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EVALUATION OF PARAPSYCHOLOGY AS A SCIENTIFIC ENTERPRISE

In this the final chapter of the text it is appropriate to examine parapsychology from the perspective of the sociology of science. As previous chapters have indicated there has been encouraging progress in the experimental investigation of some parapsychological phenomena and the resulting data seem to show substantial coherence despite numerous lacunae. Although an adequate experimental paradigm is lacking for research into many other parapsychological experiences, even here an impressive body of phenomenological data has been accumulated. In short, future prospects for parapsychological research appear exciting if not guaranteed.

But how is parapsychology currently regarded in the broader context of scientific enterprise? Two general issues arising from this question are considered here. The first of these concerns the efforts of parapsychologists to establish their discipline as a legitimate science; the second issue is the nature of the scientific establishment's responses to these efforts.

EFFORTS TO ESTABLISH PARAPSYCHOLOGY AS A SCIENCE

Historically speaking there has been a clear progression in parapsychology from the collection of anecdotal material to the experimental investigation

of laboratory analogues of psi phenomena. Thus a major element in parapsychologists' efforts to put their discipline on a scientific footing is the recourse to scientific method. Arguably J. B. Rhine's major contribution to parapsychology was to appreciate the importance of using the investigative mode of the established sciences in order to inquire into the authenticity and nature of ostensibly paranormal events. Certainly people before Rhine had conducted some elementary experiments on ESP, but in the societies for psychical research where much of the research at that time was being undertaken the development of laboratory analogues of psi phenomena was seen as a minor and indeed somewhat peripheral activity. Rhine's pursuit of a sustained and cohesive experimental program of ESP and PK research, with its attention to the identification and control of artifactual variables and its probabilistic evaluation of data, therefore constituted a significant step toward the goal of gaining scientific status for parapsychology. This initiative has been maintained by contemporary parapsychologists through reliance upon the increasingly sophisticated methods of modern conventional science.

Along with scientific procedures the technological hardware of modern science has been incorporated into psi research. Computers and REGS not only permit tighter experimental methods but also to some degree bring the feature of technical precision that is a hallmark of contemporary science. For example, extrasensory targets can be selected under known parameters of randomness and displayed at the moment chosen by the experimenter or by the participant for an exactly defined interval; the participant's response can be recorded and compared to the target without human bias; and all manner of information on response latency and neurophysiological activity can be plotted across the supposed period of psi processing.

But there is much more to the practice of a scientific discipline than methods and hardware. Science is essentially a social activity. It is undertaken by groups of people who impose upon themselves certain codes of conduct or rules for interacting among themselves and for promoting their interests. Thus the contemporary world of professional science is highly institutionalized.

One consequence of this state of affairs is that it does matter where research is carried out. To be truly scientific, experimental research must be performed in a specialized setting called a "laboratory." If the work has (potential or actual) commercial application it may be conducted in a privately owned facility, but in any event a field of research that has any scientific merit must be represented in the laboratories of recognized universities. In the view of the scientific establishment an area of activity that lacks such representation at the university level cannot be regarded as a "proper" science. In this context it can be said that another important facet of Rhine's contribution was in undertaking his program of research in a university department. The significance of university representation has continued to be recognized with a number of academics pursuing parapsychological research particularly on campuses in America and in Europe.

Another characteristic of institutionalized science is that of professionalism. Any genuine science is conducted largely by professionals who specialize in their area of expertise. While amateurs did make acknowledged contributions to conventional science in the last century, this soon changed and today a predominance of amateurs in a field of interest usually would be construed by orthodox scientists as indicative of the field's status as a craft rather than a science. In its early days psychical research too was performed, often on a part-time basis, by amateurs, people who saw such work virtually as a recreational pursuit. Part of the effort to achieve scientific status for modern parapsychology has been directed to the growth of professionalism, the full-time employment of suitably trained personnel in parapsychological research (at least to the extent that available funding and resources permit).

Allied to this feature is the formation of professional societies. In recognized areas of scientific research formal societies are established with the general objectives of promoting the field and facilitating productive interaction among people involved in research. Such societies tend to set high academic qualifications for membership and to accord recognition to major contributors to the discipline by way of higher levels of membership (fellowships) and/or the conferring of special awards each year. A society of this type has been established for parapsychologists: it is called the Parapsychological Association and was founded in 1957. In recent years its membership has varied between 110 and 150 people, with another 140 or so listed as associate members; this membership admittedly is very small in comparison with that of most scientific societies. The Parapsychological Association's qualifications for full membership are that the person (a) hold a doctorate or have a professional affiliation with a recognized academic institution or research organization; (b) have prepared a paper on some aspect of parapsychology that in the opinion of the Association's Council is of high professional caliber and which has been published in a scientific journal or which merits such publication; and (c) be nominated by two members of the Association and elected by a majority vote of the governing Council. (The lower grade of membership, the Associate, may be granted to a person with a bachelor's degree and with no publications.) Interaction among researchers is encouraged through various publications and an annual convention. The Association annually confers a Career Achievement Award and an Exceptional Contribution Award.

