Zetetic Scholar

An Independent Scientific Review of Claims of Anomalies and the Paranormal

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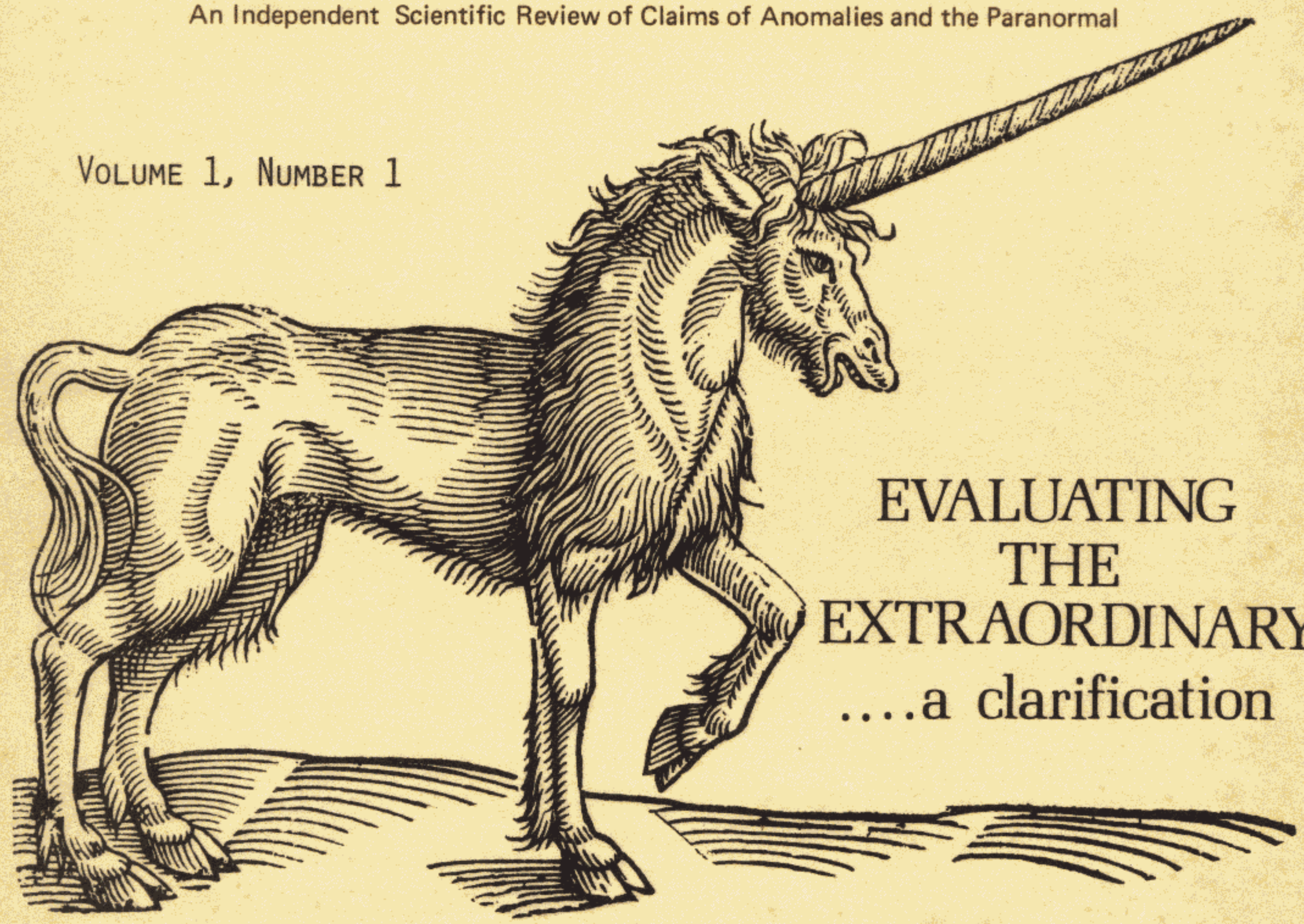

EVALUATING THE EXTRAORDINARY

.....a clarification

BEAUREGARD ON SCIENCE AND SKEPTICISM

1978

Zetetic Scholar

AN INDEPENDENT SCIENTIFIC REVIEW OF CLAIMS OF ANOMALIES AND THE PARANORMAL

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EDITORIAL

The ZETETIC SCHOLAR will attempt to create a continuing dialogue between proponents and critics of claims of the paranormal. Concerned mainly with enhancing communication, we are interested not only in adjudication of the claims but with the sociology and psychology of the disputes themselves. We will seek to balance science's proper skepticism towards extraordinary claims with its need for objectivity and fairness.

The ZETETIC SCHOLAR seeks to help the scientific community reach rational judgements based upon the empirical facts. As such, we will be less interested in advocacy than in helping disclose the full facts and arguments. Claimants of the paranormal have produced publications arguing their cases for many years. More recently, the Committee for the Scientific Investigation of Claims of the Paranormal (which I helped to found but from which I have resigned) has entered the public debate by presenting a needed forum for the defenders of the conservative or Orthodox position within the scientific community. This is appropriate, for we need to have "lawyers" for both sides of the issues.But it is the general scientific community that will make any final judgements,and no single body of advocates can presume to act as the gatekeepers for knowledge.

In addition to those seeking to validate or debunk claims of the paranormal, there are those of us deeply interested in the issues but less concerned about the final outcome of the debates. This journal represents one such viewpoint and hopes to aid the adjudication process by acting as an amicus curiae or "friend of the court" through bringing full information and diverse opinions before the scientific community. We thus seek to create an arena for discourse and debate that is less interested in the positions advocated than in insuring "due process" in the scientific"court." As a "friend of the court," we shall act as a responsible "officer of the court" by recognizing proper scientific rules of evidence and procedure. As such, ZETETIC SCHOLAR does not claim to be a disinterested party. Scientific procedure does not begin with neutrality. The burden of proof in science must be upon the claimant. And where the claims are extraordinary, the burden of proof increases proportionately. Thus, a skeptical position towards extraordinary claims is the normal starting point of science. But skepticism should not be confused with dogmatic denial. Science consists not merely of its answers but also of its questions. We expect to provide new questions more frequently than we will probably be able to produce definitive new answers.

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SKEPTICISM, SCIENCE, AND THE PARANORMAL

LAURENT BEAUREGARD

INTRODUCTION

In 1870, William Crookes, the noted British scientist, published one of the first scientific papers on psychical research. At that time, he declared that he was absolutely convinced "that certain physical phenomena ... occur under circumstances in which they cannot be explained by any physical law at present known." He also stated that this conviction was based upon "a most careful investigation." For the next five years Crookes carried on psychic investigations, and he tried to present his results before the Royal Society. Despite the fact that Crookes had been elected a fellow of that prestigious scientific organization some years earlier for his discovery of the element thallium, the two secretaries of the Royal Society, G.G. Stokes and Sir Charles Wheatstone, rejected Crookes' papers describing experiments done with the famous medium, Daniel Dunglas Home. But Crookes went ahead and published his studies in the Quarterly Journal of Science--the editor of which, at the time, was Crookes himself. (Advantage: no hassle with referees.) For the rest of his life, Crookes refused to retract anything that he had published in parapsychology.

Researchers in parapsychology today--some of whom are physicists--find themselves in a situation strikingly similar to that of Crookes in the 1870's. They say that rigorous scientific investigation has established beyond reasonable doubt the existence of such paranormal phenomena as ESP (extrasensory perception) and PK (psychokinesis). A year ago, two physicists, Russell Targ and Harold Puthoff, published their Mind-Reach, a book which deals with the alleged psychic abilities of such superstars as Uri Geller and Ingo Swann as well as two dozen or so quite ordinary folk. The authors ask rhetorically: Where will you be standing when the paradigm shifts? One hundred years ago, Crookes had been more modest. He merely thought that he had discovered a new force in nature--the psychic force--what today we call psi. But the paradigm has not yet shifted, and psychical research remains "borderline." Meanwhile, millions of ordinary intelligent people seek to develop their psychic powers.

The situation with UFOs is similar, though of much more recent vintage. Thus, in 1973, a Gallup poll revealed that 15 million Americans claim to have had a UFO experience, and that about half of the population believe that UFOs are real. It might be thought that all of the UFO business is nothing but a slice of popular culture--something that no serious scientist would want to deal with. But that would not be correct. In fact, there does exist some responsible UFO literature written by scientists in which appeal is made to reason and to empirical evidence. Example: the astronomer J. Allen Hynek has eschewed what he calls "a deeply rooted urge (among scientists at large) to dismiss or laugh off 'all this UFO nonsense.'" He says: "Responsible persons have reported phenomena that defy scientific explanation ... There are just too many of them ... to disregard their word. To do so would be scientific bigotry." With thirty years experience in investigating many thousands of UFO reports (Hynek was the Air Force's chief consultant on UFOs for twenty years), Hynek firmly believes that there exists such a thing as a "genuine UFO"--which he defines to be "a reported perception of an object or light seen in the sky or upon land ... which remains unidentified even after close scrutiny of all available evidence by experts."

Let us notice in passing that if a UFO is defined to be "a reported perception ... which remains unidentified ... " and if psi be characterized broadly as "a reported perception ... which remains unexplained ... " --then I, at least, have no trouble at all believing in psi and in UFOs. For I do believe that there exist lots of reported perceptions which are either unidentified or unexplained or both. Of course, if UFOs are thought instead to be extraterrestrial intelligent visitations, or if psi is thought to be a peculiar ability to move matter simply by wishing, then I do have a lot of trouble believing in these things. Finally, if UFOs themselves turn out to be psychic phenomena--as a number of sophisticated writers have urged--then we have what Marcello Truzzi likes to call "integrated anomalies." In that case, the skepticism need only apply to psi--to psychic phenomena in general--and one would not need to deal with flying saucers as such.

We are dealing with controversial stuff. In this paper, I seek to help clarify the logic that underlies the controversy. I shall speak of skeptics and believers. The believers accuse the skeptics of ignoring their data; the skeptics, on the other hand, see the believers as credulous toward anomalous claims. Ray Hyman speaks of the increasing polarization between the two camps. The parapsysicists Targ and Puthoff speak of "the Loyal Opposition." For me, the key issue is this: Is it reasonable to be skeptical about claims of the paranormal? And if so, then why?

We want some kind of balance between openness toward anomalous claims and a critical skepticism. But what is the nature of this balance? Should science be neutral or impartial toward the paranormal? I don't think so. But then I do believe that science should be rational and objective in dealing with alleged anomalies. Then the question would be: How can science be rational and objective without thereby being also neutral and impartial? It is an interesting question. I am suggesting that a certain kind of bias is quite compatible with, and may even be indispensable for, scientific objectivity.

Applied to the UFO issue, the question becomes rather more specific: Can human testimony of close encounters (of whatever kind) count as confirming evidence of visitations of extraterrestrial intelligence? I suggest that it may be perfectly reasonable to be biased against such evidence. Let us see why.

