early days of psychical research, it has played a relatively lesser role in current times. It is, therefore, refreshing to see a selection of essays dealing with various aspects of this topic and to see some papers that address some questions that have hardly been dealt with before at all in the parapsychological literature.

Terence Penelhum's essay on 'Reflections on incorporeal agency' is the first of these four chapters. He begins by considering the case in which a tumbler moves at a seance when nobody has touched it. He asks what the difference is between explaining the movement as the spirit's PK and explaining it as the spirit inhabiting the tumbler. He terms the former as the psychokinetic (PK) model and the latter as the animation model. Are the two models significantly different? On considering the PK model, Penelhum asks whether our bodily movements are due to

PK. He notes, however, that there are differences between our bodily movements and the efficient 'willing' of participants in PK experiments to make more dice turn up as sixes (for example). When I move my body I do not usually have to engage in any mental process to effect the action. In a PK experiment, however, participants have to make a specific effort of will in order to procure the required effect. Moreover, it is in part because I have control over my body rather than over anyone else's that the body is considered to be my own, whereas if I were to exert PK successfully on dice, I would not think that the dice belonged to my body.

Penelhum thus believes that there are two options for understanding spirit agency — either PK in which there must be a mental act first which causes the movement or the agency is immediate as it is in bodily movements. This latter is, effectively, the animation option, yet Penelhum wonders whether the animation option compromises the incorporeality of the spirit. It would appear that the spirit must either have intentional states that can move the object in question or have intentional states that are purely mental (and non-efficacious) in character. It is possible, therefore, to subsume the animation explanation under the PK model.

The problems are further exasperated when one considers Divine agency. The PK model does not seem appropriate for God because it would entail God having to recite a mental act before he could effect anything. Penelhum ends his paper by discussing further problems about embodiment and the Divine and he concludes that in some respects the Divine mental life must be similar to our own.

Susan Armstrong's following paper on animal psi [anpsi] and its implications for animal survival after death is a very welcome contribution to the book, since it is a topic that has generally been little discussed in parapsychology. Armstrong begins by reviewing — very (and perhaps *too*) briefly — some anecdotal observations and experimental and semi-experimental studies on anpsi to illustrate that the postulation of

anpsi is not unreasonable and that it has experimental support.

The paper then embarks on an analysis of animal psi in relation to Whitehead's process philosophy, focusing on Griffin's (1993) article in the *Journal of the American Society for Psychical Research*. The exposition of Whitehead's philosophy is rather fast and some key concepts — such as Ultimate Reality and 'inorganic occasion' — are not defined. As a result those readers not familiar with Whitehead or with Griffin's article may find this particular contribution a little hard to follow.

Armstrong suggests that animal experience may be proportionally more conscious than that of humans, because animals do not have the same storage capacity in memory that humans do. This greater storage capacity gives human beings the ability to react to more things automatically due to complex, culturally governed behaviour. Animals as a result are more situated in the moment. This in turn means that they would excel at receptive psi. Armstrong cites psi-trailing and homing abilities of animals as evidence to support this hypothesis.

She notes that the four main reasons that Christian thinkers have advanced for animal immortality are (i) Divine justice — animal suffering has to be recompensed (ii) Universal spirituality — that spirituality is not limited to human rationality (iii) Universal deliverance and (iv) God's inexhaustible capacity for love. Armstrong believes that anpsi is a fifth reason, for it suggests that animals have a distinct mentality that might survive bodily death. She also cites cases of animal ghosts and apparitions as further evidence in support of this claim.

Heather Botting also discusses apparitions in her paper 'Medico-scientific assumptions regarding paradeath phenomena: Explanation or obfuscation?' Botting gives a somewhat fictionalized overview of typical near-death experiences (NDEs) from the perspective of the experiencers, the relatives to whom the experiences are first reported and of the physicians and medical staff who hear the reports. The attitudes of