In recent times one of the recognized functions of a scientific society has been to devise guidelines concerning the ethics of experimentation in its field. This has been of particular importance in the context of experiments with human or animal participants. The American Psychological Association, for example, has documented in some detail the ethical considerations that apply to psychological research. Similarly, the Parapsychological Association in 1977 established its own Committee on Professional Standards and Ethics with the objective of developing guidelines on these matters for its members. Advice is

given on the protection of the rights of participants in parapsychological research with specific reference to the issues of informed consent to participate in a study, confidentiality, deception about the study's purpose, post-test discussion about the study ("debriefing"), professional treatment of human participants, and humane handling of animal subjects.

Other topics addressed are the misuse of research funds; openness in the conduct and reporting of research; acknowledgment of contributors to the study in the text of the research report and in assigning authorship; possible conflicts of interest in acting as a referee on a manuscript submitted for publication; ethics in criticism of other researchers' work; fraud by experimenters or participants; dissemination of information through the public news media; and the maintenance of parapsychology's professional image. Parapsychologists generally have shown themselves to be alert to ethical issues (Gregory, 1982; Stanford, 1988a,b; Thomson, 1986).

In addition to a discipline having its own society it is usual for this society to be affiliated with more general scientific associations to give it a voice in the formulation and promotion of science policy. In the United States this general body is the prestigious American Association for the Advancement of Science (AAAS). The Parapsychological Association was admitted to the AAAS in 1969. The annual AAAS convention provides parapsychologists with a forum for presenting their research to scientists from other fields and for advancing parapsychology in the context of the AAAS's lobbying on national science policy.

Science is an international activity. Scientific disciplines therefore are not constrained to any one cultural outlook but rather, are represented in numerous countries with a variety of cultural backgrounds. Parapsychological research also is conducted internationally. Parapsychology is represented in some 30 different countries (Angoff & Shapin, 1973; Krippner, 1992). Of all nations the United States has the largest number of active researchers, but parapsychological research centers or individual parapsychologists are to be found also in such countries as the United Kingdom (Haynes, 1983), Central and South America (Parra, 1997; Rueda, 1991), China (Zha & McConnell, 1991), Japan (McClenon, 1989), Australia (Irwin, 1988c; Keil, 1981), India, Iceland, Israel, Spain (Alvarado, 1984; Rueda, 1991), France, Belgium, the Netherlands, Austria, Germany, Sweden, Switzerland, Italy, Russia, and South Africa. There certainly are some differences of approach that reflect national political and scientific philosophies (e.g., Hess, 1989a), and language barriers may inhibit communication in some respects (Alvarado, 1989c), but parapsychology nonetheless can fairly be said to have wide international representation.

Another characteristic of a scientific discipline is the publication of specialist journals devoted to the subject matter of the field. These journals permit not only the communication of theoretical and empirical research to interested persons but also the enhancement of the status of the area as a legitimate domain for scientific endeavor. Papers submitted to these journals for

publication must fulfill certain requirements in their presentation of methodology and data and are subjected to scrutiny by a panel of qualified referees for evaluation as a substantial scientific contribution worthy of publication. In psychology the earliest journals were very broad in scope, containing papers on the whole range of conventional psychological inquiry; today there are numerous highly specialized journals each of which addresses a particular area of psychological research (e.g., imagery, hypnosis, memory, verbal learning, personality, and so on).