THE HUMEAN BIAS

As we saw a moment ago, Hynek spoke of "scientific bigotry." That is a bit strong. I prefer "the scientific bias." Even better, "the Humean bias," to honor David Hume, the philosopher whose classic argument against miracles serves as our point of departure.

The Humean bias, as I define it, is twofold. First, there is a strong commitment to the existing body of scientific knowledge. (That refers to content.) Second, there is a determination to uphold the rules of the game of science. (That refers to method.) If you marshal the two components together against claims of the paranormal, then you have the skeptical bias.

This skeptical bias has recently been expressed by Marcello Truzzi, former co-chairman of the (recently formed) Committee for the Scientific Investigation of Claims of the Paranormal as follows: "A heavy burden of proof rests upon the person claiming the existence of an anomaly, and this burden increases as the extraordinary character of the anomaly increases."

But why should there be such a heavy burden? The conclusion of Hume's argument against miracles immediately comes to mind. What Hume contended was that "no testimony is sufficient to establish a miracle unless the testimony be of such a kind that its falsehood would be more miraculous than the fact which it endeavors to establish." Now, for Hume, a miracle is a violation of the laws of nature. And it is not entirely clear that such paranormal phenomena as ESP and PK constitute miracles in Hume's sense.

Let us then reformulate Hume. Rather than speak of the miraculousness of miracles, we shall use instead the idea of the antecedent improbability of the paranormal. We would now be asked to compare the prior probability of some paranormal occurrence with the probability that somebody is deceiving or being deceived. It is in this sense that one would "weigh the one miracle against the other, and ... always reject the greater miracle."

We must be careful not to retain a notion of miracles as outright violations of the laws of nature. Many psychical researchers have insisted that paranormal phenomena, however mysterious, are to be conceived as natural. And they point out that the fact that such phenomena cannot be explained by currently accepted scientific principles does not imply that paranormal phenomena constitute violations of the laws of nature. We are dealing only with anomalies--they will say--and not with miracles.

Let us accept this. And let us further refine our analysis by introducing a useful distinction--the distinction between the abnormal and the paranormal. Let us say that an event is abnormal if it conflicts with a low-level observable regularity, but not with any well-established theoretical principle. A paranormal event will then be, by definition, any event which seems to contradict some well-established theoretical principle or fundamental law of nature. Examples are easy to imagine. Siamese twins are born. That is an abnormal event. Uri Geller's mind bends your spoon. This would be paranormal.

The prior probability of an event is its probability relative to our well-established background knowledge, quite apart from the special evidence brought forth to support the occurrence of the event. Now one can argue that the lower the prior probability of an event, the greater the special evidence needed for rational conviction that the event did really occur. And, of course, the prior probability of a paranormal event is extremely low--otherwise, it would not be paranormal. Therefore the burden of proof accruing to paranormal claims must be very heavy.

This kind of Humean, or skeptical, bias seems entirely fair and objective. There is, however, a formulation of Hume's basic argument which suggests that any controversy over paranormal claims can be settled without ever looking at the special evidence brought forth to support those claims. In other words, the burden of proof would be so heavy that the evidence could not possibly ever be strong enough.

Consider the investigator who puts forth a paranormal claim, and suppose that this person is highly intelligent, thoroughly reliable, and scrupulously honest. Then it would be abnormal for such a person to behave stupidly or carelessly or to perpetrate fraud. But it would not be paranormal. It is never paranormal for a human being to flub up in some way. So, no matter how strong the special evidence may be for an alleged paranormal event, and no matter how little evidence there may exist for incompetence or fraud, it is always more

reasonable to postulate human error than to admit that a genuinely paranormal event has actually occurred.

This form of Hume's argument is due to C.D. Broad, a philosopher who, however, has rejected the argument's conclusion.

BAYES' THEOREM, PAL, AND THE CONFIRMATION OF PARANORMAL CLAIMS

We don't want the Humean bias to be so strong as to preclude a priori the possibility of confirming a paranormal claim. For, as Michael Scriven has pointed out, the argument, if valid, would constitute an a priori disproof of any fundamental discovery that threatened previously established scientific systems. I think we can get some help from the calculus of probability. Within that calculus, there is a logical truth known as Bayes' Theorem--which may be stated as follows:

$$P(h, k\&e) = \frac{P(h,k) \;.\; P(e, h\&k)}{P(h,k) \;.\; P(e, h\&k) \;+\; P(h',k) \;.\; P(e, k\&h')}$$

Here we take

h	to be	some given paranormal hypothesis;
h'	to be	the denial of h;
k	to be	well-confirmed (scientific) background knowledge;
e	to be	special evidence adduced to support h.

Then we have

$P(h, k\&e)$	is the probability of h, given $k\&e$--which we call "the total probabability of h"--or, simply, P.
$P(h,k)$	is the probability of h, given k only--which we call "the antecedent (prior) probability of h"--which may be abbreviated simply as A.
$P(e, k\&h')$	is the probability that we get the evidence e, given that k is true but that h is false. We shall (loosely) call this "the likelihood of a non-paranormal explanation of evidence e"--and we shall abbreviate this simply as L.

It is these three notions--P, A, L--that we shall work with in characterizing the respective positions of skeptic and believer.

We note in passing that $P(e, h\&k)$--the probability that we get evidence e, given that $h\&k$ is true--is equal to one (unity) because we are assuming that $h\&k$ entails e. (Given this, it follows from the probability calculus that

$$P(e, h\&k) = 1.)$$

From all of the foregoing, it is very easy to derive what I call the PAL formula, namely

$$P = \frac{A}{A + (1 - A).L} \qquad \text{(PAL)}$$

or, in a form which is a bit easier to work with,

$$P = \frac{1}{1 + \left(\frac{1}{A} - 1\right) \cdot L} \qquad \text{(PAL)}$$

Here, once again.

P = the total probability of h (given all the evidence);
A = the antecedent probability of h (without evidence); and
L = the likelihood of a naturalistic explanation for the evidence brought in to support h.

Each of these probabilities can take on values between 0 and 1. And we are taking h to be some given paranormal hypothesis.

Now, when we ask whether a given body of evidence confirms a paranormal hypothesis, we might be asking either of two distinct questions:

Question #1: How large is P?
Question #2: Is there much difference between P and A ?

Keeping these questions in mind, let us now characterize the respective positions of skeptic and believer.

The skeptic's position will obviously be that A is low (quite lower than 1/2) and that L is high (surely higher than 1/2). But let us imagine a generous skeptic--one who is open-minded enough to grant that the chance of a naturalistic explanation for the amazing evidence brought in to support the paranormal hypothesis is as low as "fifty-fifty." The generous skeptic then puts L = 1/2. So his PAL becomes

$$P = \frac{2}{\frac{1}{A} + 1} \qquad \text{(SKEPTIC'S PAL)}$$

Of course, this skeptic does insist that A is much lower than 1/2 (otherwise h would not be paranormal in the first place).

Two things now follow:

(1) P will be quite small, and
(2) The difference P - A will also be quite small.

Of course, most skeptics will think that L is quite high--perhaps very nearly equal to one (unity). In that case--as we see readily from PAL itself--P becomes very nearly equal to A--which means that the probability of a paranormal hypothesis is raised hardly at all by whatever new evidence is adduced in its support. The "evidence," in that case, would not be inductively relevant to, and hence would not (in this sense) support, the paranormal hypothesis in question.

Let us now look at the believer's position. The believer is likely to hold that all currently accepted "background knowledge" is to be held only tentatively. The believer may wish to view this knowledge as being neutral with respect to a given paranormal hypothesis. The believer may wish to assign to A (the prior probability of the paranormal hypothesis) the value 1/2. This would be done on the grounds that k should not tend to refute h any more than k tends to confirm

h. So the believers's PAL becomes

$$P = \frac{1}{1 + L} \qquad \text{(BELIEVER'S PAL)}$$

Now the believer will be convinced that his best cases are such as to make L quite small. (Example: the mediums and psychics who have been tested by scientists under conditions of rigorous control.) In that case, two things will follow:

(1) P will be quite high, and
(2) The difference P - A will be considerable.

But notice the worst that could happen, as the believer sees it. If the likelihood of incompetence or fraud were very high in a given case (L = 1) then, according to BELIEVER'S PAL, we would have P = 1/2. So, in one sense, the evidence, in that case, would neither confirm nor refute the paranormal hypothesis. Also, in the other sense of confirmation, the evidence would be inductively irrelevant, since A had been taken to be 1/2, and so the difference P - A would be zero.

It is worth noting that whereas the skeptic's position leans toward seeing paranormal hypotheses as non-confirmable, the believer's position, according to the foregoing analysis, would construe paranormal hypotheses as irrefutable or unfalsifiable. For, as we have just seen, "the worst that could happen" would merely be a failure to confirm.

I believe that the PAL formula contains the logical juice from the grapes of Hume. In itself, PAL favors neither the skeptic nor the believer. The real difference comes about in the disagreement about what values to assign the two distinct probabilities A and L. And so we have the difference between SKEPTIC'S PAL and BELIEVER'S PAL. The Humean argument against miracles opts, of course, for SKEPTIC'S PAL. But there is room for dialogue between skeptic and believer in the assessment of prior probabilities and in the estimate of the likelihood of alternative explanations of the evidence.

REFLECTIONS ON THE HUMEAN ARGUMENT

Our Bayesian construal of Hume's argument shows that the very point of that argument can be reversed, given enough certainty about the integrity of a reporter/investigator or about that reporter/investigator's observational competence. Are all of the witnesses to psychic or UFO phenomena really so easily deceived?

One hundred years ago, William Crookes replied to his critics: "But the supposition that there is a sort of mania or delusion which suddenly attacks ... intelligent persons who are quite sane elsewhere ... seems to my mind more incredible than even the facts they attest." And about ten years later, Henry Sidgwick declared: "My highest ambition in psychical research is to produce evidence which will drive my opponents to doubt my honesty or veracity." The early psychical researchers were quite certain about their integrity and their observational competence.

The controversy here is over the value of L. Professional magicians point out that honest people can be deceived about what they observe.

But Crookes had another line as well--one which I think bears on the value to be assigned to A, rather than L. Consider: "When I am told that what I describe cannot be explained in accordance with preconceived ideas of the laws of nature, the objector really ... resorts to a mode of reasoning which brings science to a standstill." This is basically Scriven's point--mentioned earlier --about Hume's argument. If we suppose that our "preconceived ideas of the laws of nature" are of unrestricted applicability, then science will cease to grow.

Precisely this criticism occurs as well in the UFO literature. J. Allen Hynek, for example, approvingly quotes the philosopher Thomas Goudge as follows: "One of the most interesting facets of the UFO question is its bearing on the problems of how science advances. Roughly I would say that a necessary condition of scientific advance is that allowance be made for (1) genuinely new empirical observations, and (2) new explanation schemes ... To take the view that UFO phenomena are either not really scientific data at all ... or else are nothing but misperceptions of familiar objects, events, etc. ... is surely to reject a necessary condition of scientific advance."