medical staff, Botting claims, are generally dismissive and they fall back on outdated explanations such as the effect of anoxia, drugs or anaesthesia. Unfortunately, the discussion is brief and Botting does not question whether the counter-arguments to physiological explanations for NDEs are themselves controversial. Botting gives a few instances in which people gain information inaccessible to them at the time of their NDE, but she concludes that ESP is inadequate as a counter-explanation because this would be to replace one mystery with another. She makes a similar claim in considering cases in which those who are dying report seeing apparitions, not only of deceased loved ones, but also of a person who everyone else believes to be alive. It is later discovered that this person seen at the point of death had actually died just beforehand. Here Botting maintains that ESP is an unlikely candidate because it 'usually functions in the transfer of thoughts or images within the brain' (p.171). The dismissal of ESP is inadequate and even appears to limit ESP to telepathy alone (which in any case could not be ruled out, because the above case could be explained as a telepathic linger effect in the apparition cases cited). Moreover ESP is at least a solid hypothesis, whereas Botting's paper does not appear to say what the alternative explanation for NDEs is, once physiological ones are ruled out, other than the vague claim that a new paradigm is coming into being.

Stephen Braude's paper is the final one in the set of essays that pertain to the issue of survival after death. He focuses for the most part on the literature on reincarnation. He claims to have four main complaints about this literature — namely that: (i) it fails to give serious consideration to the super-psi hypothesis; (ii) there is little apparent knowledge of relevant literature on dissociation and similar states; (iii) it does not consider the true extent of human abilities; and (iv) it is often psychologically naïve. The essay itself nevertheless focuses mainly only on points (i) and (iv) above.

Braude begins by considering the 'Hypothesis of parental influence'. He

notes that a study devoted to this hypothesis should consider subtle issues about why parents may unconsciously want their child to manifest itself as if it were the reincarnation of a particular personality. Instead he finds that these studies are more interested in determining whether fraud has been perpetrated by the parents (e.g., they ask whether the parents knew anything about the deceased person presumed to be reincarnated in their child and whether they know anything about patterns found in other reincarnation studies).

Braude argues in more than one place that the reincarnation literature makes many psychologically naive assumptions, such as supposing that parents would not encourage belief in reincarnation because it means that the supposedly reincarnated child will manifest irritating behaviour. Braude correctly notes that parents may have other overriding, unconscious motivations for believing that their child is a reincarnation of another person that would outweigh the inconvenience of the irritating behaviour of their child.

Interestingly, and yet to my mind rather peculiarly, Braude claims in the next section of his paper that the avoidance of depth-psychological, case-by-case studies is symptomatic of the refusal to take the super-psi hypothesis seriously. I find this accusation peculiar because there are a number of other possible reasons why depth-psychological, case-by-case studies have not been pursued. For example, researchers may feel they have neither the time nor the expertise for such an approach (presumably one would need to be skilled at not suggesting the required answer in asking the relevant depth-psychological questions and, as Braude himself notes, those carrying out the investigations do not have expertise in issues about suggestion and hypnosis etc.). Alternatively, investigators may feel that fraud is the first thing that has to be ruled out and that there are still areas in which this possibility has not yet been fully exhausted. And other researchers may feel that the ability to generalize is the first priority and that case-by-case studies revealing different factors at

play in each particular instance are a luxury that cannot yet be afforded.

Braude's interpretation is, however, interesting because it brings into sharp focus that even selecting a methodology is often already to rule out some hypotheses and to permit others. Moreover, it brings to light that the super-psi hypothesis itself may require a radically different form of investigation than those often currently conducted.

Braude continues his paper with a brief discussion of OBEs, noting that even experiments in which the person can view the target from one perspective only do not rule out clairvoyance, because clairvoyance is not necessarily analogous to perception (for instance, cards can be clairvoyantly seen even when they are face down and when they are thus not available in any normal perceptually analogous sense at all). Finally, he discusses other psychologically naive assumptions entrenched in the discussion of birthmarks in the reincarnation literature and he ends with a call for case-by-case studies that take the super-psi hypothesis more seriously.

The book ends with a return to issues about the difficulties inherent in parapsychology itself. James Horne's concluding essay centres specifically on what he terms the 'moral' charges that are held against parapsychology. These are that: (i) parapsychology wastes human resources; (ii) parapsychologists make intellectual errors and (iii) parapsychology corrupts those involved in it (both participants and experimenters). Points (i) and (iii) are relatively rarely considered in any great depth in parapsychology despite their obvious importance for the financial and moral health of the field. However, Horne's discussion of (i) is disappointing, considering that in the UK at least there was some popular discussion about how to justify philosophy for government funding, which would obviously have some relevance to the question in hand. Horne nevertheless merely concludes that the arguments about the waste of resources are superficial and that what is important is that parapsychology should be considered respectable. The

second charge is also relatively easily dismissed by noting that there is no more fraud in parapsychology than in other (respected) sciences and that parapsychology is still thought to be of dubious repute by most people because of popular (and mistaken) views of, for instance, stage psychics as being themselves 'parapsychologists'.