Parapsychological research for much of its history had as its only outlet the journals of a few societies for psychical research. In 1937 Rhine established the *Journal of Parapsychology*; today this and the societies' journals constitute the major channels for the dissemination of research in the field. More recently some other major English-language journals have been established, including the *European Journal of Parapsychology* (from 1975) and the *Journal of Scientific Exploration* (from 1987). Each of these journals observes the rigid code for acceptance of papers that characterizes orthodox scientific journals. Additionally there are a few more specialized publications. For example, *Theta* (since 1963) primarily provides a forum for research pertinent to the survival hypothesis, the *Journal of Near-Death Studies* (formerly *Anabiosis* and published since 1981) features papers on the NDE and related phenomena, and *Exceptional Human Experience* (formerly *Parapsychology Abstracts International* and published since 1983) includes reports of anomalous experiences and commentaries on their phenomenological investigation. Journals in languages other than English include *Cadernos de Parapsicología*, *Psi Comunicación*, *Quaderni di Parapsicologia*, *Revista Argentina de Psicología Paranormal*, *Revista Brasileira de Parapsicologia*, *Revue de Parapsychologie*, *Revue Française de Psychotronicque*, *Tijdschrift voor Parapsychologie*, and *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie*.

Representation of a discipline in a university setting also is important for training aspiring professionals. The perseverance of academic parapsychologists has seen the establishment of parapsychology courses in many universities and colleges in America, Britain, Europe, Australia, India and other countries.

One other feature of a genuine science should be mentioned, distasteful though it is. Occasionally professional scientists break the rules of the game and have to be expelled from the field. Such an incident arose in parapsychology with the Levy affair in 1974 (McConnell, 1987, Ch. 11; Rhine, 1974, 1975). Dr. W. J. Levy had worked in Rhine's laboratory for a few years and was interested primarily in psi research with animals (anspi). In 1974 some students observed Levy tinkering with the automatic recording apparatus being used in one of the laboratory's anspi experiments. Secret recordings of the data were arranged and on comparison with Levy's reported results, discrepancies were found. When confronted by Rhine, Levy acknowledged his fraudulent

activity and was dismissed. Parapsychologists known to be planning to use any of Levy's published work in their papers immediately were advised not to do so. Rhine (1974) published a statement in the *Journal of Parapsychology* giving the details of the affair and advising that *all* of Levy's publications should now be regarded as unacceptable (although Levy claimed he resorted to fraudulent manipulation only when his recent experiments yielded nonsignificant data). In the Levy case parapsychology was shown to be capable of keeping its house in order and not to be inclined to cover up indiscretions for appearance's sake.

In many respects, therefore, parapsychologists have striven to observe the ideals of scientific endeavor and to ensure that their discipline possesses the trappings of an authentic science.

RESPONSES OF CRITICS

How have members of the scientific establishment responded to the efforts of parapsychologists to put their field on a scientific footing? Several anonymous surveys (Evans, 1973; McClenon, 1982b, 1984; Wagner & Monnet, 1979; Warner, 1952; Warner & Clark, 1938) consistently have indicated that while many scientists do not accept unequivocally the existence of psi phenomena they do acknowledge that parapsychological hypotheses should be permitted evaluation in a conventionally scientific manner. The views of the "silent majority," however, are not always reflected in the voices of the scientific establishment, and in science it is the elite groups that wield the greatest political power (Broad & Wade, 1982, Ch. 5).

Some scientists reject parapsychology as a science simply because they can not accept its empirical findings. On occasion this is tantamount to naked prejudice. For example, the prominent psychologist Donald Hebb wrote in 1951, "why do we not accept ESP as a psychological fact? Rhine has offered us enough evidence to have convinced us on almost any other issue... I cannot see what other basis my colleagues have for rejecting it... My own rejection of [Rhine's] views is — in the literal sense — prejudice" (Hebb, 1951, p. 45). And in 1958 the vice president of the AAAS recalled the remarks of the physicist Helmholtz: "I cannot believe it. Neither the testimony of all the Fellows of the Royal Society, nor even the evidence of my own senses would lead me to believe in the transmission of thought from one person to another independently of the recognized channels of sensation. It is clearly impossible" (Birge, 1958, cited by Collins & Pinch, 1979, p. 244). This *a priori* assumption that the experimental findings of parapsychologists "just can't be true" and hence must be unscientific persists among the scientific elite and among psychologists in particular, scientists in most other fields being rather more receptive (Alcock, 1975; McClenon, 1982b, 1984; McConnell & Clark, 1991; Wagner & Monnet, 1979).

Other commentators reject psi research on grounds derived from the philosophy of science. For example, one such principle is known as Occam's (or Ockham's) Razor and proposes that if two hypotheses account equally well for a given set of data the simplest or most parsimonious should be accepted. Thus, without any regard to the quality of the available data ESP may be ignored under the principle of Occam's Razor because any orthodox alternative hypothesis (fraud, sensory leakage, poor experimental design, etc.) would have the advantage of not positing any new mode of information transfer. If taken to an extreme, application of this principle would preclude almost any further scientific discovery.

