Book Reviews

The Psychology of the Psychic. By David Marks and Richard Kammann. Prometheus Books, Buffalo, N.Y., 1980. 232 pp. $16.95 ($7.95 paper).

Reviewed by Ray Hyman

Marks and Kammann, both psychologists at the University of Otago in New Zealand, have written a "debunking" book. In particular, they debunk the claims of psychic powers involved in the stage feats of the magician-mentalist Kreskin, the mind-reading and metal-bending exploits of the alleged psychic Uri Geller, and the supposed correspondences between target and description in the remote-viewing experiments of Targ and Puthoff. In each of these cases the authors not only critically examine the original claims, but also engagingly describe their own personal investigations of the alleged phenomena. They witnessed several of Kreskin's stage performances and eventually figured out how he achieves his seeming miracles. They not only witnessed several of Geller's stage demonstrations, but they also interacted with him personally on several occasions. Probably the most interesting and educational portions of the book deal with how they gradually came to suspect trickery on Uri's part and then, in the best tradition of detective stories, gradually unraveled, trick-by-trick, how Uri accomplishes each of his effects.

The reader of *The Psychology of the Psychic* should have little trouble following the step-by-step exposé of both Kreskin and Geller. The critique of the remote-viewing experiments, as well as of the ambitious experiment conducted by Alistair Hardy, involves technical matters having to do with statistics, experimental design, and the logic of scientific inference. Here I suspect the untrained reader will encounter difficulties. The authors, however, make a valiant attempt to present their arguments in as nontechnical a fashion as possible.

Although the readership for debunking books is minuscule in comparison with the market for mystery-mongering publications, the actual number of such books is now quite large and still growing. Many of these debunking books unfortunately are as ill informed and as sensationalistically oriented as the ones that they are attacking. They do more harm than good in that they tend to confirm

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the claim of psychic believers that the critics are dogmatists, use false arguments, misrepresent the evidence, and do not respond to the actual propositions put forth.

Marks and Kammann join the very small number of debunking books that deal with the actual claims and evidence put forth by proponents of the paranormal. They carefully dissect the claims and show why they are not justified. But the merit and unique contribution of this book is that it goes beyond responsible criticism. Marks and Kammann try to employ current psychological findings to explain how individuals come to believe something that is not so.

The book is quite useful in naming and illustrating a number of cognitive biases that induce fallacious belief. A partial listing would be: subjective validation, data selection, population stereotypes, demand characteristics, the fishing fallacy, the principle of equivalent odd-matches, the clustering illusion, the gremlin illusion, Koestler's fallacy, the fallacy of personal validation, and illusory correlation.

This book was quite successful in sensitizing the students in my course "Pseudopsychologies" to such fallacies. I assigned *The Psychology of the Psychic* as one of the four required readings (the other three being Jahoda's *The Psychology of Superstition,* Giere's *Understanding Scientific Reasoning,* and Vogt and Hyman's *Water Witching U.S.A.*). Both in their term papers and on the final examination the students had to demonstrate that they could critically evaluate various pseudopsychological claims. I was quite pleased with the results. And it was evident that much of the students' success in dealing with paranormal claims was due to having read and absorbed the concepts and tools in *The Psychology of the Psychic.*

The book succeeds very well not only in pointing out the fallacies in certain claims of the paranormal but also in teaching the reader tools for detecting such fallacies in other claims. Moreover, Marks and Kammann, as I have already indicated, go beyond the usual debunking book by not only demonstrating that the claims are unjustified but also supplying plausible psychological reasons for proponents believing in them. In addition, it is written from a personal perspective and captures the interest of the reader.

But I do have questions and quibbles. The authors quite rightly focus on three cases with which they have had personal involvement. But they wrongly, in my opinion, imply that these three cases typify current parapsychological research. And they further imply that the very same weaknesses and fallacies they attribute to their three illustrations suffice to debunk all parapsychological claims. A perusal of several of the chapters in the recent *Handbook of Parapsychology* quickly reveals that much of the experimental evidence for ESP and PK cannot be so easily faulted as are the claims for remote viewing and Uri Geller's accomplishments. The work on random number generators initiated by Schmidt and the Ganzfeld experiments of Honorton and others do not obviously reveal the sort of flaws that Marks and Kammann point out in the studies they debunk.