Whether we are dealing with UFOs or psychic phenomena, the issue here seems to be the same: Might not a sufficiently strong commitment to the existing body of scientific knowledge at a given time contribute to a stagnation of the growth of knowledge? I cannot resolve this complex issue here. But it would seem that there ought to be some degree of commitment to "the existing body of scientific knowledge." It can be argued that this is absolutely essential for any genuine scientific revolution.

EMOTIONAL PREJUDICE?

Parapsychologists sometimes like to score a debating point by quoting such things as D.O. Hebb's "confession" (Hebb is a skeptical psychologist): "Personally, I do not accept ESP for a moment, because it does not make sense. My external criteria, both of physics and physiology, say that ESP is not a fact ... Rhine may still turn out to be right ... and my own rejection of his views is--in a literal sense--prejudice."

Aldous Huxley thought that it was strange "that a man of science should allow a prejudice to outweigh evidence." And he found it stranger still that Hebb was rejecting ESP "simply because it cannot be explained." But I have argued that the rejection of parapsychology and of UFO research need not be construed as nothing but an emotionally biased "will to disbelieve." For the Humean, or scientific, bias can be analyzed, as above, as consisting of two components: (1) the PAL formula (which is perfectly objective), and (2) the assessment of the probabilities A and L. But are these two latter probabilities necessarily subjective? It would seem that each of these probabilities can be assigned in a more or less objective way. The history of fraud in psychical research, for example, surely must have objective empirical bearing on one's assessment of L. As for A, the antecedent probability of the paranormal, the value to be assigned is here partly empirical and partly a matter of semantics.

If, as we have shown, there are conditions under which it may be perfectly reasonable to ignore the evidence for a UFO apparition or for a paranormal occurrence, then those "men of science" who do ignore such evidence need not confess that they are seized with "prejudice" or with "scientific bigotry." They need only be biased--in a broadly Humean way--about reported anomalies which seem

quite disconnected with any of our hard-won "background knowledge."

J. Allen Hynek, the astronomer who wrote The UFO Experience, included chapters in that work entitled "The Laughter of Science" and "Science is Not Always What Scientists Do." Consider an excerpt: "The emotionally loaded ... reaction that has generally been exhibited by scientists to any mention of UFOs might be of considerable interest to psychologists ... Perhaps (such reactions) are expressions of deep-seated uncertainty or fear." All of which--on our analysis--is quite irrelevant to the UFO controversy.

Hynek also tells the story of a questionnaire he once distributed among scientists, a questionnaire which included the following item: "What should be done about UFO reports that can't be explained?" The physicist Donald Menzel's tongue-in-cheek reply was, "Throw them in the wastebasket." Hynek--who as far back as 1951 uttered the profundity that "Ridicule is not a part of the scientific method"--was offended. Menzel was obviously an example of a "scientific bigot." My own assessment is different. I see Menzel's humor as being logically (and emotionally) on a par with Hebb's confession.

I may be prejudiced against the existence of fairies, and I may make fun of Santa Claus. If I overindulge my prejudices and my warped sense of humor, then that is my problem. But that would have nothing to do with whether I had, in any event, good reasons for not taking these things very seriously. As it happens, I am not inclined to make fun of flying saucers. It also happens that I take parapsychology quite seriously. I do not need to be reminded that "ridicule is not a part of the scientific method." Nor even that enthusiasm is not a part of the scientific method either.

I do, however, believe that PAL is a part of the scientific method, and that PAL might serve to reveal some of the underlying logic (as opposed to emotional exchange) of the perennial controversy over paranormal claims.

CONCLUSION

The problem of balance between skepticism (criticism, inclination to reject) and belief (openness, inclination to accept) remains. This is the problem of the growth of scientific knowledge. And yet, a certain bias against paranormal claims is not necessarily nothing but an irrational prejudice. It may well be that true scientific objectivity in psychic investigations and in UFO research positively requires a negative bias toward the phenomena being studied.

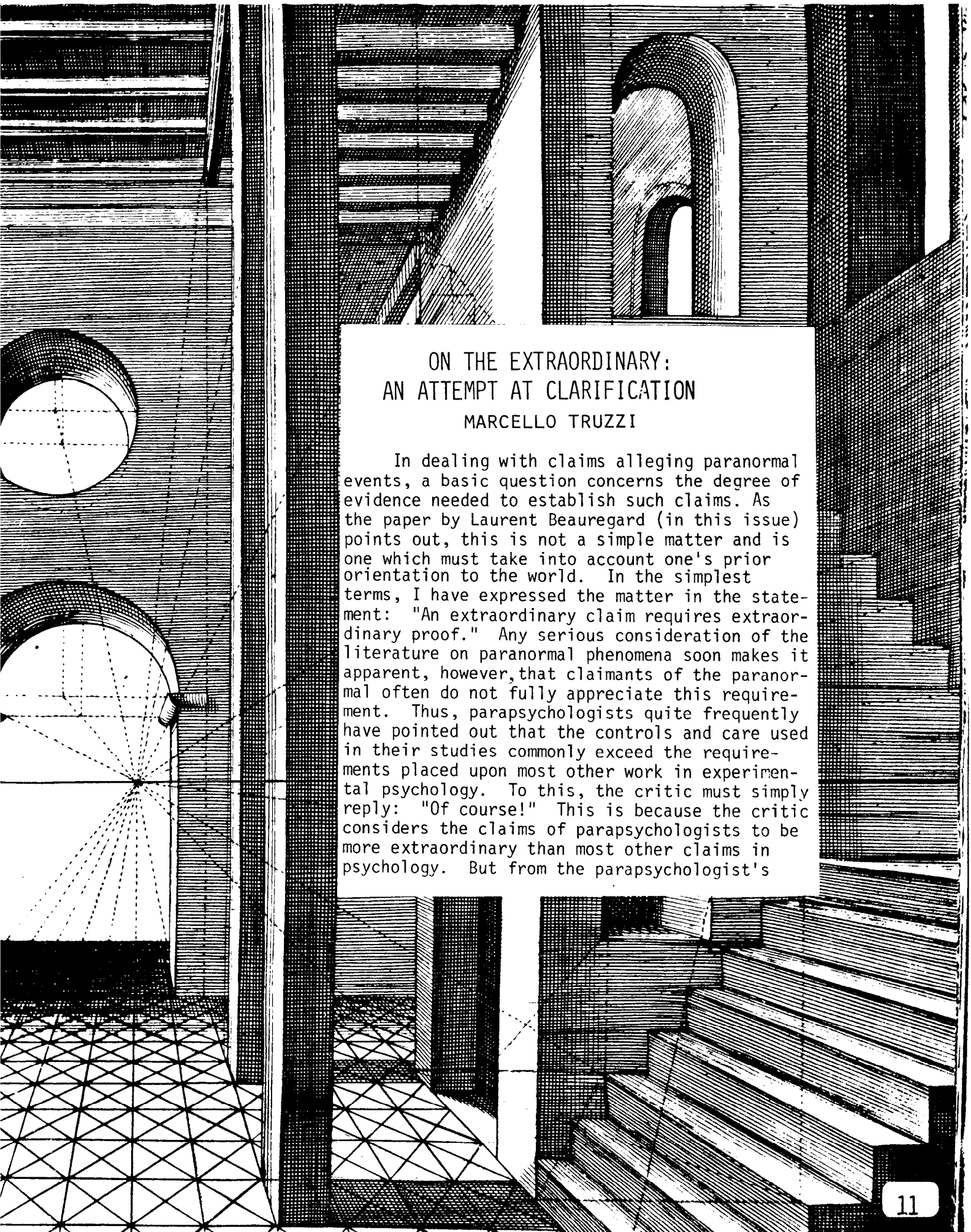
ACKNOWLEDGEMENT:

The author is grateful to Martin Gardner, to Gertrude Schmeidler, and to Marcello Truzzi for helpful exchanges in connection with the subject-matter of this paper.

NOTE:

There is a spectrum of belief here, roughly as follows:

GARDNER	TRUZZI	SCHMEIDLER
firm skeptic	amicus curiae	quasi-believer



ON THE EXTRAORDINARY: AN ATTEMPT AT CLARIFICATION

MARCELLO TRUZZI

In dealing with claims alleging paranormal events, a basic question concerns the degree of evidence needed to establish such claims. As the paper by Laurent Beauregard (in this issue) points out, this is not a simple matter and is one which must take into account one's prior orientation to the world. In the simplest terms, I have expressed the matter in the statement: "An extraordinary claim requires extraordinary proof." Any serious consideration of the literature on paranormal phenomena soon makes it apparent, however, that claimants of the paranormal often do not fully appreciate this requirement. Thus, parapsychologists quite frequently have pointed out that the controls and care used in their studies commonly exceed the requirements placed upon most other work in experimental psychology. To this, the critic must simply reply: "Of course!" This is because the critic considers the claims of parapsychologists to be more extraordinary than most other claims in psychology. But from the parapsychologist's

standpoint, the critic sometimes requires evidence of such extraordinary character as to make the proponent of the paranormal believe that nothing would ever convince so extreme a skeptic. This becomes particularly apparent when a critic suggests experimenter fraud as an explanation even though there may be no direct evidence of fraud, merely a possibility of fraud. Thus, on the one hand we may have the claimant offering evidence that is insubstantial for the critic, and on the other hand we may have a critic giving insubstantial indication of what it would take to force the critic to accept the evidence. I suggest that matters might be helped somewhat by considering more exactly what we mean by the use of the term "extraordinary" in this context.

EXTRAORDINARY EVENTS VERSUS EXTRAORDINARY EXPLANATIONS

To place matters somewhat in perspective, before going directly into the question of exact definition, we should note that one can generally separate events from their explanations; and we commonly speak of both events and explanations as ordinary and extraordinary. (I am here using "extraordinary" in the broadest sense of meaning "unexpected," particularly theoretically unexpected. More careful consideration to the term will be given in later discussion.) This results in the following simple matrix of orientations.

		Explanation Offered	
		ordinary	extraordinary
Event Claimed	ordinary	A	C
	extraordinary	B	D

This matrix represents analytic, "pure" types which might only seldom be found empirically. Extraordinariness and ordinariness are often a result of an interweaving of both the event and the explanation. But I would suggest that analytic separation may prove conceptually useful.

Cell A represents ordinary events being given ordinary explanations. This is what routinely takes place in "normal" science. In dealing with claims of the paranormal, we are usually concerned with allegations of an extraordinary event (e.g., the sighting of a monster, a non-chance statistical frequency, etc.) which we then seek to explain in terms of either an ordinary explanation (e.g., error in reporting, fraud, etc.) as in Cell B, or sometimes through an extraordinary explanation (e.g., visitation from Mars, psi, astrological forces, etc.) as in Cell D. We frequently forget that there is also the orientation represented in Cell C wherein ordinary events may be given extraordinary explanations (e.g., seeing pure chance coincidence explained by the acausal principle of synchronicity). To a degree, these four cells may correspond to rather distinct psychological proclivities. Thus, there may be persons who want to structure their worlds in terms of one or another of the orientations represented by these cells.

