been responsible for their relatively higher scoring level. Of course, the "Active" instructions may have brought about a corresponding alteration in the female subjects, with a resultant heightening of the scores in the Active condition. (Of the 27 females who scored differentially under the two conditions, 16 scored higher in the Active condition.) Hindsight suggests that administration of Bem's Androgyne Scale (1974) would have been instructive.

I continue to be interested in the possibility of enhancing psi performance in a reliable—i.e., replicable—manner. Although this particular attempt was unsuccessful, the general approach may be one that is worth pursuing.

REFERENCES


Department of Psychology
State University College of Arts and Science
Geneseo, New York 14454

Reviews


This book is the latest in a series of books criticizing parapsychology and offering it as an example of the sort of "bad science" or "pseudoscience" that has inappropriately captured the public's attention in recent years. The book succeeds in part; it has some strong points and many of its complaints warrant the serious consideration of those interested in parapsychology. Alcock evaluates the field from the perspective of an outside researcher in the behavioral sciences looking at it to see if anything scientific seems to be going on. As a psychologist, Alcock is well aware of the problems psychology has had, especially in its softer areas, in achieving recognition for doing the business of science. He concludes that parapsychology doesn't look much like a true science. Most of his criticisms are not new, but several valid points are well expressed and have implications for changing some of the ways parapsychologists carry out their research.

On the other hand, Alcock has taken even less trouble than usual to provide a serious assessment of the actual research literature. He relies extensively on the criticisms of others and on secondary sources of information in general, and essentially ignores large bodies of data that directly address some of the most crucial issues he raises. This is especially disappointing since it seems apparent from the rest of the book that his comments on individual studies and groups of studies could have been insightful and worthwhile.

In the Introduction (Chapter 1), the battle lines are clearly drawn. Society is experiencing a dangerous rebirth of pseudoscience and a disregard for a rational approach to evaluating public claims; bad books making unsupported assertions abound, and parapsychology seems to be part of the picture. Astrology, biorhythms, the Tarot, etc., are part of the paranormal, "further out on the fringes of parapsychology" (p. 4).

A brief history of the field is sketched out, noting that in the late 1970s there were (according to Parapsychology Review) 54 parapsychological periodicals in 15 countries and well over 150 parapsychological associations in 30 countries. For Alcock's purposes, the field is well established and includes far more than the members of the Parapsychological Association (referred to as the Parapsychology Association throughout the book) and its affiliated jour-
nals. As a hint of things to come, Chapter 1 includes a brief discussion of the conceptual problems involved in distinguishing among the main categories of psi. The chapter ends with a problem: there is a widespread acceptance of the paranormal by the media and the public, yet most persons in the scientific community still regard the evidence for psi as unpersuasive. What are the reasons for this discrepancy?

Chapters 2 through 5 all deal with material from the philosophy and sociology of science and from the social sciences themselves, essentially addressing the issue of why we might become persuaded of the existence of psi even if it doesn’t exist. Chapters 6 and 7 deal directly with the question whether there is scientifically acceptable evidence that psi does exist. Chapters 8 and 9 are basically summary and conclusion chapters.

Chapter 2, “Magic, Religion and Science,” starts with a sentence that indicates Alcock’s displeasure with the role of religion in society:

In the name of religion human beings have committed genocide, toppled thrones, built gargantuan shrines, practiced ritual murder, forced others to conform to their way of life, eschewed the pleasures of the flesh, flagellated themselves, or given away all their possessions and become martyrs (p. 7).

The author goes on to consider the concepts of magic, religion, and science as used by anthropologists, noting that these concepts are not easy to define. There follows a discussion, with examples, of the use of trickery to simulate miracles and buttress religious claims, fooling the masses and perpetuating the religion. Next comes a useful discussion of the sociology and psychology of religion, focusing on beliefs in forces with no concretely assessable causes. Alcock relies heavily on Moore’s book in discussing the origins of parapsychology as stemming from the conflicts between traditional religious beliefs and the evidence for naturalistic interpretations of events such as those offered by Darwin and (later) Freud. He also offers quotations from several researchers past and present to show that a major impetus for the development and maintenance of parapsychology is the desire to prove scientifically that souls survive bodily death and/or that spiritual reality has validity.