A few scientists have sought to dismiss the experimental literature of parapsychology as utterly fraudulent (e.g. Price, 1955). Their motivation in doing so seems to be little else than the *a priori* conviction that parapsychological phenomena are impossible. There nevertheless has been some evidential support for the argument of fraud. The Levy affair in 1974 is perhaps the most notable instance. Additionally, in 1978 a British researcher, Betty Markwick (1978), reported that in comparing S. G. Soal's set of ESP targets with the table of random numbers purported to be the basis of target selection in his experiments with the subject Shackleton, some serious discrepancies were evident, on nearly all occasions with the effect of enhancing Shackleton's ESP score. Although there is a growing view among scientists that fraud is a relatively likely feature of the operation of a human social institution such as science (John, 1991), the exposure of fraudulent research by Soal and by Levy had a devastating effect on parapsychologists' confidence in each other's findings in the 1980s (Blackmore, 1989).

Occasionally a parapsychologist may have such an extraordinarily high rate of successful experiments that even the individual's own colleagues may be suspicious of his or her professional integrity. Particularly in America a possible motive for experimenter fraud is very evident: academic parapsychologists in the United States commonly are appointed on two- or three-year contracts with their re-appointment to these scarce positions governed to some degree by their research productivity.

That some parapsychologists have sometimes cheated is undeniable. What is equivocal is the notion that all parapsychological research is fraudulent, or indeed that there is any justification in Neher's (1980, p. 142) assertion of an unusually high incidence of fraud in this field. Fraud occurs in all branches of science (Broad & Wade, 1982; Kohn, 1987; St. James-Roberts, 1976).

That parapsychology has relatively more frequent cases of experimenter fraud than does psychology is an impression based in part on different modal reactions to such fraud between the two disciplines. When parapsychologists identify an instance of fraud it is given extensive publicity, such is their determination to maintain the integrity of the discipline; indeed the only reason Hansel (1966) was able to cite some attested instances of fraud in ESP

experiments was that parapsychologists themselves had published detailed reports of these instances.

On the other hand there is a much stronger tendency among psychologists to turn a blind eye to fraud in their field, the posthumous exposure of Burt's purported deception notwithstanding (Hearnshaw, 1979); their assumption seems to be that the experiment probably would have turned out in the reported manner anyway, so readers are not really being misled (Broad & Wade, 1982, p. 80). In parapsychology there is much effort directed too to the replication of experimental findings and this can assist in the identification of fraudulent practice. Much less interest in experimental replication is shown by psychologists: if the data are theoretically or intuitively plausible academic psychologists today rarely bother with simple replications, if only for the reason that psychology journals generally will not publish a report of such a study. Without routine experimental replications there is no safeguard against experimenter fraud; most exposures of fraud in the orthodox sciences consequently have come through personal disclosure (Broad & Wade, 1982, p. 73). In short, the argument of frequent fraud in parapsychology seems more politically than evidentially founded.

Some recent attacks on parapsychologists have focused not so much on their integrity as on their professional competence. Hansel's (1966, 1980) scenarios of possible fraud in selected experiments typically portray the experimenter as inept in attempting to establish experimental control. This is not to say that parapsychological experiments have been criticized unjustly; methodological weaknesses can be nominated as readily for these studies (see Akers, 1984) as for the experiments in many areas of orthodox psychology, for example. But skeptics such as Diaconis (1978), Gardner (1981) and Randi (1975, 1982) maintain that parapsychologists' experimental control is so poor that participants are able to use conjuring tricks to achieve above-chance performance.

A majority of parapsychologists now appreciate the point that in designing some of their experiments the professional advice of a magician could be helpful, and indeed many parapsychologists have sought consultations of this sort (Hansen, 1985, 1990). Nevertheless the skeptics' generalized slur upon parapsychologists' professional competence still rankles. The issue became acute with Randi's (1983a,b) so-called Project Alpha in which Randi, a professional stage magician, arranged for two young conjurers to present themselves as psychics at a parapsychological laboratory (Shaw, 1996). According to Randi the parapsychologists were deceived effectively by the young men during a series of supposedly controlled experiments. The parapsychologists themselves declared that the conjurers had not been successful in tightly controlled experiments; it was acknowledged however, that in some exploratory studies fraudulent performances had been taken by the research team as "encouraging" results and had been reported as such in unrefereed conference research briefs.