My point is *not* that these studies are beyond criticism. Rather, I want to make it clear that the investigations of Geller and remote viewing do not represent the best of current parapsychological work. Much of the current work requires criticism that is more sophisticated and subtle than what was needed to demolish the cases discussed by Marks and Kammann. The readers, not having been forewarned, might mistakenly believe that the tools and critiques supplied by the authors will be sufficient to dismiss all parapsychological claims. When they are confronted with some of the better parapsychological research, they might be stymied and ill prepared. Worse, they might become persuaded that Marks and

Kammann have misled them.

Some different sorts of questions might be raised by the role of Kreskin in this book. The authors do indicate that the discussion of this entertainer is "a relaxing interlude." And they indicate that his case is included because many individuals believe that Kreskin's stage tricks are actually produced by psychic powers. It would have been fairer to parapsychologists, however, to point out that they do not believe Kreskin is psychic, nor is it likely that he could convince them that he is.

Another group who will certainly be upset with the inclusion of Kreskin are those professional magicians known as "mentalists" (of whom Kreskin is clearly one). Like other magicians, the mentalists want to protect their secrets. If the public knows how they accomplish their pseudo-mindreading stunts, then there is no mystery and no interest. Mentalists were even upset when fellow magician Randi began his crusade to expose Uri Geller as a trickster. Many mentalists considered Uri to be one of them. They viewed his success as a boon to mentalism. I have already heard from some mentalists who are very upset because Marks and Kammann have gone out of their way to expose the tricks that Kreskin employs to create the illusion that he "reads" minds.

However, Kreskin brought this situation upon himself. As Marks and Kammann make clear, Kreskin is a master of sleight-of-tongue who simultaneously manages to deny he is psychic while strongly implying, and even sometimes claiming, the possession of paranormal powers. This reveals an unfortunate ethical dilemma in this form of magic. Conjurors, by common agreement, are not supposed to delude the public into believing in truly paranormal forces behind their effects. Like actors, stage magicians are playing a role for entertainment purposes. The audiences are fooled, but they are satisfied that natural laws have not been violated. They are willing to accept the demonstrations under the vague belief that somehow it was all done with mirrors or that the hand is quicker than the eye.

Mentalists, however, entertain not just because they gain information in ways that fool the spectators but because the spectators *want* to believe that ESP may actually account for what they are witnessing. And the mentalist usually obeys the letter of the law by carefully avoiding outright claims to psychic powers. But the mentalist knows that his continued success depends upon the extent to which audiences actually believe they are witnessing true ESP and PK. So Kreskin, as well as other mentalists, do all they can to imply and suggest, without overtly claiming, paranormal powers.

And it is such a dilemma that puts the successful mentalist on a collison course with both the serious parapsychologist and the scientific skeptic. In the case of Marks and Kammann, we have two scientific psychologists who were genuinely concerned about current claims of the paranormal. Neither of these men have any background in conjuring. So they were puzzled when they first witnessed Kreskin's stage performance. They seriously entertained the possibility that he was employing true psychic powers. This encouraged them to take a second look and compare notes. They then noticed some inconsistencies in what Kreskin did and said. They canvassed spectators. Eventually they put two and two together and figured out how Kreskin accomplished through trickery each of his effects. And since these psychologists are not bound by any magician's code, they have no scruples about exposing these effects. Indeed, from their viewpoint, they feel they *have* to expose the methods in order to make it clear that we can falsely believe something is paranormal when it is perfectly natural.

But these quibbles aside, the book is an entertaining and useful contribution to our knowledge about how powerful psychological forces can operate to create the compelling conviction that psychic forces are real. ●

The Psychic Experiment Book. By William Jon Watkins. Prentice-Hall, Englewood Cliffs, N.J., 1980. 283 pp. Paper

Reviewed by James Randi

The author of *The Psychic Experiment Book*, we are told, has taught a college-level course in parapsychology for three years. And he has been experimenting in the manner described here for fifteen years. I trust that the other eight books he is credited with have demonstrated a better grasp of his subject.