Alcock next presents the results of various surveys showing that acceptance of psi is widespread, even among university professors, and asks why such acceptance is so strong. After rejecting the notion that this is brought about by the onset of social disintegration, he lists four admittedly untestable factors which he feels are responsible: the presence of a religious void that needs to be filled; a distrust of rationality; a tendency toward uncritical acceptance of what one is told; and strong personal experiences of apparent psi. In support of the last, he cites a survey by McConnell of Parapsychological Association members which found that 71% of those who responded indicated that “personal psychic experiences or those of people close to them contributed significantly to their belief in ESP.”

There is much in this chapter that is thought-provoking and which could stimulate readers to re-evaluate their own attitudes toward psi and religious experience. Perhaps, more than we might care to admit, even those researchers who pride themselves on their objectivity may in fact be motivated to prove the validity of a deeply held point of view rather than to learn the truth about the universe no matter what that truth may be.

On the other hand, the chapter reveals some of the author’s own biases. In considering reasons why so many people readily accept the idea of psi, he ignores the possibility that it may in fact exist and that its acceptance is not necessarily a sign of irrationality or wishful thinking. But perhaps most telling is Alcock’s failure to discuss the factors that may dispose people to have a strong belief in the impossibility of psi. Yet if we are to understand the role of belief systems in distorting our perceptions of events, we must consider the full range of beliefs and biases that may abound. Alcock gives us only half the story.

Part of the problem may be that belief, as the term is used in this book and elsewhere, can occur at varying levels of intensity. For instance, we might infer from the McConnell findings cited above that all P.A. members are firm believers in psi and are basing their beliefs largely on personal experience. But if we read further in McConnell’s article, we find that “more surprising is the statistic that, of the respondents, only 69% are currently wholly free of doubt concerning the reality of ESP. Moreover, upon first exposure to the published evidence for psi phenomena, 49% of the respondents had experienced some degree of conflict with prior beliefs, and for 15% of respondents this conflict is recognized as still unresolved.” Thus the picture is more complex than painted by Alcock.

In Chapter 3, “The Psychology of Belief,” Alcock offers a definition of belief as “a simple expectancy regarding a property of an


object or series of objects or events" (p. 39). However, many writers mean more than a "simple expectancy" when they discuss belief. I have a simple expectancy that my typewriter will go on when I flick the switch. Yet this expectancy can easily be disconfirmed if the typewriter is not plugged in or has been damaged. My expectancy would not prevent me from checking the cord or doing other minor troubleshooting. Simple expectancies can be easily disconfirmed without mental duress or conflict. Yet a belief, pro or con, in the existence of psi, as discussed in this book, would seem for many to go beyond simple expectation. If we say that someone "believes" in psi, we usually assume that more than a simple expectancy is involved. It would have been useful if Alcock had drawn a distinction between "belief" and "faith," with the latter signifying complete acceptance of the truth of something without recourse to reason, and the former being a more general term ranging from simple expectancy to complete acceptance. This might avoid the unfortunate tendency to lump together believers at different levels of intensity.

Alcock includes a description of some research on the characteristics of believers in psi, noting that they are more dogmatic and less skilled at critical thinking than skeptics. This is not especially surprising: to complete the picture, however, we should look at firm believers, pro or con, in psi versus those whose opinions are less firm. This research has not been done.

Alcock ends this chapter by noting that both scientists and non-scientists are ruled more by belief than they may realize. I'm sure that most of us agree with this in principle; in practice, however, we can easily ignore it, and I found this chapter a healthy reminder. Unfortunately, Alcock focuses on the foibles of those who are overly accepting of psi phenomena and thus once again does not provide the reader with a balanced view.