The Cell A type of "personality" is insistent on the complete ordinariness of things. The anomaly itself is denied, quite aside from any issue of its explanation. It is simply argued here that nothing extraordinary happened at all. This sometimes results in a posture that may be perceived by the proponents of the anomaly as a dogmatic denial rather than a simple skepticism. For example, rather than accept the existence of an extraordinary correlation or non-chance statistical finding, this individual may deny the real existence of the finding by claiming it is a hoax or fraud. (In a sense, claiming fraud constitutes an "ordinary" explanation of an extraordinary claim--as found in Cell B--but without some external basis for such an explanation, it amounts to denying the alleged extraordinariness of the event itself; so I see this as an example of Cell A when argued this baldly.)

Cell B represents the case where a perceiver accepts an event as extraordinary but seeks to explain it through ordinary principles. When a skeptic says "Nothing extraordinary happened," he may be speaking of matters in this sense rather than in terms of Cell A. A verified anomaly may be the result of normal processes. Thus, a monster may simply be a rare mutation; an astrobiological correlation may be the result of a common third variable which somehow jointly produces the two states mistakenly viewed as directly causally linked; a high ESP-test score may be produced by non-verbal and unconscous communication as in the case of the famous "mind-reading" horse Lady Wonder.

The Cell C perspective is commonly found among adherents of cults. Thus, an ordinary event, say a crop failure, may be interpreted as the result of the gods; a death from drowning may be attributed to a curse; or a simple coincidence resulting within the limits of chance may be seen as the result of mysterious "forces." It should be noted that logic does not preclude ordinary events from having extraordinary explanations, but the doctrine of parsimony within science (the view that the simplest adequate explanation is the one that must be accepted) makes such extraordinary explanation untenable if an equally adequate ordinary explanation can be provided.

Cell D represents the most extreme of the positions in the sense that both the event and its explanation are extraordinary. For example, the event of reports of the sighting of a little green man emerging from a saucer-shaped craft may be explained as a visitation from an alien anthropological mission from a distant galaxy. The orientation represented by Cell D may commonly be viewed as the most "far out," but it is actually quite scientifically proper <u>if all ordinary explanations for an established extraordinary event have been found inadequate</u>. Thus, if a truly replicable psi experiment were produced that would convince any reasonable person that significant non-chance guessing scores took place, and if such any reasonable person could be convinced that all ordinary explanations are inadequate, an extraordinary explanation (such as that a psi process like telepathy was at work) could be invoked and considered to explain the extraordinary guessing scores. Not only would ordinary adequate explanations need to be shown inadequate before the extraordinary explanation could be considered, but such consideration would not in any sense allow one to leap to the conclusion that the suggested extraordinary explanation was valid. Once the door has been opened to the consideration of extraordinary explanations, one must consider all extraordinary explanations that

might be presented with any degree of plausibility. Thus, the explanation of "telepathy" would have to compete with other extraordinary explanations such as PK, demonic possession, etc. Falsifying certain explanations does not automatically validate another explanation. Despite these limitations, the approach represented by Cell D is scientifically acceptable under proper conditions whereas the orientation represented by Cell C which may appear more reasonable (since only one element, the explanation, is extraordinary) is methodologically eliminated from serious science.

I would suggest, then, that the proper scientific approach to an alleged anomaly is first to see if we can view it in terms of the orientation found in Cell A. If, and only if, the extraordinariness of the event is established, we should move to see if we can view matters in terms represented by Cell B. Because of the rule of parsimony, we should completely avoid Cell C. And if, and only if, we can eliminate proposed adequate alternatives of explanation in Cell B, should we move into considering matters in terms of the orientation found in Cell D. Finally, once properly looking at matters in terms of the perspective in Cell D, we should consider alternative extraordinary explanations and not simply accept the one most prominently offered.

THE EXTRAORDINARY AS RELATIVE AND MEASURABLE

Though a dictionary definition of extraordinary states that it means "going beyond what is usual, regular or customary" or that it simply refers to that which is "remarkable" or "exceptional to a marked extent," this term must have more specialized meaning for any serious scientific consideration of anomalies and the paranormal. Otherwise such terms could easily be confused with the merely rare or abnormal. In a most fundamental sense, something is extraordinary when it is unexpected. But such extraordinariness (which I here equate with anomalous) can be both of a general and a theoretic variety. Thus, if we are shown a picture of a 30-inch tall adult, that might strike us as quite amazing and unexpected. Many would call such a person extraordinary. But a remarkable midget of this size would not constitute a paranormal phenomenon, merely an abnormal one. The scientist would probably not be so surprised by the appearance of such a midget as would the general public, for such a small person may be within the experience and certainly within the theoretical possibilities known to the scientist. On the other hand, a scientist stumbling across a strange and unexpected species of animal might regard such a beast as extraordinary while the native population, which has commonly seen the beast around for years, may perceive it as quite ordinary. This is because the scientist has theoretical reasons for expecting not to find such a beast (e.g., science may define the beast as extinct). Thus, a general anomaly for (most of us) may not be a theoretical anomaly for the scientist and vice versa. The question of extraordinariness, then, is relative to one's frame of reference, and when we are concerned with extraordinariness in a scientific context--as we are here--such extraordinariness must be measured against theoretical expectations provided by the general body of scientific knowledge at the time. In addition, things are rarely simply just ordinary or extraordinary, for some things are more extraordinary (and by the same token, sometimes more ordinary) than others. Thus, we are not dealing here with a simple dichotomy but a continuum expressing degrees of expectation and surprise.

All of this becomes quite important when we consider specific paranormal claims. We tend to confuse our psychological surprise in seeing some things (the general definition of the anomalous) with the expectation level that scientific theory would produce. Thus, for most of us, an "abominable snowman" or a person who drinks human blood (a vampire) seems initially more extraordinary (and thus unlikely to actually exist) than someone's prophesying a well-loved political figure's assassination. The Loch Ness Monster seems a more "strange" possibility to many of us than the notion that some people may be capable of telepathy. A unicorn may seem more improbable than someone's being cured of a physical malady through faith healing. Obviously, the degree to which each of us may be surprised by a strange event is rather relative to our own experience and background. But though we may be able to say relatively little about people's general expectancy levels (what will constitute general anomalies for most people), it is far easier to make reasonable assessments of extraordinariness in relation to existing bodies of scientific knowledge and theory. And I would suggest that scientists should carefully make such assessments before judging the likelihood of some phenomenon's actual occurence. I think that this will quickly reveal that some paranormal claims are far less unlikely than others, and this has very important implications for the amount and quality of proof a scientific skeptic should demand before accepting such claims.

In examining the relevant literature, I have been amazed to find that many (if not most) scientists would probably rank the likely truth of various paranormal claims in quite unreasonable ways (if one accepts my rationale above as reasonable). Thus, the claims of the parapsychologists are generally and incorrectly perceived as more "reasonable" by many scientists than are the claims of those proponents of the existence of a Sasquatch (Big Foot) or lake-inhabiting large creature. To most of us, the existence of "monsters" seems more bizarre than the possibility of telepathy. Yet, the implications of telepathy's actual existence are far more revolutionary for contemporary psychology than a new species of ape or sea creature (which may simply be an ancient species incorrectly thought extinct) would be for zoology. In similar fashion, the various claims of the parapsychologists have quite different sorts of implications for the rest of science. Simple telepathy would not necessarily radically change our view of physics even if it caused major reconceptualizations in psychology and physiology. But the existence of clairvoyance and/or precognition would have quite revolutionary effects upon fundamental ideas in physics and almost all of science in so far as it might force alteration of our ideas about space and time. Yet both the proponents and critics of such claims commonly fail to consider the degrees or extraordinariness involved in the different anomalies discussed, and, of course, the differential implications they may have for what would constitute acceptable proof for the scientist.

In corresponding with a major critic of claims of the paranormal, I was amazed to find that he considered the likelihood of parapsychological claims as more reasonable than the claims of the astrobiologists (such as Michel Gauquelin). Even though the remarkable correlations claimed by the astrobiologists are presented merely as anomalous correlations--no causal explanations are suggested--the association of such astrobiological "findings" with the causal claims of the astrologers seems to have been enough to make this critic view the astrobiological correlation as less likely than the claims of the parapsychologists. Even though confirmation of

claims such as those by Gauquelin would not directly threaten any important theories in astronomy or biology (since no claim is made of any direct causal link), the association of such ideas with classical astrology is apparently enough to stigmatize such ideas and make them seem almost completely implausible. The parapsychologists have generally been much aware of this kind of "guilt by association" and have gone out of their way to dissociate themselves from what they and others call "occultists." But I would suggest that our views of many paranormal claims should be re-examined to avoid such theoretically irrelevant associations. An empirical claim should be examined on its own merits, for its truth is frequently quite irrelevant to the other ideas of its supporters.

Recent critics of claims of the paranormal have suggested that the acceptance of some paranormal effects may open the door to the acceptance of all sorts of irrational thinking. It is this too simplistic kind of black/white, either/or thinking that may be creating the current impasse between some critics and the proponents of the paranormal. It is urgent that if progress is to be made in any dialogue between the proponents and their critics that both sides must carefully hammer out the kind of fundamental decision criteria needed to make responsible scientific evaluations of not only what sorts of evidence would be acceptable but also the quality and quantity of evidence that may be needed relative to the degree or extraordinariness of a paranormal claim.

DIMENSIONS OF THE REASONABLE

In examining the discussions of paranormal phenomena, it is important that we locate the locus of that which is purportedly extraordinary. I have found that proponents and critics commonly concentrate on different elements. Thus, we find some, like Michael Polanyi, speaking of the plausibility of revolutionary ideas as a central consideration while other writers speak of the credibility of the experimenters, and still others speak of the low probability of the events thermselves. I would suggest that terms like "ordinary," "plausible," "likely," "probable," "reasonable," and "credible" frequently are treated synonymously when they may refer to quite different things; and this in turn confuses the debates between proponents and critics.

On the most general level, we can analytically separate three elements that are involved when we deal with alleged paranormal events. First, we can speak of the <u>event</u> itself, and I would suggest that this should be referred to on a scale of <u>ordinary-to-extraordinary</u>. As described earlier, this simply refers to the degree to which the event was theoretically expected or unexpected. It is important to note that whatever we may psychologically think about an event, whether we expected it or not, in the final analysis events simply exist or do not exist, independent of our desires. Second, we deal with a <u>witness or narrator of the event</u>. I would suggest that we refer to the character of such a witness/narrator (and of course the narrator may not be the original witness) as varying on a scale with <u>credible</u> at one end and <u>non-credible</u> at the other. Here, credible simply means believeable. Obviously, a number of different factors go into this designation including the witness/narrator's honesty, perceptual abilities, motivations, carefulness, training and knowledgeability as an expert, etc. But note that this terminology does not allow us to refer to the event itself as "credible" (or what we may be inclined to at first think of as its

opposite, incredible). The term must only apply to the character of the witness/narrator. Third, we have the narrative or description-report of the event. I would suggest that this varies on a continuum of plausible-to-implausible. Again, note that we should, by this terminology, refer to events or witnesses/narrators as plausible or implausible; only narratives about events should be thus described. We thus have the three elements and the dimensions used to describe their reasonableness as follows:

Event: ordinary..... extraordinary
Witness/Narrator: credible.....non-credible
Narrative: plausible.....implausible

These three elements can result in eight different combinations. At one extreme, we have an ordinary event, narrated plausibly, by a credible witness/narrator. This is the sort of case we hope to usually find in "normal" science. At the other extreme end of the spectrum of combinations, we would have an extraordinary event, narrated implausibly, by a non-credible witness/narrator. This last form is the most easily rejected kind of paranormal claim and would commonly be branded nonsense or quackery. But between these two extremes we have six other combinations and these are not so easily dealt with.