Much of the subsequent debate over Randi's hoax has concerned the ethics of the procedure (Thalbourne, 1995b; Truzzi, 1987), although it must be remembered that Randi is a showman and thereby he is not bound by the professional ethics of scientists. Project Alpha has been constructive in reminding parapsychologists that they need to be especially wary in working with people who volunteer themselves as "psychics." On the other hand the hoax certainly did not show parapsychologists as a group to be incompetent in research. From the perspective of the sociology of science Project Alpha is noteworthy in instancing one form of skeptics' attempts to "debunk" parapsychological research.

Some critics (e.g., Hyman, 1980) have argued for the need to respond to parapsychology in a sober and proper manner, but nonetheless a common tactic of skeptics is the use of ridicule. Parapsychological phenomena are derided as nonsensical and primitive folk beliefs and parapsychological research is belittled as occultism in pseudoscientific garb. This approach especially is characteristic of the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). CSICOP is a group of scientists and other people originally founded to examine objectively the evidence for paranormal phenomena (Frazier, 1996), but it has maintained an inflexible stance against research into the paranormal (Hansen, 1992), some of its affiliates even resorting to deception in experimental reports (Pinch & Collins, 1984); many of its more evenhanded members consequently have resigned.

Articles published in the *Humanist* and in CSICOP's own periodical the *Skeptical Inquirer* (see Frazier, 1981, 1986, 1991) amalgamate parapsychological research with astrology, vampires, UFOs, pyramid power, numerology, the Bermuda triangle, witchcraft, the Tarot, the Abominable Snowman and the like, encouraging an impression of parapsychology's guilt by association. Parapsychology has been depicted by some skeptics as a spiritualist or occultist movement seeking to maintain popular support by adopting a facade of scientific methodology; for example, the discipline is said to be a "pseudoscience" (Alcock, 1981) and "a prime example of magical thinking" (Bunge, 1991, p. 136), its researchers "closet occultists" (Romm, 1977), and its concepts "a reversion to a pre-scientific religio-mystical tradition" (Moss & Butler, 1978, p. 1077). The results of parapsychological research are dismissed out of hand or are patently misrepresented. Bunge (1991, p. 133), for example, makes the bald declaration, "all of the well-designed parapsychological experiments have produced negative results." Similarly, in a major report commissioned at the request of the US Congress Hyman (1995, p. 325) asserted, "Only parapsychology, among the fields of inquiry claiming scientific status, lacks a cumulative database."

Although parapsychologists deplore these rhetorical devices the fact of the matter is that this is how scientific controversy is waged. As Feyerabend (1975) maintains, it is not so much the logic of the case that determines the outcome

of a scientific controversy but rather the rhetorical skills of the advocates for each side.

Other more specific criticisms of parapsychology have been noted in earlier chapters. Some scientists reject the ESP data because while the results may be statistically significant the deviation from chance is so small that it is not convincing of an extrasensory access to information. Others believe that parapsychology cannot be accorded the status of a science as long as it lacks a widely endorsed theory of its phenomena (Churchland, 1987; Flew, 1980). Still other commentators maintain that parapsychology is not a science because its experiments are not guaranteed to be replicable upon demand (Beloff, 1994).

Possibly these aspects of parapsychology could be interpreted as characteristic of a young science, one that has yet to achieve the desired level of control over its phenomena. But again, perhaps psi phenomena are inherently weak or little open to conscious production (Beloff, 1985). Certainly in recent years there are indications that theories of psi are becoming more viable and that experimental findings may be becoming more replicable. Many parapsychologists had hoped that meta-analyses of the findings of psi experiments would silence critics' claims on the issue of replicability (Krippner et al., 1993); when this did not happen, parapsychologists seemingly abandoned much of their effort to assure conventional scientists on this point (Hess, 1993).

It is not impertinent to note that the above criticisms might equally be applicable to other accepted areas of scientific research. In psychology, for example, many experimental results comprise small but statistically significant effects, and often the replicability of these effects is either poor or untested. This is not to say that effect size and repeatability are unimportant, but merely that critics' emphasis upon them in the parapsychology debate is fundamentally for rhetorical purposes (McClenon, 1984, pp. 89–91). One cannot help but feel that many psychologists' antagonism toward parapsychological research is in some measure a projection of anxieties over their own discipline.

The motivations of parapsychology's critics have been the object of considerable speculation (e.g., LeShan, 1966; McConnell, 1977; Wren-Lewis, 1974). Critics undoubtedly believe in the rationality of their case against parapsychology, yet this in itself seems inadequate to account for the belligerence and vehemence of their attacks. Although some parapsychologists regard the implications of psi phenomena to be so far-reaching as to augur a major revolution in materialistic science, there is little indication that critics see the fabric of science to be under serious threat and thus this would not appear to be a significant motive.