Chapter 4, "The Psychology of Experience," contains some interesting information, but is very superficial considering the importance of its topic. Much of it is aimed at characterizing experience as an epiphenomenon of a biophysically-based information-processing machine, along for the ride but in no sense exercising free will in the strict sense. This may turn out to be the case, but the evidence is not as conclusive as Alcock would have us believe.

The section on transcendental experiences is surprisingly weak; it is unlikely to be persuasive to most persons who have had such experiences and wish to understand them better. It focuses on psychological and biological factors responsible for initiating and maintaining the states, with little attention paid to factors likely to shape the content of the experience other than to note that hyper-suggestibility is a key feature and that a person who is hyper-

suggestible is apt "to accept statements or suggestions uncritically, and to misinterpret the situation in line with his own wishes and fears" (p. 77).

The section on experiencing the paranormal makes some good points, and the chapter concludes with the suggestion that "before one makes a leap of faith to paranormal explanations, one should be careful to become familiar with the sometimes seemingly bizarre products of normal cognition" (p. 89). I agree with this, and have rarely seen a course syllabus in parapsychology that gives proper weight to this problem.

Chapter 5, "The Fallibility of Human Judgement," is one of the best in the book. It provides good coverage of how we infer causality, emphasizing the role of learning: how we learn about causal relationships and how the rules we learn can often mislead us. It also discusses factors that can mislead us into believing we have influenced, been responsible for, or controlled events around us. This material is useful for the lay person who wants to understand the role of non-psi factors in ostensible psychic experiences as well as for the researcher who wants to evaluate data from field studies and descriptions of spontaneous cases.

Chapter 6, "Science or Pseudo-Science: The Case of Parapsychology," leads off with a discussion of parapsychology's problems as it attempts to combine metaphysics and physics. Alcock then considers the concept of premature ideas in science and their role in scientific revolution, noting that many parapsychologists feel psi is a premature idea in science and that an appropriate paradigm will eventually emerge. He states that a major problem for psi, as a premature idea in science, is that it doesn't solve any problems for other disciplines. The only anomalies it addresses are those from its own data and from personal experiences of the sort he has dismissed earlier in the book. On the one hand, he makes a good point in noting that psi researchers and theorists have been too involved with the data of psi studies per se, and have failed to give adequate attention to the question of how psi might solve some of the remaining problems in other disciplines; nor for the most part have they attempted to model the consequences for other fields if psi exists and operates in nature. On the other hand, it could be argued that psychology has many anomalies that psi might address, but psychologists have either declined to look at these anomalies (thus making them merely parapsychology's data) or dismissed them with vague assertions that all such experiences can be explained by present concepts if we applied them correctly. If the latter is the case, then we should pursue all non-psi explanations with more vigor, collecting concrete empirical data in support of them rather than merely asserting them and departing the scene.
other words, often the skeptic simply asserts a possible non-psi alternative without doing the follow-up investigation required to confirm this alternative. Moreover, if all that parapsychology is left to explain are its own anomalies, then that in itself constitutes the proper business of the scientific endeavor, and still means that there is more work to be done.

Alcock includes a section on parapsychology and modern physics in this chapter, pointing out that often parapsychologists have tried to draw from areas of uncertainty in theoretical physics to integrate psi into the mainstream of science. This effort is laudable, and presumably Alcock should applaud; however, his main focus is on areas in which psi researchers have prematurely generalized and have seemed to misunderstand the physics concepts involved. In this process he draws heavily from Martin Gardner's writings. Some of his points seem valid and should be taken as a warning that casual cross-disciplinary speculation is no substitute for solid theory-building. However, Alcock only covers this area superficially, and casually dismisses observer theories in a brief footnote. He does acknowledge indirectly that a true evaluation of this area is best conducted by physicists, and this is one of the weaker areas in the book.