The third charge, however, is perhaps the most interesting. Horne considers the question of whether parapsychology itself corrupts those involved in it by examining the claim that a commitment to an unproven belief may cause harm. Although I expected a discussion about positive experimental claims perhaps encouraging pseudo-psychics to exploit the general public or an epistemological debate about 'unproven beliefs', Horne, perhaps more interestingly, continues by listing reasons for which parapsychology can still be considered problematic (e.g., the negative definition, failure to replicate not being presented as falsification of the psi hypothesis, the lack of reliable replication). Presumably, the aim of this list is to show that the beliefs are indeed 'unproven'.

Horne then asks whether experimental success is itself corruptive. He notes that if successful experimenters are those who have more empathy with their participants and if successful participants are 'sheep', then this may mean that the experimenters themselves could, in empathising, become 'true believers' rather than detached observers. He cites the case of Soal's fraud as an instance of an experimenter who was seduced by his subject matter. Unfortunately, again, the discussion is brief and rather superficial (he does not consider the idea that success in any field of endeavour could be seductive), but the point is of interest nevertheless. Horne concludes by supporting parapsychology, comparing it to gambling, but he warns those involved against extreme behaviour and obsessiveness.

In sum, the papers in this collection are a little variable in quality and, predictably, they differ in their knowledge base too. Some essays occasionally strike the reader

as lacking a strong knowledge of parapsychology, others sometimes strike the reader as philosophically weak.

The collection is nevertheless a welcome addition to the relatively small literature on philosophical aspects of parapsychology, especially since it raises some topics that have barely been given any attention at all in the past. And, despite the criticisms that I have offered, the majority of the papers are well argued and documented and they bring to the forefront some of the more interesting questions in parapsychology. It is likewise refreshing to see contributions from those outside of the Parapsychological Association, thus helping to render parapsychology as not an 'insiders only' topic. It should also be accessible to a relatively wide audience, since it presupposes a strong background in neither philosophy nor parapsychology. I can only hope that this book marks the beginning of an in-

creased interest by other academics in the problems inherent in the subject.

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Letter

13th December 1996

Dear EJP Editors

Though I'm a moderate 'sceptic' in the sense that I question the often outrageous claims of psi, I would applaud a new openness in science, one that doesn't ignore the existence of anomalies in the physical Universe. I abhor the arrogance of those self-conceited scientists who dismiss such natural but unexpected or 'mysterious' phenomena out of hand. I do respect honest, 'soul-searching' sceptics like Susan Blackmore. However, I foster no sympathy at all for narrow-minded fanatics like Nicholas Humphrey whose book *Soul-Searching: Human Nature and Supernatural Belief* is a classic example of an 'expert' in denial, keen to discredit all alleged paranormal occurrences, one who stubbornly refuses to acknowledge the accumulative evidence of numerous studies, one who puts the presumed flaws in the spotlight. Mr Humphrey has changed from a hard line sceptic willing to investigate psi, with the dark shadow of prejudice hanging over it, to a fervent crusader against the serious but controversial science of Parapsychology; eager to patronise those people who sincerely believe they may have experienced instances of anomalous communications and always ready to put it all down either to deception or delusion. With such a stiff-necked attitude towards his field of research during his appointment at Trinity and Darwin it's no wonder that he has failed to produce or even recognise any positive results. I would urge rigid thinking sceptics like him to look inward and to ask themselves: is there more to life? Is there more to phenomena that cannot be explained away so easily?