Tart (1982) proposes that the critics' behavior is fueled by a very strong unconscious emotion, a "fear of psi." Many people are concerned that if psi really were to exist, social interaction would be disrupted, their personal privacy invaded, and their independence open to unfair manipulation by others. For these people it is too awful that psi should exist, so its existence simply

must not be conceded. In support of Tart's hypothesis that critics are motivated by a fear of psi, Irwin (1985c) reports a significant relationship between a measure of the fear of psi and the respondent's attitude to the appropriateness of parapsychological research. There is considerable scope for further research into the psychodynamics of attitudes to parapsychological research.

Criticism is intrinsic to academic science, of course. It plays an important role in the refinement of theories and empirical techniques and thereby serves to stimulate further, more incisive, research. Indeed, some skeptical analyses of parapsychological research have proved very constructive (e.g., Hyman, 1985; Hyman & Honorton, 1986). On the other hand, the scientific establishment's reactions to parapsychology tend to go further than this in using criticisms as grounds for maintaining parapsychology's marginal status and denying it the privileges of a scientific discipline. That is, certain activities of skeptical scientists seem designed to create and maintain a cultural boundary between parapsychology and the rest of science (Hess, 1993).

One instance of this is the inhibition of parapsychologists' access to orthodox journals. Publications such as *Science* and *Nature* have been shown to be extremely unwilling to publish articles favoring parapsychological concepts (Collins & Pinch, 1979, pp. 257–258; McClenon, 1984, pp. 114–118; Rockwell, 1979). One fascinating documentation of this is provided by Honorton et al. (1975). Honorton submitted to *Science* a report of a study on experimenter effects in ESP. After it had been revised in the light of earlier comments, the manuscript was scrutinized by four referees, three of whom favored its publication. The dissenting referee clearly was not familiar with parapsychological research, being unable, for example, to countenance the observation of a mean ESP score that was significantly *below* chance. The editors of *Science* decided not to publish the paper.

Those articles that are accepted for publication in *Science* or in *Nature* frequently are diluted by negative comments made in an accompanying editorial or in a commentary by scientists outside the field (Collins & Pinch, 1979, pp. 258–259); often such commentaries do not appear to have been subjected to the usual editorial processes. Psychology journals also appear to publish a higher proportion of unsuccessful psi experiments than do parapsychological journals (Billig, 1972), while in introductory psychology texts the tendency is either to ignore parapsychological research altogether (Child, 1985; Irwin, 1991b; Lamal, 1989) or to describe only weak and outdated studies (Rogo, 1980; Roig, Icochea & Cuzzocoli, 1991).

Recently, however, a paper by Bem and Honorton (1994) on the psi-ganzfeld effect was accepted for publication in the prestigious *Psychological Bulletin*. Some parapsychologists have interpreted this acceptance as a suggestion of an emerging evenhandedness toward parapsychological research reports among the editors of mainstream psychological journals. On the basis of past experience, other parapsychologists do not share this optimistic outlook.

Restrictions also are placed on funds for parapsychological research. Committees that assess research proposals and allocate public funds to them typically have been found to be unsympathetic to parapsychology. The involvement of prominent skeptics in the National Research Council's dismissive assessment of parapsychological research (Druckman & Swets, 1988) is seen by parapsychologists as having very serious implications for future research funding (Palmer, Honorton & Utts, 1989). Even where a university finances much of its own research activity, parapsychological research might not be granted a reasonable level of financial support. Some funds may be available from private sources but limits frequently are imposed on the sorts of investigations that may be conducted under the auspices of these sources; for example, the terms of the grant may constrain the researcher to look into some aspect of the survival hypothesis.

In the university setting there are many other obstacles placed in the way of those who wish to pursue parapsychological research. Such interests may substantially harm one's chances of promotion. Further, there are few openings for academic parapsychologists. Of those Australian academics currently active in parapsychological research or teaching, *none* was appointed originally in this field. There may also be opposition to the teaching of parapsychology in universities and colleges, despite nominal endorsement of the principle of academic freedom in these institutions (Hansen, 1992; Hess, 1993). McCormick (1987) reports a case of the cancellation of parapsychology courses at the University of Hawaii after pressure from a skeptical group affiliated with CSICOP. Similar events have occurred on other campuses (Lederer & Singer, 1983). The lack of adequate formal acknowledgment of the field on college campuses severely hinders progress in parapsychology and inhibits recruitment of new people to the discipline.