Four of the eight total combinations deal with ordinary events. But in dealing with ordinary events we usually have little reason to be suspicious about the plausibility of the narratives or the character of the witness/narrator. When we are concerned about the narrative, it is usually in a courteous methodological way that concentrates on what is in the report rather than upon what may have been left out of the report. And we tend to presume credibility of the witness/narrator if he is a member of the scientific community, certified by its merit system and socialized through its training process to produce standardized reports. This probably means that many seemingly plausible narratives in "normal" science are actually poorly done (would be evaluated as implausible if we knew the full truth about how the research was conducted), and we have a good bit of evidence to support this judgement. We also probably have a reasonable amount of error in "normal" science in our judgements about the credibility of witness/narrators. The history of science and recent polls would indicate that some fraud does go on in ordinary research. But since we are dealing with ordinary events, that is theoretically expected phenomena, the disturbance created by such errors is relatively minor in relation to the general scientific progress being made; and such errors will probably be corrected through replication and later work within the "normal" science community. But when we are dealing with extraordinary events, the type we would call paranormal, the implications of such events can be quite revolutionary for general science theories, so the social controls within science become far more extensive and sometimes somewhat exaggerated.

The four combinations in which the event is extraordinary are all situations we might find in dealing with the paranormal. The hardest case to dismiss is that found when the event is extraordinary but the witness/narrator is credible and the narrative is plausible. In fact, I would argue that in this case we should not dismiss the case but should be forced to at least tentatively accept it (at least until replications are conducted which confirm or falsify our belief in the credibility of the witness/narrator and the plausibility of the narrative-report). For

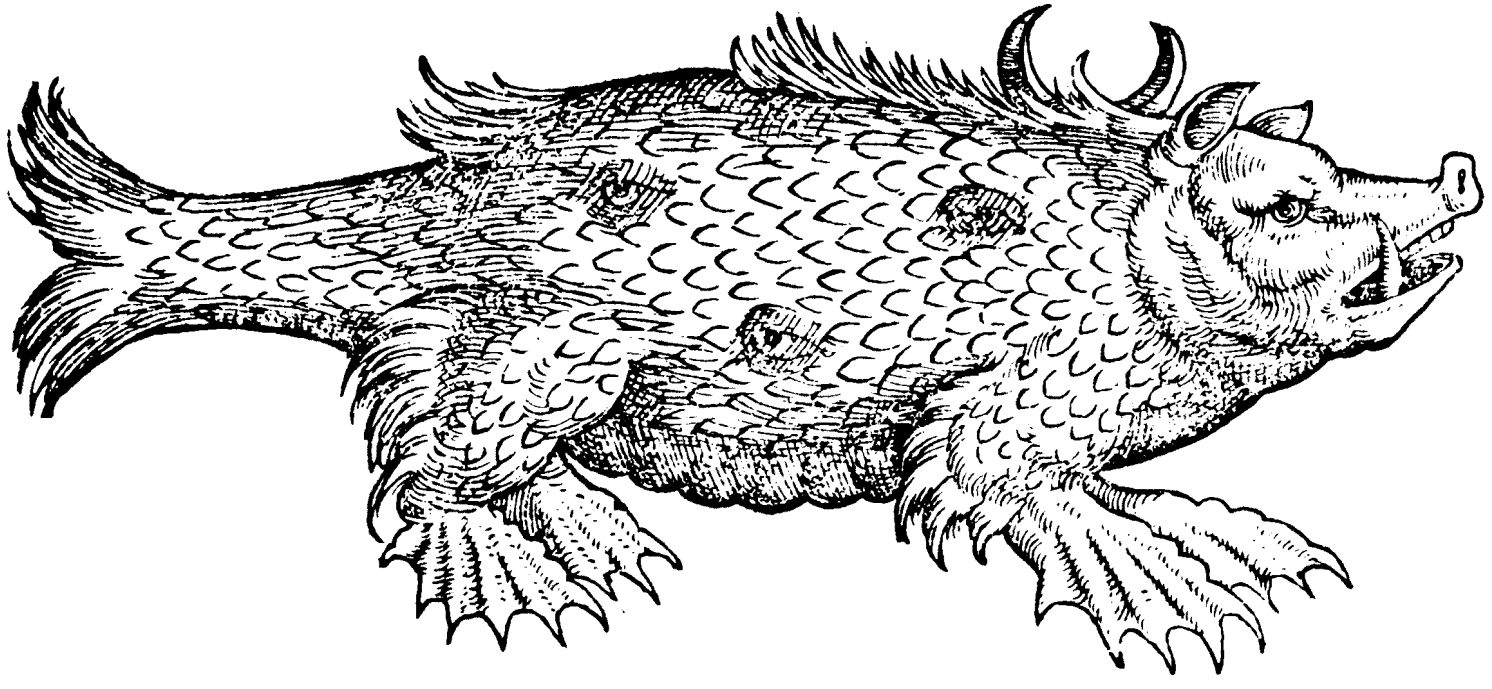
example, if a reputable (therefore credible) scientist goes through easily checked procedures and comes up with an astounding correlation (a plausible narrative-report of an extraordinary event), such a case should have a higher probability of being a true picture of things than a case where we have doubts about the plausibility of the narrative and/or the credibility of the witness/narrator. I would go further and suggest that this case should be perceived by us as having a higher probability of being true than some ordinary event which is connected with an implausible narrative and/or non-credible witness/narrator (assuming no other credible and plausible other witnesses and narratives exist).

Since we can rarely be the witness/narrator for an extraordinary event ourselves, we must rely on plausible narratives by credible others. We should, therefore, concentrate less on whether the event is extraordinary or not and more upon the factors of plausibility and credibility. Unfortunately, some have confused these various dimensions with one another. For example, some critics of parapsychology have, in effect, argued that the extraordinary character of the event (in this case a significant, non-chance guessing score) has in itself created the presumption that fraud must be present. In other words, the extraordinary event has been used to measure the character of the narrator. As numerous defenders of parapsychology have argued, the presumption of fraud without any evidence for it is a non-falsifiable claim that has no place in science. Put this way, I would have to agree. A more common criticism, however, seeks to equate the possible flaws in the narrative with the character of the narrator. Thus, critics have frequently said that if a psi experiment is not completely controlled for alternative explanations, and if one such alternative explanation might be fraud by the investigator (the narrator), we must presume that fraud took place. In its extreme form, where the argument states that the only alternative (non-psi) explanation might be fraud and therefore we must presume fraud, is of course again non-falsifiable and therefore inappropriate to scientific discourse. Here I would contend that the critics of psi like C.E. M. Hansel and some others may go beyond the evidence and outside of proper scientific argument. At least such is the case if my above interpretation is accurate. On the other hand, I think it can be argued that extraordinary events can properly force the scientist into greater caution in his examination of the factors of plausibility and credibility than might be the normal case in examining claims of ordinary events. And where the controls on credibility (formal training, peer pressures, etc.) are absent, and there may be a history of past fraud in an area, this should certainly affect the evaluator's degree of caution in presuming the credibility of the narrator of a paranormal (extraordinary) event. On the other side of the matter, many parapsychologists seem so convinced of the credibility of their fellow narrators that they seem willing to lower their standards for plausibility of psi reports. I would suggest then that while skeptics may at times overdo their skepticism, claimants of the paranormal are very frequently not properly skeptical enough.

All things considered, I would urge that our main attention be given to the narratives themselves. We should not allow our perception of the event as extraordinary to too greatly color our analysis, for ultimately our theories must fit the facts rather than vice versa. The degree to which an event is seen as extraordinary should certainly affect how much

evidence we should demand for its proof, but we should be careful to separate the event from its narration and narrator, for we otherwise prejudge matters in a way which denies the basic inductive attitude of science. We should also recognize that judgements about the credibility of the narrator must in most cases end up inferred only after our judgement about the plausibility of the narrative. Reputable scientists can make mistakes and fools can sometimes be right. A non-credible narrator (e.g., a witness whom we know has committed past fraud) may cast a shadow of doubt on reports from him, but it does not logically follow that these reports are false.

What then should we do with plausible reports by witnesses of extraordinary events? In most cases we simply must be patient, recognize that a single such report may simply not be enough to let us make a final judgement. Though we have a right to simply ignore such reports (giving them a low probability of later confirmation) and give them low scientific priority for our time, we do not have the right to dismiss such reports. Since the burden of proof is on the claimant in science, we must state that the evidence is inconclusive and remain skeptical (though certainly less so than we were before this plausible narrative entered the debate). But to say something is unproved is not the same as saying it is disproved. Until more and convincing evidence comes in (and this must be proportional to extraordinariness of the paranormal claim in the theoretical sense I have described), we need to remain skeptical and agnostic about matters paranormal. At least those which have not been explicitly disproved (as we have seen many things like the Bermuda Triangle and pyramid power falsified). It is this kind of scientific skepticism with an open mind that I think being a true zetetic is all about.