He then cites Mario Bunge's eight criteria for pseudo-science, and quotes several psi researchers to show that there is disagreement among parapsychologists as to the concepts and data base of the field. He takes the field to task for not having effectively evolved competing theories, indicating with several appropriate quotations that many of us do not pay adequate attention to existing alternative explanations when we discuss our areas of special interest. He states that we are critical only when we confront evidence for claims we don't like anyway (which indicates that he doesn't read our literature very extensively) and that we frequently posit non-falsifiable reasons for the failure of our studies, among them the following: experimenter effects, decline effects, psi-missing and displacement effects, and the sheep-goat effect (to account for why skeptics can't experience psi).

Here again, Alcock scores points on individuals, as many of us have been careless or over-zealous as we have theorized or rationalized away our failures. It seems evident that if we are to consider concepts such as these, we must try to develop strategies for minimizing their effects and focus on ways of enhancing the psi functioning of our subjects. We also need to develop more effective use of the findings of other disciplines, although we have made considerably more progress than Alcock acknowledges in drawing from psychology's findings in measures of individual differences and techniques for modifying internal states.

Alcock then discusses some general problems involved in our research methods themselves. One is the lack of proper controls in various studies. This argument is weakened because he ignores process-oriented research here and focuses on a few selected cases. He refers to Ray Hyman's critique of the original Honorton-Harper ganzfeld study without noting any of the successful replications in other laboratories, and cites Persi Diaconis' statement that he found sloppy procedures in every psi test he had witnessed. Given the frequency with which this statement is being quoted, one would like to see a list of what studies were involved and where they were published. Then we could evaluate the worth of the statement as a general indictment of psi research procedures (assuming, of course, that we also had adequate evidence that Diaconis is not the sort of observer whose perceptions are distorted by personal belief systems).

Alcock then raises the replicability problem and discusses the nature of replication in general; he does not, however, come to grips with the specific problems of partial replicability, of assessing how accurately a replication attempt duplicates the essentials of the original study, of what constitutes adequate replication (by how many labs, with what degree of statistical confidence, what proportion of failures are tolerable, etc.), and who qualifies as a replicating skeptic. Regarding the latter, Alcock makes an arbitrary distinction between the parapsychologist and the skeptic, leaving his criteria unstated. Is a person who has a mild interest in the field but has never done psi research ever a parapsychologist? If this person successfully replicates an experimental finding, does he become a parapsychologist? If he publishes and joins the P.A., does he then become a parapsychologist? Is there a point at which, if a person converts from mild disbelief in psi to mild belief as a result of his replication, he becomes a parapsychologist and his results no longer count as a replication by a skeptic? Alcock must define his terms much more precisely if his statements about a lack of replication by skeptics are to have any scientific value.

A final point Alcock makes in this chapter is that parapsychologists do not seem to do much systematic research. When they obtain a result indicative of psi, they fail to pursue it systematically and instead jump into other research designs, almost as though engaged in a random walk in search of miracles. This is a valid criticism, and I hope that the research teams being assembled at several of the major laboratories will generate more systematic research programs than has been the case in the past.

In Chapter 7, "Parapsychology and Statistics," Alcock focuses on specific procedural criticisms, although rarely tying them to particular studies. Much of his effort centers on problems with the use of statistical inference as a tool for inferring the existence of psi. His major complaint is that most parapsychologists seem to
assume that the achievement of statistically significant deviations from chance constitutes proof of the existence of psi. However, there is nothing wrong in principle with the use of statistical inference as a tool for estimating the strength of experimental results. In psi studies, researchers set up a potential communication system with a source, receiver, and message. Barriers are erected to eliminate as best we can the presently understood means by which information could be transferred from source to receiver. Then the message at the source is systematically manipulated and the behavior of the receiver is monitored so it can be compared with the message from the source. If there is sufficient correspondence, we infer that some sort of communication took place. Our estimate of the probability that the communication was mediated by some vehicle at present not understood (e.g., psi) is in part determined by our estimate of the likelihood that the experiment was conducted under conditions ruling out presently understood vehicles. We compare the similarity between source and receiver to the degree of similarity we would expect if no communication were involved. If there is sufficient departure from that degree of similarity, we infer that communication occurred. The statistical comparison is only one part of the process; it is not the sole basis for inferring that anomalous communication took place. However, while many of the earlier studies in the field used this design, it permits only relatively weak inferences with regard to the actuality of anomalous communication. A more powerful design involves comparing the difference in information transfer under varying conditions with the difference expected if such conditions had no effect upon the results. Research using this design is process oriented, and if it is carefully carried out using tight controls, it allows inference about the factors that affect the strength of information transfer. Although there is considerable research of the process-oriented type in parapsychology today, it is largely ignored by Alcock.