In view of the reactions of certain influential members of the scientific community it might be asked why anyone would persist in their efforts toward parapsychology's acceptance as a legitimate area for scientific inquiry. Some reasons for doing so are idealistic: parapsychologists genuinely may see their work as scientific and want it acknowledged as such. Other reasons ultimately are more selfish: effective recognition of parapsychology should bring more research funds, greater opportunities for and security of employment, and the chance to specialize in parapsychology instead of pursuing it as an ancillary interest. Additionally the promotion of parapsychology as a science has political functions: it constitutes a response to critics and serves to engender in parapsychologists working in academically isolated positions some sense of professional support and unity (Hess, 1993).

The majority of parapsychologists unfortunately have put themselves at a strategic disadvantage by continuing to present their field as the investigation of the paranormal rather than as the study of parapsychological experiences or experiences that appear to imply the operation of paranormal processes

(Blackmore, 1988). Definition in terms of paranormal phenomena inhibits any rapprochement between parapsychologists and their critics because it currently leaves open the question of whether the discipline has any phenomena to investigate: that paranormal phenomena exist is at best uncertain. Further, the very use of the term “paranormal” has the unintended effect of suggesting to conventional scientists that parapsychologists do not think of psi as a natural phenomenon (Honorton, 1993), implying that the subject matter of parapsychology is intrinsically beyond the realms of science. The parapsychologist’s adherence to scientific procedures in itself is insufficient; for a field of inquiry to be deemed a science there must additionally be identifiable natural phenomena for investigation by these procedures. The phenomenological context avoids this difficulty. There can be no dispute that people have parapsychological experiences, and the scientific investigation of these experiences by definition then constitutes a science.

This is not to assert that parapsychology should be totally immersed in the world of human consciousness. Under a phenomenological definition of the discipline, the performance of psi experiments still is appropriate because some types of subjective parapsychological events might well prove to have an objective foundation, a basis rooted in the physical world. Until parapsychologists can appreciate that parapsychological experiences can be studied whether or not they are paranormal, parapsychological research will maintain its marginal status in the domain of orthodox science and as Moore (1977) argues, parapsychology will run the risk of its cultural significance progressively fading almost to the point of oblivion, just as happened to nineteenth-century spiritualism.

Perhaps the ultimate survival of parapsychological research will rest on the demise of parapsychology as a discipline. Stevenson (1988) has questioned parapsychologists’ continued determination to represent their research activities as a separate field of study. The foundation of a fraternity among scientific parapsychologists seems to have been achieved at a substantial cost of isolation from and ostracism by the mainstream of science. In purely pragmatic terms, parapsychology is in crisis because new researchers and research funds are not being attracted into parapsychology to the degree necessary to sustain it as a discipline. Stevenson suggests that in the future, parapsychological issues might best be pursued within the framework of the orthodox sciences such as psychology and physics.

This option has major implications for the professional training of future researchers. For example, students with an interest in parapsychological topics would be advised to undertake graduate training in an orthodox field rather than by way of a specialist doctoral program in parapsychology. Having become established vocationally as a mainstream research scientist, the individual could then judiciously apply his or her research expertise to parapsychological issues.

In some respects this scenario for the future seems like a meek capitulation to the skeptical attacks on parapsychology. Certainly it would entail the

abandonment of some hard-won, academically sound graduate programs in parapsychology. But the viability of contemporary parapsychology is under serious threat, and the underlying problems need to be addressed in a realistic manner.

Even if future parapsychological research typically is undertaken within the orthodox scientific disciplines, there may still be opposition to the acceptance of parapsychological issues as germane for scientific scrutiny. Some observers nevertheless see two contemporary movements in the philosophy of science as providing cause for some optimism in this regard.

The first movement is known as *postmodernism* (Griffin, 1988, 1997; Krippner, 1995). There is a growing disenchantment with the scientific, deterministic, reductionistic and mechanistic perspectives of twentieth-century science and their dogmatic domination of our culture. Science seems to have reduced our worldview to factual information, leaving our cultural institutions without a sense of ideals or values. Although science has largely supplanted the traditional cultural mythologies, it has not incorporated the mythic function of providing principles as a guide to living (Krippner, 1988). Modern science's reductionism also seeks causal explanations at the lowest levels, namely in the parts of the object under study; higher causal entities such as consciousness and the individual as a whole are dismissed as unscientific. Postmodernists urge scientists to restore an appreciation of what might loosely be called a "spiritual" dimension in the study of people and their world. This postmodern science would acknowledge the human qualities and the individualism of the person, and it would also seek to understand people holistically rather than in a reductionistic framework. According to Krippner (1988), parapsychological research would fit very neatly into a postmodern view of science.