CRANK, CRACKPOT, OR GENIUS? PSEUDOSCIENCE OR SCIENCE REVOLUTION? A BIBLIOGRAPHIC GUIDE TO THE DEBATE

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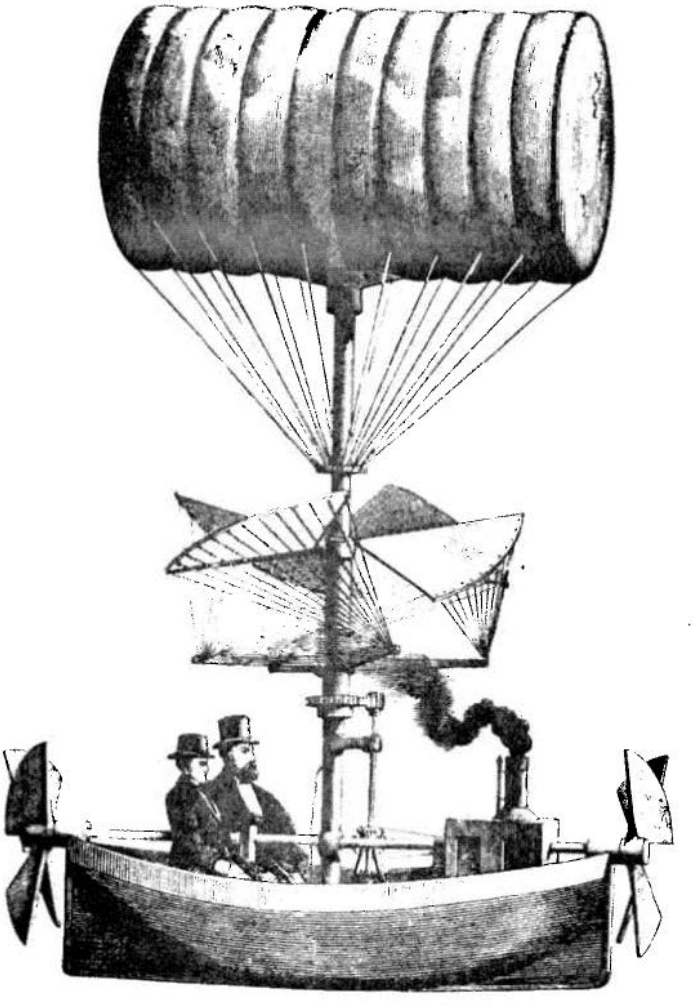
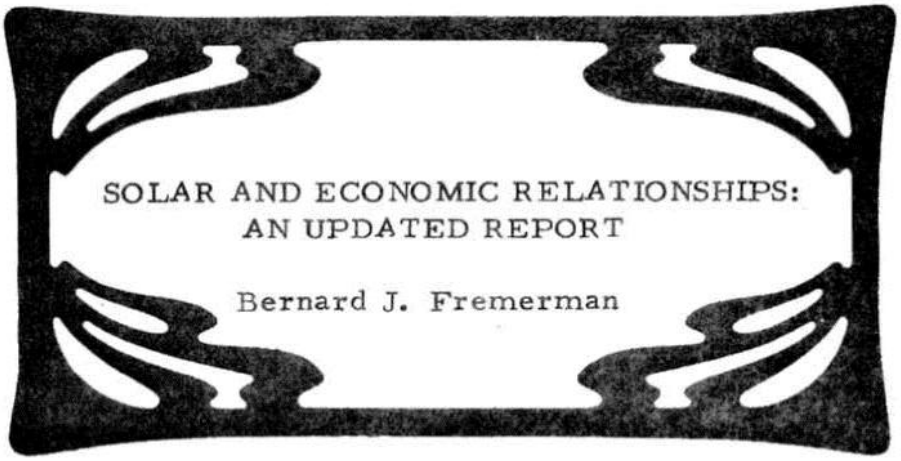




SOLAR AND ECONOMIC RELATIONSHIPS: AN UPDATED REPORT

Bernard J. Fremerman

In the latter part of the 19th Century, W. S. Jevons, a British economist, proposed a theory that a relationship exists between sunspot activity and business cycles.

In 1934 Carlos Garcia-Mata and Felix I. Shaffner of the Department of Economics at Harvard University prepared a study published in the Quarterly Journal of Economics. Initially, they undertook the study to prove that the Jevons' sunspot theory was invalid. Instead they found that a relationship did exist and "that it is hardly possible to believe that the relations revealed are wholly accidental." In this paper I have attempted to bring up to date a portion of their study--namely to determine if the correlation they found between sunspots and manufacturing production has continued to the present time.

Garcia-Mata and Shaffner used an index of production compiled by Dr. W. M. Persons. This index is not as universally used today as it was in 1934, and it is likely that it has not been continued. I have therefore chosen to use the Federal Reserve Board Index of industrial production from 1919 through 1975. For the years prior to 1919, I used a series made up of various indices by Edwin Frickey, W. M. Persons and The National Bureau of Economic Research.

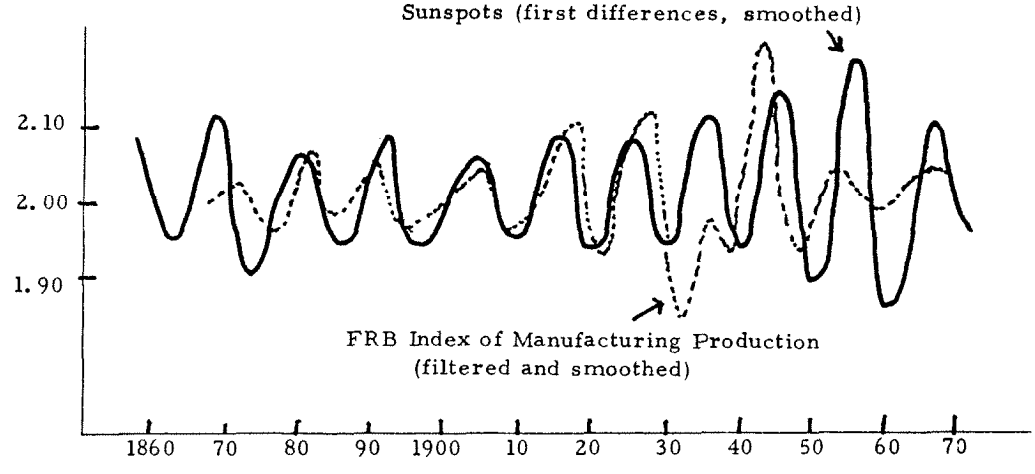
Similarly, where Garcia-Mata and Shaffner used solar data from the Greenwich and Kodaikanal observatories, I have selected Annual Mean Relative Zurich Sunspot Numbers which are more easily available. Also their current use is more widespread. With these two exceptions, I have tried to follow the procedures used by Garcia-Mata and Shaffner.

I computed the departures of the logarithms from an 11 year moving average of the FRB index to isolate an approximate 11 year cycle if in fact it exists. Then I smoothed the data with the same seven term weighted moving average formula that the two Harvard economists used. This formula which was developed by Dr. F. R. Macaulay of The National Bureau of Economic Research is as follows:

$$d = \frac{a + 3b + 5c + 6d + 5e + 3f + g}{24}$$

The results are plotted in the accompanying Chart A. Next I computed the first differences of yearly sunspot variations and smoothed the data with the same seven term weighted moving average formula developed by Macaulay.

CHART A



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This curve is also shown on Chart A.

Throughout the entire span of a century, representing about 10 repetitions of the 11.2 year sunspot cycle, there indeed seems to be a close relationship between sunspots and manufacturing production, with one notable exception. For about 15 years, beginning in 1940, the two series are out of phase. It was about that time that the United States entered a period of unusual production activities related to World War II.

Due to the use of a moving average filter, the curves cannot be extended to the current time. The last five years of data are lost. However, since the 1967 solar peak, we have witnessed a decline in sunspot formations, with a low occurring about July, 1976. We have also experienced a substantial decline in industrial production culminating in the 1973-1975 business recession.

If the pattern continues, there is a good probability that we can expect industrial production to increase over the next several years as the current solar cycle reaches its maximum, probably in 1981 or 1982. This estimate of future industrial activity is based on this one cycle concept alone, and a great deal of caution should be used in applying it.

To my knowledge there is no evidence of any mechanism or causative factors to relate these two phenomena. An extensive collection of scientific research indicates that during periods when the sun is most active there are definite measureable changes in biological organisms. Whether or not these changes manifest themselves in the economic behavior of humans is indeed an interesting subject and quite controversial. Garcia-Mata and Shaffner devoted a good deal of their paper to this possibility.

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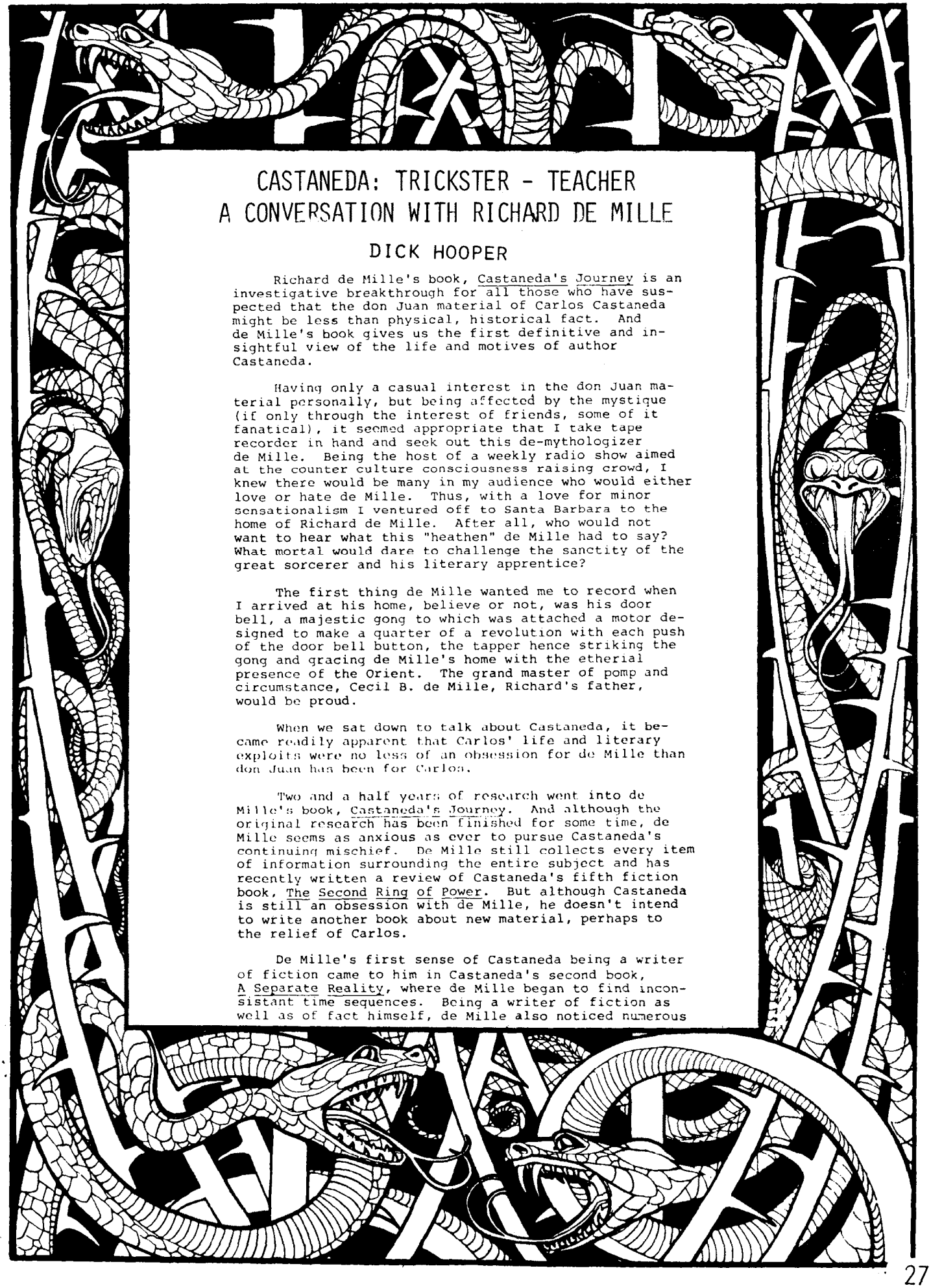
[Review of In Search of White Crows continued from page 55.]

My only reservation about Moore's analysis pertains to his far more superficial last section of the book dealing with contemporary parapsychology. Moore treats parapsychology as far more monolithic than I think it really is, and this failure to differentiate between the various organizations and "camps" within causes him to sometimes confuse matters, as in his using Psychic magazine as an indicator of the more academic attitudes within parapsychology (which is comparable to using Psychology Today as a measure of the dominant views in psychology). Nonetheless, I found Moore's general interpretations highly plausible and certainly worth seriously considering.