I could not help but gasp at the utter arrogance of Professor Lewis Wolpert as displayed on several radio programmes. Wolpert's cold and thoughtless dismissal of all paranormal phenomena as 'junk' and his derogatory stance towards philosophy shows us, *the not so gullible public*, that he's a man with a closed mind. He will gleam with pride at this accusation because according to him 'open minds are empty minds: everything falls out' as he told *The Magazine* on Radio 5 Live in 1996. Both amusing and alarming, this narrow vision of the world as viewed by an apparently small-minded professor does *not* become a chairman of the Committee on the Public Understanding of Science. Indeed, I can't think of a worse advocate of scientific understanding and knowledge apart from the local charlatan or the tobacco producing companies who maintain that nicotine is not addictive and whose sole goal is to get rich quick. Mr Wolpert seems ignorant of the fact that no scientist ever will or can be completely objective and that most sciences are subject to much speculation. Scientists are *per definition* philosophers; while observing the universe and its secrets they cannot escape their personal feelings, tastes and priorities. There are no absolute certainties except for that we can't be 100 percent sure of anything. The truth is over here and out there but we won't be able to grasp the whole of it. Not even Lewis Wolpert.

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Obituary

Malcolm Bessent 1944 - 1997

Malcolm Bessent, one of the most thoroughly tested psychics of the past thirty years, died suddenly on 16 August 1977 in the East Surrey Hospital, Reigate, Surrey, UK, after a very brief illness. He was 53.

Born in India to English parents, Malcolm experienced psychic phenomena very early in life. In 1967 he attended the (London) College of Psychic Studies, where he became a protégé of Douglas Johnson, who introduced him to Eileen Garrett. He began work as a professional psychic in the same year and continued to do so until shortly before his death — appearing on two television programmes in the ITV Carlton series *The Paranormal World of Paul McKenna* on 15 and 29 July. One of these showed, for the first time on British television, a highly successful example of the kind of work for which Malcolm was best known: precognitive dreaming. The other showed him at work as a healer, working on an injured England Rugby football international and a German Shepherd dog, both of whom showed marked improvement after their treatment. ('Remarkable', was the opinion of the latter's vet).

Precognitive dreaming was what made his name as a star performer in the psi lab, with a series beginning in September 1969 at the Maimonides Medical Center (New York) Menninger Dream Laboratory under the direction of Stanley Krippner. There, he provided clear evidence of precognition in fourteen out of sixteen dreams, some strikingly accurate, notably the one in which he stated on waking 'I just have a feeling that the next target material will be about birds', which is precisely what it was. He also took part in an unusual experiment in telepathy involving himself as receiver and no less than 2,000 agents — the members of the audience at a series of six concerts by the

rock group The Grateful Dead. Judges decided he scored four 'direct hits' out of six.

Other research institutes where he worked included the Foundation for Research on the Nature of Man and the Psychical Research Foundation (both in Durham, NC); the Foundation for Mind Research and the American Society for Psychical Research (both in New York City); New Horizons Foundation (Toronto, Canada), Kairos Foundation (Chicago) and the Psychophysical Research Laboratories at Princeton, NJ. He also worked on various projects for scientists at ten U.S. universities and colleges, and at the Open University in the U.K.

He made a number of specific predictions that came true, including the fall of Prime Minister Thatcher, the bombing of Libya, the Chernobyl explosion, and the 1991 Gulf War. In October 1986 he made a video, a copy of which was sent to the Parapsychology Dept of Edinburgh University, in which he correctly stated that 'there would be... a worldwide financial crash starting on 16 October resulting in six weeks of panic' — precisely what happened in October 1987.

Bessent's work as a laboratory subject is well described in *Dream Telepathy* by Montague Ullman, Stanley Krippner and Alan Vaughan (1973, 2nd ed. 1989), *Parapsychology, the Controversial Science* by Richard Broughton (1991) and *Explaining the Unexplained* by Hans Eysenck and Carl Sargent (1982, 1993). Other accounts of individual experiments are in the *Journal of Parapsychology*, December 1987 (Honorton) and the *Journal of the American Society for Psychical Research* (Krippner et al. vols 65 and 66, 1971-2). I was astonished to learn shortly before his death that nobody had ever asked him to do anything in his own country.

Malcolm was a talented photographer, good examples of whose work can be found in the 1970s magazine *Psychic*. He also worked for a time as a dealer in collector's cars. A promising new career as a healer would certainly have begun, to judge from the audience response to his recent appearances on television.

Guy Lyon Playfair

I first met Malcolm only fourteen months ago while making a television series on the paranormal. It was immediately clear that he was quite different from the majority of people that I had ever met claiming paranormal abilities. Whatever one's views on the subject, here was a highly intelligent person who had chosen a career as a professional psychic, for better or for worse, some thirty years ago. He told me that when Douglas Johnson had convinced him of his own psychic abilities he had finally and reluctantly to address an issue that he had tried hard to ignore throughout his childhood and adolescence.