The book is "devoted . . . to simple experiments anyone can perform to determine for themselves if the reported phenomena have any validity." True, in some cases the tests are quite able to show the truth behind the claims investigated. In these, Watkins is careful to tell the reader, "Do not be discouraged if only negative results are achieved." Wise advice.

Scattered throughout the sensible comments and observations on experiments suggested for meditation, auras, psychic healing, biorhythms, ESP, dowsing, pyramid energy, and numerology, we find some giveaway schoolboy howlers: Wilhelm Reich was "put in jail for his ideas"; electromagnetic energy will not pass through insulators; the process of ancient Egyptian mummification is not understood by modern science; and the Heisenberg Principle is dragged in to support paraphysics, as usual.

The section on biorhythms demonstrates Watkins's basic inability to design an experiment. He proposes, to test whether injuries are apt to occur to an athlete on "critical" days: (1) Record dates of injuries to an athlete. (2) Calculate the biorhythm curves for that person. (3) Note if an injury occurred on *any* critical day (not just the physical curve, but all three).

A much better method, though one that tends not to give the desired positive result, is: (1) Calculate the curves. (2) Determine, by the rules of this "science," points on the curves where injuries are *supposed* to occur. (3) Check the record of injuries to see how many occurred and did *not* occur on the appropriate "critical" day. (4) Score +1 for each correlation, -1 for each miss. And thus re-discover the law of averages.

Even his system for calculating the curves is sloppy. One should be careful, when determining useless data, to do so with great care. Thus the data will be *perfectly* useless.

I noted with amusement, in his "sight" tests, that he has described with considerable accuracy *exactly* the equipment and procedure used by professional conjurors to do the blindfold trick—and he suggests that method for blocking sight! Two simple ovals cut from adhesive tape would do the job excellently, rather

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than the involved procedure he recommends. One test verifies the existence of the "blind spot" on the human retina, though what that has to do with things psychic, I cannot guess. It is refreshing, however, to see one real experiment in the book.

Under "Psychic Healing Experiments" we are told to cure a headache through some fancy mental gymnastics, no time span given, and no controls. If it persists, he says, repeat the procedure. Eventually, we are told, it should go away. Brilliant.

To heal a friend or relative and determine experimentally if it has worked, he tells the student to have the attending doctor make a list of stages he expects the patient to go through in recovery, and the amount of time it should take for each stage. (It is not difficult, knowing the medical profession, to see that the rare physician who would do such a thing would also allow much time for each stage.) Naturally the patient, questioned and prodded by the "healer," tends to arrive at each stage rather sooner than is really the case, but Watkins seems to think that we get around this "experimenter expectation" effect by sealing away, unseen, the part of the doctor's statement giving the estimated time-spans: thus we cannot know whether the healer is speeding up the process or not. And there are no provisions made for patients who die. I suspect that such an experiment would not be reported, and the results ascribed to an uncooperative subject.

Experiment M-6 is a doozy. We are given a selection of mantras to choose from. The numbers from one to nine constitute a "scientific" mantra. Next is the old standby, "Om." And for those of us who see the devil in such shenanigans, he offers Buddhist, Moslem, and Christian versions—the latter being "Hallelujah!"

Though we are told, in the introduction, that, "hints for protecting each experiment from self-fulfilling prophecies will be given throughout" (I presume he refers to "experimenter expectation") this is seldom done. There are numerous tests described that allow the experimenter to read into the results just what he wants to see there. Precautions against that possibility would doom such experiments to failure.

A chapter on testing for human "auras" fails every test of logic, experimental design, and common sense. Watkins suggests the use of dicyanin filters. True, an "aura" effect can be observed with these filters (which the author erroneously claims can enable the viewer to "see in the ultaviolet region"), but what can be seen around the human body can also be seen around a simple cardboard cutout. But such a comparison would cut a seven-page chapter to a simple half-page.

The last chapter is titled "Reality" and has nothing whatsoever to do with it. Describing the mysterious fact of reflection in mirrors, Watkins tells us quite plainly that "mirrors are also points of passage between universes." So much for his grasp of reality.