Other problem areas are also discussed in this chapter, such as the need for control groups, taking response biases into account, selection of subjects, and selective publication of data. But Alcock does not provide anything resembling a serious evaluation of the actual incidence of these problems in the modern literature, and he seems unaware of the fact that many parapsychologists have dealt with them in their research.

Alcock in general has avoided any real assessment of original research reports in detail, and although he often cites the Handbook of Parapsychology, he completely ignores the chapters by

Honorton, Palmer, and Carpenter, each of which refers to bodies of systematic research aimed at determining correlates of the strength of psi performance and testing hypotheses about variables affecting it.

Toward the end of Chapter 7 he includes a brief section on Helmut Schmidt’s research on PK effects upon random number generators (RNGs). Rather than evaluating the original articles, he quotes from a recent critique by Hansel. But Hansel’s comments on this work indicate that he must have relied heavily upon secondary reports. Hansel also claimed that the Schmidt results were not replicable, and Alcock does not discuss the replicability of the Schmidt effect. Yet in the Handbook of Parapsychology, reference is made to 15 further studies obtaining significant evidence for PK influence on RNGs, including four by Schmidt, four by other researchers in Schmidt’s laboratory, and seven from other laboratories. By 1979, at least 15 additional confirmatory studies had been published, from nine separate laboratories. Surely reports on most if not all of these studies were available to Alcock before the manuscript of his book had to go to the printer. If the evidence for PK effects upon RNGs is to be evaluated scientifically, all such studies must be taken into account, and their number increases each year.

Although here Alcock again scores points on individual researchers and provides extensive reminders of the sins of the past (and occasionally of the present), he has not provided the sort of scientific evaluation of the strength of the evidence for psi, or the degree of repeatability of findings in psi research, that would warrant his cavalier treatment of such evidence in the earlier chapters.

Chapter 8, “The Public Debate Continues,” and Chapter 9, “Conclusions,” offer little of additional substance. They are summaries, repeating and expanding upon themes developed earlier. One item of interest is that in Chapter 9 Alcock describes some of the consequences of psi should it turn out to exist; it would represent a ubiquitous, uncontrollable communication factor that would result in chaos and make the world rather unpleasant to live in. No wonder he is not eager to “believe” in psi! But we have no idea what its limits might turn out to be. I suspect that if we eventually come to understand and control it, we will find that psi has limits, both physical and psychological, and that, like other human abilities, it will be developed for better or worse in accord with the moral fiber of those involved.

In summary, despite the criticisms and reservations expressed

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above, I found this book one of the most thought-provoking I have
read in some time. I recommend it for lay persons and profession-
als alike. It makes many good points and some of its criticisms of
parapsychology cannot be dismissed lightly. Unfortunately, it is
not as effective as a text as it should be, in part due to its dense
prosaic style, its need for better organization (I had my class read
the chapters in a different order than found in the book), and its
failure to confront the actual data of parapsychology.