Malcolm's extensive experience as a laboratory psychic 'guinea pig' meant that he was particularly well informed about the history of psychical research and in the course of our discussions about what to film he would continually suggest innovative and thought-provoking experiments. Most of these were beyond the scope and proper remit of a television production budget and schedule but his ability as a healer was

something we did manage to explore on several human subjects before committing a professional film crew to the item.

Malcolm never failed to elicit dramatic effects in the course of half hour sessions — some people would fall into a deep sleep within minutes, injured legs would twitch while he held his hand over the persons head, swollen knees would shrink and cool, stiff necks would loosen up — most of this happening without physical contact and certainly nothing that could be described as manipulation.

The rejuvenated German Shepherd dog that was featured in the television item had its anti-arthritis drug dose halved as a result of three such sessions and an unspeakable skin disease under its tail started to heal against all the expectations of the vet. The rugby international and his physiotherapist wanted Malcolm on a retainer for their first division rugby club.

Malcolm was so relaxed and unexcited about his psychic abilities that I thought he would be a potent antidote to the usual, unbelievable style of television's presentation of psychic phenomena. Apart from one brief, adverse experience of television in the seventies, he had avoided it until last year's two all-too-short demonstrations. We had hoped to do much more.

One of the main reasons Malcolm had returned to England from the USA was to spend more time with his two sons and he had managed this over the last year before his life was tragically cut short. He died suddenly after only a few days' discomfort.

Mike Johnstone

Abstracts: *Quaderni di Parapsicologia*

Quaderni di Parapsicologia, Vol. XXVII, Ottobre 1996, N. 2

The Experience of Lucid Dreams

Guido Gardini

Abstract: In this article the author deals with lucid dreams, referring to his personal experiences. After a brief introduction to explain what a lucid dream is, he tells how his first lucid dream happened spontaneously. After reading the books by Chastened, he tried several times to get a lucid dream using different techniques. He describes the methods to obtain and stabilise this kind of dream. The technique found to be the most congenial to him is very similar to that of Oliver Fox and it consists of realising the unreality of what is happening in a dream.

The author is planning an experiment to investigate all the possibilities of the lucid dream in ESP perception. He therefore asks for individuals who have had telepathic experiences during lucid dreaming who might wish to participate in the research that he intends to undertake. He invites them to get in touch with him through C.S.P.¹

Finally, as he considers his article a simple introduction and a foretaste to the lucid dream, he presents a reasonable bibliography for interested readers.

pp.5-16

Apparitions in Sabina

Alessandro Papò

Abstract: The author took a census of the apparitions spontaneously experienced during normal waking hours, by some individuals considered psychologically normal, in quite a large sample of the population of central Italy.

As expected, the largest group was that of apparitions of dead and alive people, generally relatives of percipients (36 cases). There was also a remarkable group of religious personages (28), particularly the Virgin Mary.

A group of mythical and archetypal figures (10) was also well represented, including two astonishing cases of Moirai-Parcae of Greek Roman mythology. The results were compared with the famous *Report on the Census of Hallucinations* by H. Sidgwick.

Some impressive quantitative analogies were noticed (see table C) as well as considerable qualitative differences (such as a greater variety in the Italian census).

The author considers several hypotheses on the genesis and nature of ghosts and he explains the reasons that led him to prefer the psychodynamic theory of open-eyed dreams (normal hallucinations) so loved especially by Jung.

pp.17-32

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ABSTRACTS

At what point are we in research into near-death experiences (NDEs)?

Piero Cassoli

Abstract: This is a very exhaustive review of the book *EPM. Esperienze di Pre-Morte* on the NDE by the psychologist and theologian Prof. A. Pacciolla. The author considers the NDE as the experience of those people who have reached, or are believed to have reached, the threshold of clinical death. An increasing interest on this subject has arisen from the publications of Kubler-Ross and Raymond Moody. A special concern has been given by researchers to the book *At the Hour of Death* by Osiris and Haraldsson because it compares cases of western NDE with eastern and Indian ones. According to these authors, it seems that the religious variables do not significantly affect the NDE contents. In the eighties an article by the psychiatrist E.A. Rodin, reporting his own NDE experience, aroused a wide repercussion in the scientific domain. In the meantime, B. Greyson completed out a NDE scale based on 16 questions with three possible answers each. The validity of this questionnaire has been confirmed by several researchers who increasingly are adopting it.