Throughout this book, any high-school student could pick out basic scientific errors and great loopholes in experimental procedure. There are few precautions—in using a simple galvanometer, Watkins fails to ask the student to avoid bringing any magnetic materials near the device while looking for effects on that instrument; a simple piece of iron passing by it would send it off scale. While a cursory reading shows apparent doubt of many claims represented here, the bibliography exhibits *not one* negative-opinion book in the 33 listed, some of which are legitimate science books from which he tells us we may derive some hints on further possible psi tests. Thus the other silly books gain respectability by being listed alongside real science.

To show the kind of work that passes for science among the amateurs, this book is useful. At that point its value ends. •

The Gemini Syndrome. By R. B. Culver and P. A. Ianna. Pachart Publishing House (P.O. Box 35549, Tucson, AZ 85740), 1980. 215 pp. $11.95.

Reviewed by Bart J. Bok

The Gemini Syndrome is quite a remarkable book. Two young and competent astronomers have taken out time from their teaching and research to inquire about the origins and practices of astrology and astrologers. And they have written a book about it all. It is a scholarly volume, but anyone with a high-school education who tries hard can follow their arguments and see what nonsense it really is for so many (28 percent of all Americans, according to a Gallup poll) to have at least a modicum of faith in the predictions of astrology.

Since the late 1930s, I have been active in arguing against astrology. I had off and on thought of writing a book on the subject, but I never got around to it because my real interest in life was to study the nature of our Milky Way system, which is a vast field of research. I have contented myself instead with taking out a month or two every ten years or so to write an article condemning astrology, hoping that young people, especially those who had become intrigued with astrology, would read my story and learn from it that scientifically trained astronomers have no use for astrology. Many of my colleagues in astronomy criticized me from time to time for paying attention to astrology, which—so they said—was below the dignity of professional astronomers to recognize as an existing, cheap fad. I am grateful to the two young authors of the present book for having had the courage to swim against the current.

The book opens with a clear and concise statement about the basic philosophy and practice of the scientific method, which is never applied in full in the arguments presented by astrologers. Next, Culver and Ianna devote a chapter to describing how the "professional" astrologer prepares his horoscopes, stressing that no such horoscopes are complete without taking into account the precise place of birth of the subject and the date *and time* of birth. They then explain the tortuous abacadabra that the astrologers use to interpret these horoscopes. By the way, the drawing of a good horoscope is not a difficult technical achievement. I have done several in my lifetime and published one of them. The authors present a detailed horoscope drawing in their book. The victim was apparently born at Brigham City, Utah, on September 6, 1940, at 9:20 P.M.; nice work!

In the second chapter, we find a comprehensive survey of the history of astrology, which began in ancient Babylonia about 5,000 years ago. A most important summarizing text, *Tetrabiblos,* was published by Claudius Ptolemy in A.D. 140. It is still the bible of astrologers today. Ptolemy wrote a second volume, one entitled *Almagest,* in which the knowledge of astronomy of the day was summarized. That volume is accepted as the best statement for the time when it was published, but so much has happened in astronomy since the days of Ptolemy that we would not think of using it at the present time. But astrologers still use *Tetrabiblos* as their basic text; the needle got stuck early in the game.

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The authors go into some detail about the attitudes toward astrology in the days of Copernicus, Kepler, and Newton. They quote with relish Kepler's "Astrology is the foolish stepdaughter of astronomy."

We are all acquainted with the spread of astrology in the United States and Europe, where the newsstands have dozens of astrological magazines, the newspapers print daily columns with worthless advice because their readers want these columns every day of the week, and radio and TV spread the false gospel. I was in India in February 1980 to view the total eclipse of the sun. I understand that at the time of the eclipse the streets of Bombay and of Delhi were deserted, that the buses stopped running for a couple of hours, and that the women were advised to stay indoors to protect themselves from the bad rays of the eclipsed sun. We still have a long way to go before, collectively, we can rid ourselves of false and totally unjustified superstitions.

There follows a nicely written chapter on the universe in which the sun and earth find themselves, and next we read two well-written chapters on the practices of interpreting horoscopes and a critical analysis of these practices. The authors deserve our thanks and congratulations for the scholarly way in which they treat these subjects. With all its references, the book will prove invaluable for all who in the future want to examine the tenets of astrology.