Whatever the reader's reactions to Moore's central thesis, this study has a wealth of interesting and insightful minor observations that consistently educate and entertain. And in addition to its scholarly merits (and Moore has really done his homework!), the book is very well written and not at all dull. All interested in better understanding of the history and nature of psychic investigation should be grateful to Dr. Moore for this superlative study.



CASTANEDA: TRICKSTER - TEACHER
A CONVERSATION WITH RICHARD DE MILLE

DICK HOOPER

Richard de Mille's book, Castaneda's Journey is an investigative breakthrough for all those who have suspected that the don Juan material of Carlos Castaneda might be less than physical, historical fact. And de Mille's book gives us the first definitive and insightful view of the life and motives of author Castaneda.

Having only a casual interest in the don Juan material personally, but being affected by the mystique (if only through the interest of friends, some of it fanatical), it seemed appropriate that I take tape recorder in hand and seek out this de-mythologizer de Mille. Being the host of a weekly radio show aimed at the counter culture consciousness raising crowd, I knew there would be many in my audience who would either love or hate de Mille. Thus, with a love for minor sensationalism I ventured off to Santa Barbara to the home of Richard de Mille. After all, who would not want to hear what this "heathen" de Mille had to say? What mortal would dare to challenge the sanctity of the great sorcerer and his literary apprentice?

The first thing de Mille wanted me to record when I arrived at his home, believe or not, was his door bell, a majestic gong to which was attached a motor designed to make a quarter of a revolution with each push of the door bell button, the tapper hence striking the gong and gracing de Mille's home with the etherial presence of the Orient. The grand master of pomp and circumstance, Cecil B. de Mille, Richard's father, would be proud.

When we sat down to talk about Castaneda, it became readily apparent that Carlos' life and literary exploits were no less of an obsession for de Mille than don Juan has been for Carlos.

Two and a half years of research went into de Mille's book, Castaneda's Journey. And although the original research has been finished for some time, de Mille seems as anxious as ever to pursue Castaneda's continuing mischief. De Mille still collects every item of information surrounding the entire subject and has recently written a review of Castaneda's fifth fiction book, The Second Ring of Power. But although Castaneda is still an obsession with de Mille, he doesn't intend to write another book about new material, perhaps to the relief of Carlos.

De Mille's first sense of Castaneda being a writer of fiction came to him in Castaneda's second book, A Separate Reality, where de Mille began to find inconsistant time sequences. Being a writer of fiction as well as of fact himself, de Mille also noticed numerous

literary styles which indicated he was really reading a work of fiction. From that point on, with the dedication of a Woodward and Bernstein, Dr. de Mille became an investigative reporter. Pieces of the don Juan-Castaneda puzzle were pulled together from many different sources including linquistics, scanty biographies of Castaneda's early life, and conversations with Castaneda acquaintances. Attempting to get Carlos to confront him face to face, de Mille sent several luncheon invitations to Castaneda but was not at all surprised that Carlos never bothered to answer any of the letters.

De Mille did, however, talk with Castaneda's former, and only, wife Margaret. Margaret did help de Mille understand Castaneda's personality better, and seemed to agree with many of de Mille's premises. But beyond that, ex-wife Margaret was of little help, mainly because she saw little of Carlos after the day in 1960 when he moved out with the excuse that he was going to go study with a Yaqui sorcerer by the name of don Juan.

Being 100% convinced that Carlos Castaneda perpetuated a literary fraud, and unloaded it upon an eager and gullible reading public, de Mille believes that Carlos first began writing the fiction narrative in 1960, precisely at the time he told Margaret Castaneda he was leaving for Mexico. Where did Carlos actually go? De Mille believes it was to the UCLA library and not to Peyote-land. De Mille believes that much of the material which was to be included in later books was mostly written at this early time. Carlos, according to de Mille, never originally intended to use much of that material but did incorporate it into later books to keep up with the consuming demands of his public and publisher. As far as de Mille's detective work is concerned, that was a mistake because here began Castaneda's slip ups on time sequences.

Castaneda's dream, says de Mille, had always been to become a great fiction writer. Being practical, however, Carlos knew it would be much more difficult to publish don Juan as fiction than as fact. Thus literary practicality was mother to the hoax. Carlos did decide to become a sorcerer, to the extent of magicly turning fiction into fact.

As far as de Mille is concerned, Castaneda truly does live in a separate reality, a world concocted out of his own imagination. And actually, de Mille appreciates Carlos as a real shaman. "A true shaman," says de Mille, "is a fellow who does his own trip and believes it." Besides being an author, de Mille is also a psychologist; and looking at Carlos from that perspective, he doesn't really believe Castaneda is

schizophenic. "He doesn't confuse the separate reality with the ordinary one, but he cares almost entirely about the imaginary part and really cares very little about the ordinary part; and this is the way the shaman is."

De Mille respects Castaneda as being both talented and shrewd, both in hoaxing the UCLA Anthropology department and the reading public, as well as knowing the signs of the literary times. De Mille sees Castaneda as always a "trendy" writer. Carlos' first book, says de Mille, played on the drug theme right at the height of the counter culture's psychedelic drug revolution; "the second book was a transition, the third - anti drugs, the fourth - magic, and the fifth - occultism, parapsychology and out of the body experiences."

But Carlos Castaneda aside, the teachings in Castaneda's books are more than mere fictional toilet paper to de Mille. While the books themselves may be fiction in the sense that they do not talk about real people, places and events in the ordinary reality, to de Mille the teachings themselves are valuable collections of shamanic adventures even though they are gleaned from other literary sources. While de Mille delights in exposing Castaneda's literary hoaxing, he is quick to point out that Carlos actually did us a favor in collating all this material.

De Mille would still like to see the cover-up at UCLA unraveled but believes it probably won't happen because the faculty and doctoral committee are protecting a faculty colleague who helped Carlos foist the hoax upon them in the first place. On the other hand, de Mille is not convinced that those who gave Castaneda his doctorate for supposed factual field work material were ever altogether fooled. The faculty, like Carlos, was sensitive to the counter culture consciousness tide of the times. Perhaps they got a little sloppy, actually wanting to believe Carlos. In any case, by the time Castaneda had his Ph.D. in his pocket, the faculty was stuck. In de Mille's words, Carlos was now saying to them in effect: "Look what I can write, and you guys have to swallow it because you gave me a Ph.D. for this. Now I can write anything I want, and you have to eat it."

Through his own shamanistic powers, de Mille had sitting in front of us during the second part of the interview, an unpublished copy of Castaneda's fifth book, The Second Ring of Power, which he had conjured up a couple of months in advance of its subsequent release last December. And The Second Ring of Power is further proof to de Mille that Carlos is now hell bent to publish no less than 15 more books, all more acts of the same play, in the manner of Lobsang Rampa's quasi-Tibetan fictioneering.

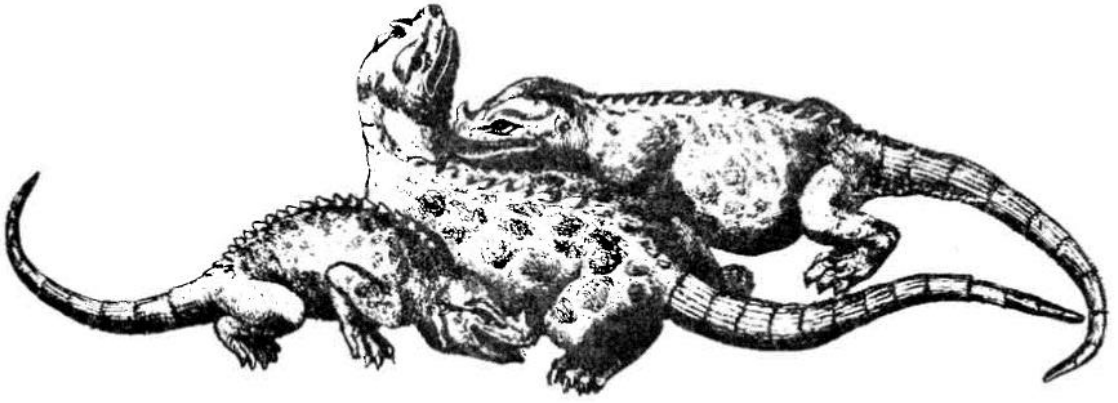
When asked why the "teachings" themselves haven't led Carlos to become honest about separating fiction from fact, that is to become "impeccable", de Mille responded that deception in the shaman's way IS impeccable.

De Mille sees Castaneda as a life long loner, one who chose long ago to live in his own solitary reality. Perhaps because of this, de Mille's book hasn't flushed Castaneda out of hiding. To even begin to refute de Mille's detective work would require Carlos' physical presence in public. And this, believes de Mille, would be entirely out of character for him.

One wonders, though, if Castaneda has read de Mille's book, and if it has had any effect on his sense of literary security. De Mille doesn't know. But, whether due to de Mille's hounding or simply to don Juan seekers with cameras, it is interesting to note that Castaneda has don Juan disappearing permanently into the "separate reality" in The Second Ring of Power, thus ending forever one of Carlos' problems, the physical search for the great sorcerer.

What effect has de Mille's book had on Castaneda fans? De Mille says that it has confirmed sceptics and has at least put don Juan in mythical perspective for many former hard core believers. But, Dr. de Mille points out, there is still a large number of fans who think of him as an infidel for even daring to challenge the gospel according to Carlos. Whatever the case, it is all rather light humor to de Mille. Though he still checks the daily mail for a special delivery from Castaneda, de Mille is content in the knowledge that he has at least made a crack in Carlos' cosmic literary egg.

[To order these two taped interviews with Richard de Mille, send name, address, and check or money order for $10.50 ($11.00 for California residents) to: New Age Communications, POB 1047, Dept. R, Pacific Grove, CA 93950. Ask for cassette series WR136.]



PEIRCE ON THE PARANORMAL

Charles Sanders Peirce (1839-1914), the American philosopher, physicist, and mathematician, was the founder of pragmatism and has been called the greatest philosopher ever produced by this country. Most of his work was available only posthumously and can be found in the eight volumes of his Collected Papers (Harvard University Press). Peirce wrote much on the philosophy and history of science which is especially relevant to the scientific study of claims of the paranormal. Though his work in these areas has been neglected by recent scholars, I hope the following selected quotations from his work will help stimulate a reexamination of Peirce's critical writings by those concerned with these issues.

THE FIRST RULE OF REASON

"Upon this first, and in one sense this sole. rule of reason, that in order to learn you must desire to learn, and in so desiring not be satisfied with what you already incline to think, there follows one corollary which itself deserves to be inscribed upon every wall of the city of philosophy:
Do not block the way of inquiry."

ON FALLIBILISM

"All positive reasoning is of the nature of judging the proportion of something in a whole collection by the proportion found in a sample. Accordingly, there are three things to which we can never hope to attain by reasoning, namely, absolute certainty, absolute exactitude, absolute universality."