Both the author and Prof. Pacciolla offer some suggestions for improving this questionnaire. Prof. Pacciolla also contributed with personal research. 64 persons out of 157 admitted to a resuscitation department, claimed they had a NDE and 24 gave positive results on Greyson's NDE scale. In Prof. Pacciolla's book, 13 different interpretations of the phenomenon are discussed; they can be subdivided into organic, biological and spiritual to which Dr. Cassoli would add a fourth one, the 'parapsychological'. Prof. Pacciolla appears interested in the hypothesis connected with Jung's archetypes: a journey of the consciousness whose existence is seriously threatened, a sort of compensatory travel towards a condition of wider awareness which can contribute to the process of individuation. Dr. Cassoli enumerates the results of several researchers cited in Pacciolla's book about OBEs which occurred during NDE. On this subject, Dr. Cassoli's view is mainly focused on the following chain of phenomenal events: a serious threat to life, a consequent deeply altered state of consciousness, an arousal of paranormal capacities mixed with defensive mechanism which could explain most of the remaining experiences. In the opinion of the author, the valuable and well documented book by Prof. Pacciolla contributes to the growth of Italian research in the field of NDE-OBE studies.

pp.33-45

Diabolic Possession

P. Moreno Fiori O.P.

Abstract: Theologically, the expression 'diabolic possession' means the most powerful form of demoniacal influence on man. After a brief account of some articles of faith concerning the existence of angels and of the devil (whom Catholics have to believe in), the author enumerates and illustrates the proofs through which it is possible to achieve a possession diagnosis according to the Roman Ritual. They are:

- xenoglossy, or the possibility of speaking or understanding unknown languages;
- the knowledge of far and hidden things such as happens in telepathy and clairvoyance;
- showing a muscular strength far beyond the age and conditions of the subject;
- some other phenomena such as levitation, transfiguration and the 'horror sacri' in particular.

The author claims that the diagnosis is uncertain if we just use only human means; on the contrary, a special charisma is needed: the discernment of the spirits. The exorcism follows, which consists of injunctions to the Devil to oblige him to exit the subject's body or represents a special prayer to God to receive His help. Some theological considerations are also presented and discussed.

pp.46-66

Di Un Caso Di Medianita a Estrinsecazione Religiosa²

Piero Cassoli

Abstract: In the period between 1953 and 1954, Angelina Ronza was an almost illiterate seventeen years old girl suffering from intensive digestive diseases. She began to carry on her neck a scapular containing a cotton piece soaked with some tears of the miraculous Virgin Mary of Siracusa (Sicily). Public opinion had been interested in this latter phenomenon for some months. Later on, the diseases disappeared and some ecstasy episodes occurred to the girl during which the Virgin Mary appeared and the scapular was found to contain abundant liquid. After chemical examination at the Institute of Hygiene of the University of Naples, the liquid was found to be neither spring water, nor saliva. Neurological psychiatric and psychological controls were also carried out. The ecstasies were characterised by neuro-vegetative anomalies and by an evident pupil areflexia. The constant presence immediately before the ecstasies of both tachycardia and the liquid suggested a western kind of ecstatic experience. These findings, well documented from the medical and chemical point of view, guarantee the absolute objectivity of this phenomenon without any possibility of simulation and trick. The author also discusses in detail the phenomenon of psychic contagion as well as the other different hypotheses which can play a role in such a case: fraud, hysterical simulation, psychopathology, parapsychological phenomena, and the miracle with apparitions.

pp.68-105

² From *Luce e Ombra*, 1955, 3, 129.