A related movement in the philosophy of science has its roots in feminism. Feminist scientists such as Bleier (1984), Harding (1986, 1987) and Keller (1983) see modern science as an uncompromising expression of androcentric or "masculine" values. For example, scientists are essentially in pursuit of power; they seek to dominate, subdue, and control nature. Scientists also use methods which emphasize an objective, impersonal, and dispassionate ("logical") approach at the exclusion of subjective, personal, and emotional ("feeling") elements. Even in the social sciences researchers seek to assert control over experimental subjects rather than to engage participants in a collaborative exercise. At the same time as they are adopting a detached methodology scientists tend to be adversarial, highly competitive with their peers and exploitative of their subordinates (Utts, 1994; Zingrone, 1994).

In parapsychological research this dualism is instantiated by the contrast between J. B. Rhine's relentless drive for experimental control over ESP and Louisa E. Rhine's sensitivity to the personal dimensions of spontaneous extrasensory experiences. Stereotypical "feminine" values perhaps may be more evident in parapsychology than in most other disciplines; [for appreciations

of women's contributions to parapsychology see Alvarado (1989b), Coly and White (1994), Hess (1989b), and Zingrone (1988)]. Certainly some parapsychologists' preoccupation with the subjective and the "intuitive" aspects of human behavior (Powers, 1991) is extremely irksome to the (almost exclusively male) skeptics.

In any event, a more extensive accommodation of "feminine" values in general science, as advocated by feminists, may provide a context in which a greater variety of parapsychological studies are received as scientifically legitimate. The feminization of science would in part entail the implementation of a pluralistic approach (White, 1992), that is, a recognition of the value of many different research paradigms and a rejection of the view that the laboratory experiment is the epitome of the scientific method. White (1991, 1994) has urged parapsychologists to join in the process of transforming contemporary science to this end. Thus parapsychology could be the first point of implementation of a significant revolution in the philosophy of science.

In the final analysis what fairly can be said of parapsychology? As far as spontaneous cases are concerned it seems likely that there are numerous instances of self-deception, delusion, and even fraud. Some of the empirical literature likewise might be attributable to shoddy experimental procedures and to fraudulent manipulation of data. Be this as it may, there is sound phenomenological evidence of parapsychological experiences and experimental evidence of anomalous events too, and to this extent behavioral scientists ethically are obliged to encourage the investigation of these phenomena rather than dismissing them out of hand. If all of the phenomena do prove to be explicable within conventional principles of mainstream psychology surely that is something worth knowing, especially in relation to counseling practice; and if just one of the phenomena should be found to demand a revision or an expansion of contemporary psychological principles, how enriched behavioral science would be.

Key Terms and Concepts

scientific method	<i>Journal of the American Society for Psychical Research</i>
laboratory analogues	<i>Journal of Parapsychology</i>
technological hardware	<i>European Journal of Parapsychology</i>
professionalism	<i>Journal of Scientific Exploration</i>
scientific societies	<i>Theta</i>
Parapsychological Association	<i>Journal of Near-Death Studies</i>
American Association for the Advancement of Science (AAAS)	<i>Exceptional Human Experience</i>
specialist journals	university representation
<i>Journal of the Society for Psychical Research</i>	disclosure of fraud
	the Levy affair

fraud by Soal
incidence of fraud
Project Alpha
effect size
replicability
critics' motives

access to journals
research funding
parapsychology teaching
postmodernism
feminism in science

Study Questions

1. Why must science generally be conducted in a laboratory? Discuss this issue in relation to the position of contemporary parapsychology.
2. In what ways has the practice of parapsychology developed toward being scientific?
3. Should parapsychology be permitted representation on university campuses? Why, or why not?
4. In what ways has the scientific establishment sought to frustrate the acknowledgment of parapsychology as a science?
5. "The Levy affair demonstrates that experimenter fraud does occur in parapsychology. This field, therefore, cannot be accorded scientific status." Discuss.
6. Consider (a) the significance for parapsychology, and (b) the ethics, of Randi's Project Alpha.
7. Imagine scientists invented a drug that made people aware of the thoughts of every person within a radius of 30 feet (9 meters). What feelings do you have about this situation? Can you appreciate that some people would be very anxious about it?
8. What are the principal options for parapsychology's future development if it is to survive as a scientific discipline?