There is a fine chapter about the minuteness of the gravitational and tidal forces and also the electromagnetic radiation effects that are sometimes called upon to explain astrological "forces" in terms of today's physics. There is a devastating chapter on the nonsense of sun-signs and their use in the preparation of the daily astrological advice printed in the newspapers. If the astrologers lived by their own rules, they would refuse to prepare the texts for these daily columns. The newspapers should be ashamed to publish them.

The book ends with a series of tests, which the authors present in an attempt to get the astrologers to prove the validity of their work. There are ten of these, the first one being: "Given the times, dates and places of birth of sixty individuals, half of whom are violent criminals and the other half peaceful, law-abiding citizens, identify at least 27 of the 30 criminals."

Why do people believe in astrology? First of all, because we all have a knack for remembering whenever success follows a prediction, while we naturally forget and overlook the times of failure of a prediction. Second, because it is so comfortable and helpful for many of us to have available constant advice about what to do and what not to do.

We must all learn, especially the young, that decision-making is one of our most basic assignments in life. Astrology destroys our will to do so.

I am very glad to have had a chance to review this book, which will have a permanent spot in my bookshelves. Thank you, Roger Culver. Thank you, Philip Ianna. ●

Some Recent Books

Listing here does not preclude a more detailed review in a future issue.

de Mille, Richard, ed. *The Don Juan Papers: Further Castaneda Controversies.* Ross-Erikson, Publishers, 629 State St., Santa Barbara, Calif. 93101, 1980, 518 pp., paper, $8.95. Further inquiries and follow-ups regarding Carlos Castaneda's fabulous hoax and the academic community's passive complicity in it. Editor de Mille, author of *Castaneda's Journey,* the original exposé, here assembles 39 original essays that provide insights into the fallibilities of human judgment, the unsimplicity of truth, the different perceptions of skeptics and proponents, and the complacency of the ivory tower. Anchored by de Mille's own essays and commentaries, always a pleasing mixture of erudition and wit.

Hanen, Marsha P., Margaret J. Osler, and Robert G. Weyant, eds. *Science, Pseudo-Science and Society.* Wilfrid Laurier University Press, 75 University Ave., West, Waterloo, Ontario, 1980, 303 pp., paper, $7.50. Twelve historians, philosophers, and psychologists examine historical roots, impacts, and social dimensions of pseudoscience. Proceedings of a 1979 conference sponsored by the Calgary Institute for the Humanities.

Randi, James. *Flim-Flam: The Truth About Unicorns, Parapsychology and Other Delusions,* New York: Lippincott & Crowell, 1980, 340 pp., $12.95. Randi's long-awaited and lively investigative excursion through the SRI experiments, medical humbuggery, levitation claimants, metal-benders, table-tippers, dowsers, and assorted other examples of flummery and self-deception. His outspokenness may offend some, but his willingness and ability to ferret out sham and nonsense is virtually unparalleled.

—*K.F.*

Articles of Note

Bainbridge, William Sims, and Rodney Stark. "Scientology: To Be Perfectly Clear." *Sociological Analysis* 41 (2) (1980): 128-136. Outlines a theory of how the cult of Scientology can sustain faith in its claimed ability to raise members up to a superhuman level of mental functioning known as "clear" despite an absence of demonstrable success in doing so.

Bova, Ben. "The Creationists' 'Equal Time.'" *Omni,* October 1980, p. 35. Strong statement about dangers of this latest political movement.

Gorman, James. "Creationism on the Rise." *Discover,* vol. 1, no. 1, October 1980. Report on the new anti-evolution movement.

Hinckle, Warren. "Ronald Reagan's Affinity for Stargazers." *San Francisco Chronicle,* July 19, 1980. Report on Reagan's long flirtation with astrology. Author contacted Jeane Dixon. who summarized their relationship: "I'm not considered one of his advisers—but I advise him." A sidebar article describes Reagan aides' denunciation of syndicated astrologer Joyce Jillson's claim that

she had been paid $1,200 by the Reagan campaign to do horoscopes on eight prospective Reagan vice-presidential prospects.