Quaderni di Parapsicologia, Vol. XXVIII, Marzo 1997, N. 1

Does a Statue of the Madonna Cry Tears of Male Blood? The Case of Tears of Human Blood from the Madonna of Tabiago in the Community of Nibionno (Como)

Giorgio Gagliardi

Abstract: Over the last few years, there have been many reports in Italy of religious images shedding blood or tears. Many of such cases have been found to be fraudulent even at the first examination. In many instances these images (of Jesus Christ, of the Virgin Mary, of Catholic Saints) were very deeply investigated by the police, in particular with DNA testing. In this way, some of the cases revealed a doubtful or a deceitful origin. After having described the general situation of this much-discussed phenomenon, the author reports a case of a bleeding Virgin Mary's statue whose blood was found, at the DNA test, to be due to a joke of a well identified young man.

pp.12-25

Unconscious Creativity and Trance Personality: L'Altro Corrado O L'Altro di Corrado?

Carlo Adriani

Abstract: The author on the basis of accurate investigations made by qualified scientific institutions, assumes that Corrado Piancastelli's trance is very convincing and completely true. He examines then whether the intellectual phenomenology produced during the seance may be ascribed to his unconscious creativity or to a different reality of which he could act as an intermediary.

If we consider the continuity of the logical and philosophical rigour of the themes dealt with in the space of half a century of this phenomenon, which testifies a complete, coherent and persuading theory of our existence, the author doesn't believe that, from this point of view, it is important to establish whether the one who presents himself during the trance is either the person's unconscious or a completely different entity. In the first case we could speak of the inner being who speaks of himself and of what he knows of himself. There is no difference in the second case. Granted this basic equivalence and admitting the genuineness of all this phenomenology, the author thinks that there is no plausible reason why we should refuse what he says when he claims an intellectual and existential autonomy, as it seems to be proved by a conversational structure and an independent thought different from the normal creativity belonging to Piancastelli.

He hypothesises then, that the trance is the primary condition from which the speech of the being and of the spiritual culture of man commences.

pp.26-35

Paragnostical Dream³

Enrico Marabini

Abstract: In this paper, Dr. Marabini deals with the important subject of the parapsychological methodology in cases of spontaneous precognitive phenomena. He reports the case of a woman who, while dreaming, could acquire information on future events. The precognitive meaning of her dreams was recognised as such by the woman because she abruptly awakened soon after the dream under a neurodistonic syndrome which could account for the effective content of her dream. Each time the woman had such a type of dream, Dr. Marabini was immediately and accurately informed. Of interest was the fact that when the precognitive content was successively found as real, the woman reached a state of deep tranquillity. The author submitted the subject to psycho-medical investigations other than to clinical and laboratory tests. The latent oneiric features of the dreams were studied from a psychoanalytic point of view with the purpose to search and decodify the unconscious oneiric elements which can explain both the normal and the paranormal information. From the many cases of precognitive dreams studied by Dr. Marabini, the one regarding the car accident that occurred at the race of Le Mans (France) in 1953 is considered the most significant.

pp.37-69

³ From *Minerva Medica*, Anno XLVII, Vol. 1, n. 48, 1956.

Abstracts:
*Zeitschrift für Parapsychologie
und Grenzgebiete der Psychologie*

Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie.
Jahrgang 35, Nr 1 / 2, 1996

Regarding the Ontological Dimension of the Mind-Body Problem

Walter Schweidler

Abstract: The relation between a spiritual and a material reality is - with these notions not a very important topic in current philosophy, but it is indirectly present in many fields, especially in the much discussed mind-body problem. If the mind-body problem is only seen at the personal or epistemic level, then it implies an insoluble dialectic of materialism and dualism. Materialism presupposes the determination of the mind by the body without being able to clarify the relation between them in deterministic categories. Dualism, on the other hand, is not able to understand the differences among the categories of soul, mind and 'I' without reflecting the history of their development - which is a history of its dialectical relation to materialistic positions. Thus, the notorious difficulties of the mind-body problem originate in certain decisions concerning our world-view. We cannot interpret ourselves without reflecting the paradigmatic function which this self-interpretation has for our view of the world from which we conceive our emergence.

pp.6-19

Epistemological Aspects of Physical Concepts of Wholeness.