ROBERT L. MORRIS

School of Computer and Information
Science
Syracuse University
Syracuse, New York 13210

OUT-OF-BODY EXPERIENCES: A HANDBOOK. By Janet Lee

This book offers itself as a "handbook" on out-of-body experi-
ences (OBEs). The term "handbook" seems rather strong, how-
ever, suggesting, as it does, a large and stable body of knowledge. I
am not sure that the relatively small amount of organized knowl-
edge we possess on the OB phenomenon warrants such a term as
"handbook." Nevertheless, Dr. Mitchell has written an informative
book which gives a good overview of what is known about the
out-of-body experience.

She begins with a personal account of her research with Ingo
Swann. Certain biographical details of Swann's psychic develop-
ment are intriguing. For instance, during childhood he witnessed a
friend's death from a high fall, an event which, Swann says, sup-
pressed his OB adventures for many years (p. 2). This would seem
to clash with the view that OBEs are part of a defense mechanism
against the fear of death. In Swann's case, the death stimulus
suppressed the OBE. On page 4 Mitchell explains why she thinks
Swann's vision was "closer to normal vision than to extrasensory
perception." But this at once raises some conceptual difficulties in
the idea of OB "vision." If OB vision resembles normal vision, are
we to suppose that there is a quasiphysical OB vehicle located in
space? The evidence for the existence of such a vehicle is ex-
remely weak. Moreover, such a vehicle if it does exist, is appar-
ently capable of psi performance. But psi performance appears
increasingly to be a nonphysical process. If we try to fit all the
unusual facts together, we seem forced not only to posit a domain
of nonphysical psi, but also a domain of quasi-physical entities or
vehicles for OB "vision."

Another hint as to the possible physicality of an OB entity or
process is the evidence for a reduction of electrical energy in the
brain during OBEs. If so, Mitchell suggests, we should be able to
track the energy of the out-of-body entity (p. 9). All this seems to
indicate that OB research demands a closer collaboration between
physics and parapsychology.

The next chapter discusses a variety of circumstances that tend
to elicit OBEs—e.g., dreams, fatigue, sensory deprivation, and so forth. I felt a need for the author here at least to attempt to
conceptualize what the disparate OB-conducive conditions have in
common. What, for instance, is the secret underlying thread be-
tween relaxation and near-death experiences?

Chapter III presents an occasionally critical history of the "stars"
in the realm of OB aeronautics, while Chapter IV sketches the
relation between the history of religions and OBEs. Mitchell raises
an important question in the latter chapter: "Could a hallucination
be the common denominator of all religious thought?" (p. 38). This
phrases the problem rather boldly—but the question has a point.
For the origin of much of religion lies in certain types of OB-related
and expanded states of consciousness. OB research brings into
relief the problem of the reality content of these experiences.

A discussion (Chapter V) of "evidence from the lab" for OBEs is
unduly brief. Mitchell makes a statement here which, if true, would
be quite interesting. She thinks there is a "conscious evolution" of
the out-of-body experience. More people, she asserts, are gaining
control over this experience. Unfortunately, she doesn't support
this startling claim. I too share the sanguine hope that human
consciousness is evolving; but a hard look at the world around me
suggests that consciousness is really contracting.

Chapter VI examines the relationship between dreaming and
OBEs. This is a tricky problem. The state of dreaming is often a
causal factor in full-blown OBEs; yet the scant evidence indicates
that typical REM physiology is rare during OB states. The
phenomenology here presents a mixed situation. OBEs often seem
qualitatively distinct from dreams; yet often take place in fantastic,
dreamlike realms of being. But at the same time some dreams have
realistic and even verifiable (psi) characteristics. Again, we need a
clear model connecting these two classes of altered states of con-
sciousness. The next chapter examines other altered states resem-
bling OBEs; this discussion presents some fresh material and pro-
vides much food for thought—especially on the question of the
relation between anxiety, social conditioning, and altered states.

Mitchell examines the mind-body problem in Chapter VIII. She
draws on several sources—neurological evidence, linguistic
arguments, claims from religious experience—suggesting that cer-
tain essential properties of human beings are nonbodily. She argues