Holden, Constance. "Republican Candidate Picks Fight with Darwin." *Science*, September 12, 1980, p. 1214. Report on Reagan's avowed sympathy with creationists.

Karnes, Edward W., Ellen P. Susman, Patricia Klusman, and Laurie Turcotte. "Failures to Replicate Remote-Viewing Using Psychic Subjects." *Zetetic Scholar*, July 1980, pp. 66-76. Psychologists report on their attempt to replicate independently the remote-viewing experiment results of Targ and Puthoff, using eight self-proclaimed psychics. The results "offered no support for the existence of a remote-viewing paranormal perceptual capability in a group of experienced psychic subjects."

Lenington, Sandra. "Effect of Holy Water on the Growth of Radish Plants." *Psychological Reports* 45 (1979) : 45. No effect was found.

McKusick, Marshall. "Prehistoric Vermont and the Antiquarian Revolt." *Vermont History* (Vermont State Historical Society), Summer 1980, pp. 183-187. Discussion of rebirth of romantic myths seeking pre-Columbian Europeans in America.

McKusick, Marshall, and Eugene A. Shinn. "Bahamian Atlantis Reconsidered." *Nature* 287 (1980): 11-12. Reexamination of amateur enthusiasts' claims of "submerged ancient roadways" off the island of Bimini finds the tabular blocks to be rapidly formed natural limestone called beachrock. Comments also on social and religious (Edgar Cayce cult) motivations for persistence of the Bimini-as-Atlantis myth.

Moss, Samuel, and Donald C. Butler. "The Scientific Credibility of ESP." *Perceptual and Motor Skills* 46 (1978): 1063-79. Critique finds that the skepticism of academic psychologists toward ESP is well based and arises because the evidence for ESP has failed to meet generally accepted scientific standards on at least five counts.

Oberg, James. "Minnesota Attack." *Omni*, October 1980, p. 30. "UFO Update" column discusses the August 27, 1979, Warren, Minn., police-car damage case.

Rice, Berkeley. "Mind Bending at Berkeley." *Psychology Today*, October 1980, pp. 8-12. Detailed report of behind-the-scenes events leading up to decision to grant the first Ph.D. degree in parapsychology by any American university (see News and Comment, p. 10 of this issue).

Russell, Dan, and Warren H. Jones. "When Superstition Fails: Reactions to Disconfirmation of Paranormal Beliefs." *Personality and Social Psychology Bulletin*, March 1980, pp. 83-88. Study of effects on believers and skeptics when evidence on paranormal claims disputes their beliefs. Finds that believers tend to recall poorly or distort the evidence when it counters their beliefs; skeptics tend to recall unsupportive information correctly. Suggests that paranormal beliefs persist among believers because contradictory evidence arouses such dissonance that it prevents the learning of the information.

"Skeptical Eye." *Discover*, vol. 1, no. 1, October 1980. Department in first issue of Time, Inc.'s new science magazine reports on Bigfoot claims in the Midwest and *The Roswell Incident*, Charles Berlitz's latest exercise in unfettered speculation.

Stark, Rodney, and William Sims Bainbridge. "Networks of Faith: Interpersonal Bonds and Recruitment to Cults and Sects." *American Journal of Sociology*

85 (6) (1980): 1376-95. Finds that social networks—not just ideological agreement—play an essential role in recruitment both to cults and sects and to conventional faiths. Social networks do not seem to play an important role in acceptance of mildly deviant occult ideas such as belief in ESP, Tarot cards, seances, psychic healing, and astrology, which are spread mostly through the mass media.

Truzzi, Marcello. "A Skeptical Look at Paul Kurtz's Analysis of the Scientific Status of Parapsychology." *Journal of Parapsychology,* March 1980, pp. 35-51. Lengthy critique of the article "Is Parapsychology a Science?" which appeared in the Winter 1978 SKEPTICAL INQUIRER.

Wade, Nicholas. "Does Man Alone Have Language? Apes Reply in Riddles, and a Horse Says Neigh." *Science,* June 20, 1980, pp. 1349-51. Report on the New York Academy of Sciences symposium on the Clever Hans phenomenon—indeed, on unconscious deception in all its varieties, especially as applied to ape language research.

—*K.F.*