Harald Atmanspacher

Abstract: Three topics of modern physics are discussed which focus on different aspects of the concept of wholeness. These aspects can be labelled as universality, nonlocality and complementarity. Quantum theory includes all of them and their mutual relationships in a well-defined manner. Though the access of human consciousness to the material world of physics remains outside the scope of quantum theory, the theory's concepts of wholeness can be related to different modes of consciousness as introduced by Jean Gebser. These modes indicate a kind of holism which requires an integration of the current physical concepts of wholeness and yet points beyond those concepts at the same time.

pp.20-45

Gestalten within Quantum Mechanics

Anton Amann

Abstract: The holistic structure of quantum systems prevents their naïve understanding as sets of separate individual parts. In order to obtain parts (like individual substances or molecules) of a universal whole, the so-called Einstein-Podolsky-Rosen-correlations have to be eliminated or

surpressed by suitable mechanisms. With an increasing number of degrees of freedom this leads to the *generation* of classical properties.

The emergence of classical properties in quantum systems shows a number of analogies to the emergence of *Gestalten* in visual or auditory perception, which suggest an illustrative understanding of fundamental problems of quantum mechanics for non-specialists. Parallels and differences between the emergence of *Gestalten* in the sense of perception and in the sense of quantum mechanics are discussed.

pp.46-60

Synchronicity and Chance

Hans Primas

Abstract: Synchronistic phenomena in the sense of Carl Gustav Jung are characterised by a coincidence of an objective physical process and a meaningful psychic event without any apparent mechanistic causal connection. Jung's recently published correspondence with the theoretical physicist Wolfgang Pauli reveals that Pauli's proposals were of vital importance for the later development of Jung's concept of synchronicity. Some problems related to causality, repeatability, chance, probability and biological evolution are discussed briefly.

Pauli's ideas about a conceivable complementarity between matter and psyche are reconsidered from the viewpoint of modern quantum theory. Since quantum theory adequately describes the material part of the *unus mundus* to a large extent, it is tempting to speculate whether the most basic structures of quantum theory are applicable even beyond the material domain. Under this presumption it is demonstrated that holistic correlations between matter and psyche are feasible if and only if incompatible properties exist within both the material and the psychic domain.

pp.61-91

What Do We Mean by 'Non-Classical'? Quantum Theory - and Beyond.

Günter Mahler

Abstract: Physics enjoys a long record of success in the development of theories and models. As a consequence, it has always been tempting to apply corresponding recipes to other fields of research. Presently there is an increasing interest in the relationship between classical and quantum mechanical modelling. Despite lacking justification, quantum type models are being discussed in the context of cognitive and psychological fringe sciences. If this is not to become just a new version of physicalism, the common roots of such surprising analogies should be explored without distorting our present understanding of quantum theory. Contextual logical structures might play a significant role for a unifying concept.

pp.92-107

Publication Policy and Instructions to Authors

The aim of the *European Journal of Parapsychology (EJP)* is to stimulate and enhance activity in parapsychology, especially in Europe, by communicating research results and issues related to parapsychology. To this end, the *EJP* publishes original papers on a variety of topics including empirical, theoretical, historical and sociological issues. Translations of papers originally published in a language other than English are also welcome.

The *EJP* actively encourages the submission and evaluation of papers before the experimental data have been collected. The study's rationale, number of subjects and trials, hypotheses and planned statistical analyses should all be included in such submissions. Priority will be given to the publication of such studies.

Manuscripts, written in English, should be submitted preferably on computer disk in ASCII format. Otherwise, authors should submit three copies, typed double-spaced throughout. The organization of the paper must be clearly indicated by appropriate headings and subheadings. Include names of authors, positions and other affiliations, and mailing addresses. Each table should be given a descriptive title. Number tables consecutively with Arabic numbers in order of their mention in the text. Figures should be drawn on white paper in black lines: because they are normally reduced in reproduction, allowance should be made for the corresponding reduction in the thickness of lines and the space between them. References in the text should be indicated by dates in parentheses following the authors' names and should correspond to an alphabetical list at the end of the paper. References to books should include year of publication. References to journal articles should include volume number and year of publication. When quoting from a book or article, indicate the page(s) on which the quote appears. For statistical analyses, re-

port not only the inferential statistics (e.g., *t* values) but also the descriptive statistics for the data evaluated (e.g., group means and standard deviations). Report the number of subjects, trials or experiments on which the analysis was based, and where possible report effect sizes (e.g. actual values of correlation coefficients), and give exact probability values. Such information can be vital for later cumulative reviews, including meta-analyses. The *EJP* adheres to British Psychological Society style rules; please see volume 10, p.151 for details. Each manuscript must include an abstract of not more than 200 words.

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