ON FALSIFIABILITY

"The best hypothesis, in the sense of the one most recommending itself to the inquirer, is the one which can be the most readily refuted if it is false. This far outweighs the trifling merit of being likely. For after all, what is a likely hypothesis? It is one which falls in with our preconceived ideas. But these may be wrong. Their errors are just what the scientific man is out gunning for more particularly. But if a hypothesis can quickly and easily be cleared away so as to go toward leaving the field free for the main struggle, this is an immense advantage."

ON TELEPATHY

"At present, while the existence of telepathy cannot be said to be established, all scientific men are obliged by observed facts to admit that it presents at least a very serious problem requiring respectful treatment."

"The theory of telepathy is that in some cases one mind acts upon another, whether directly or not, at any rate by means fundamentally different from those that every-day experience renders familiar. As a scientific theory, this almost condemns itself. For to say that a phenomenon is fundamentally different from anything in ordinary experience is almost to say that it is of such a nature as to preclude the deduction from it of manifold exact predictions verifiable by ordinary perception. Pretty nearly the sole support claimed for this theory consists of certain tremendous experiences that are said to have happened to a minute fraction of mankind. If such be the only facts in the case, they are facts with which science can have nothing to do, since science is the business of finding out Law, i.e., what always happens.

"Suppose it were true that those marvelous stories proved the doctrine of telepathy; then what would it be that had been proved? Why, that very rarely mind acts upon mind in a way utterly unlike the normal way. This would be no contribution to science. It would, in the case supposed, have been ascertained that sometimes a marvel, an impenetrable mystery occurs. The concern of science is with intelligible facts. Science no more denies that there are miracles and mysteries than it asserts them. But it is a Postulate--a hope--of science and of all sound reasoning that any given fact to which our attention may be directed shall turn out to be intelligible..../what/ is absolutely severed and sundered from the body of ordinary experience is absolutely beyond scientific comprehension."

ON IMMORTALITY

"Under the head of positive evidence apparently unfavorable to the doctrine, we may reckon ordinary observation of the dependence of healthy mind-action upon the state of the body. There are,also, those rare cases of double consciousness where personal identity is utterly destroyed or changed even in this life. If a man or woman, who is one day one person, another day another, is to live hereafter, pray tell me which of the two persons that inhabit the one body is destined to survive?

"There is certainly a large and formidable mass of facts which, though not bearing directly upon the question of a future life, yet inclines us to a general conception of the universe which does not harmonize with that belief. We judge of the possibility of the unseen by its analogy with the seen. We smile at Aladdin's lamp or the elixir of life, because they are extremely unlike all that has ever come under our observation. Those of us who have never met with spirits, or any fact at all analogous to immortality among the things that we indubitably know, must be excused if we smile at that doctrine. As far as we see, forms of beauty, of sentiment, and of intelligence are the most evanescent of phenomena.

'The flower that once has bloomed forever dies.'

Besides, scientific studies have taught us that human testimony, when not hedged about with elaborate checks, is a weak kind of evidence. In short, the utter unlikeliness of an immortal soul to anything we cannot doubt, and the slightness of all the old arguments of its existence, appear to me to have tremendous weight."

ON PSYCHICAL RESEARCH

"Galileo, Gilbert and others made considerable progress before they arrived at a stage at which they were able to make any measurements to speak of. B-t they did exhibit great skill in analyzing the phenomena; and I agree that the psychicists have not exhibited signal ability in doing that. It must be remembered, however, that they are only breaking ground in a perfectly virgin soil intractable and thicket-tangled. They are doing good honest work, not shrinking from labor,and proceeding intelligently, if not with high genius. The farm of physics has long been under cultivation, the costliest implements and the most refined methods are here in use. Here have come these new settlers, occupying land not easy to till and poor in resources. Come, let us turn up our noses at them, gossip about their suspicious ways, and let them fell the difference between them and us. Who knows whether they are honest?"

ON PSYCHICAL RESEARCHERS

"As to their devotion to truth, I have to remember that as I have known them, they have been serious and foreseeing men who would not embark upon any enterprise without carefully reckoning up its contingencies. Therefore, at the momement when any one of these men deliberately devoted his life and his whole being to this inquiry, as several have done, he certainly has distinctly before his mind the following considerations:

"that it would be hard and incessant work, mostly drudgery, requiring him to be occupied mostly with knaves and fools;
"that it would cost him a great deal of money, considering all that it would prevent him from earning;
"that it would never bring him much honor, but would put a certain stamp of obloquy upon him;
"that even among the company of those who professed to love the truth, and who would be found in the more richly endowed sciences, individuals who would treat him in the narrowest and most despicable spirit of the east wind;
"that after his whole life had been poured out into the inquiry, it was not unlikely that he might find that he had not found out anything.

"These considerations go to show that, whatever those men have been aiming at, they have aimed at in a single-hearted manner....

The power of reasoning of the leaders is certainly much above that of the average of men. It does not seem to me to have been altogether sufficient for their problem."

[Editorial continued from page 2:]

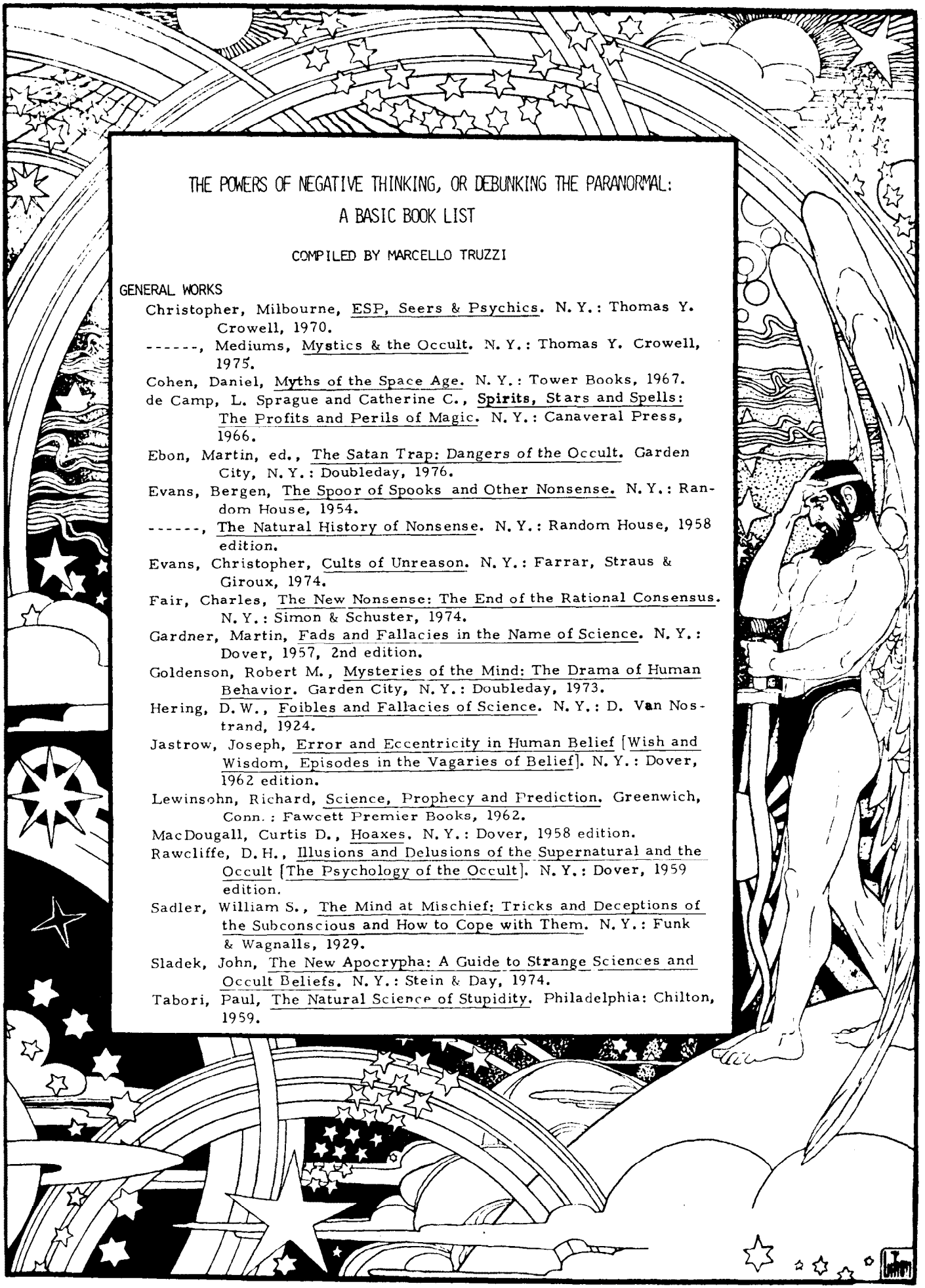
To achieve serious and responsible dialogue, we seek to establish a network of scholars and "experts" to interchange ideas and observations. As a beginning, ZETETIC SCHOLAR has assembled a distinguished board of consulting editors consisting of both proponents and critics of the paranormal. These consultants disagree on much, but all share a respect for adjudication of such claims through scientific method. This is not to deny other philosophical approaches to such claims, but ZETETIC SCHOLAR shall be concerned exclusively with scientific and not with non-empirical or transcendental issues.

By paranormal, we refer to nothing supernatural but merely to that which is "beyond the normal," that which may exist but remains unexplained by contemporary science. Thus, we are interested in the "frontiers" of science and the anomalies that offer to force reconceptualizations and revolutions within science. Such claims extend all the way from Acupuncture to Zoological curiosities. Obviously, the evidence for and the implications of such alleged phenomena vary tremendously, and believers in one claim may be the severest critics of another. Those making claims and seeking their examination by scientific means are best termed proto-sciences. Many of these may be revealed as false or pseudoscientific, but some may emerge as validated as have many past esoteric claims now part of science. We will avoid such labels as pseudoscience where that may act to prejudge the evidence, and we will seek responsible and serious "experts" on the literature and history of the debates to help us examine the claims. To elevate the level of discussion and help educate those interested, ZETETIC SCHOLAR will prominently feature bibliographies and general resource information (such as the addresses of organizations and periodicals concerned with the paranormal). We may thus avoid some of the rediscovery of evidence and arguments that has plagued too much past discourse.

ZETETIC SCHOLAR has been started with minimum resources and subscribers, so we must increase our circulation if it is to continue beyond this year. We are optimistic about our future and hope to expand the journal's coverage and frequency. But we need help. If you like the journal and support our aims, please help us increase the number of our subscribers. In particular, we hope you will encourage your libraries to subscribe to ZETETIC SCHOLAR.

Because this is the first issue of ZETETIC SCHOLAR, the editor has been forced to dominate its pages. This should change with the second issue as readers send in reactions and open our dialogue. We need your suggestions, contributions, and participation in our pages. The ZETETIC SCHOLAR will only be as good as you can help us make it. Let us know how you feel and what you think.

-- MT



THE POWERS OF NEGATIVE THINKING, OR DEBUNKING THE PARANORMAL: A BASIC BOOK LIST

COMPILED BY MARCELLO TRUZZI

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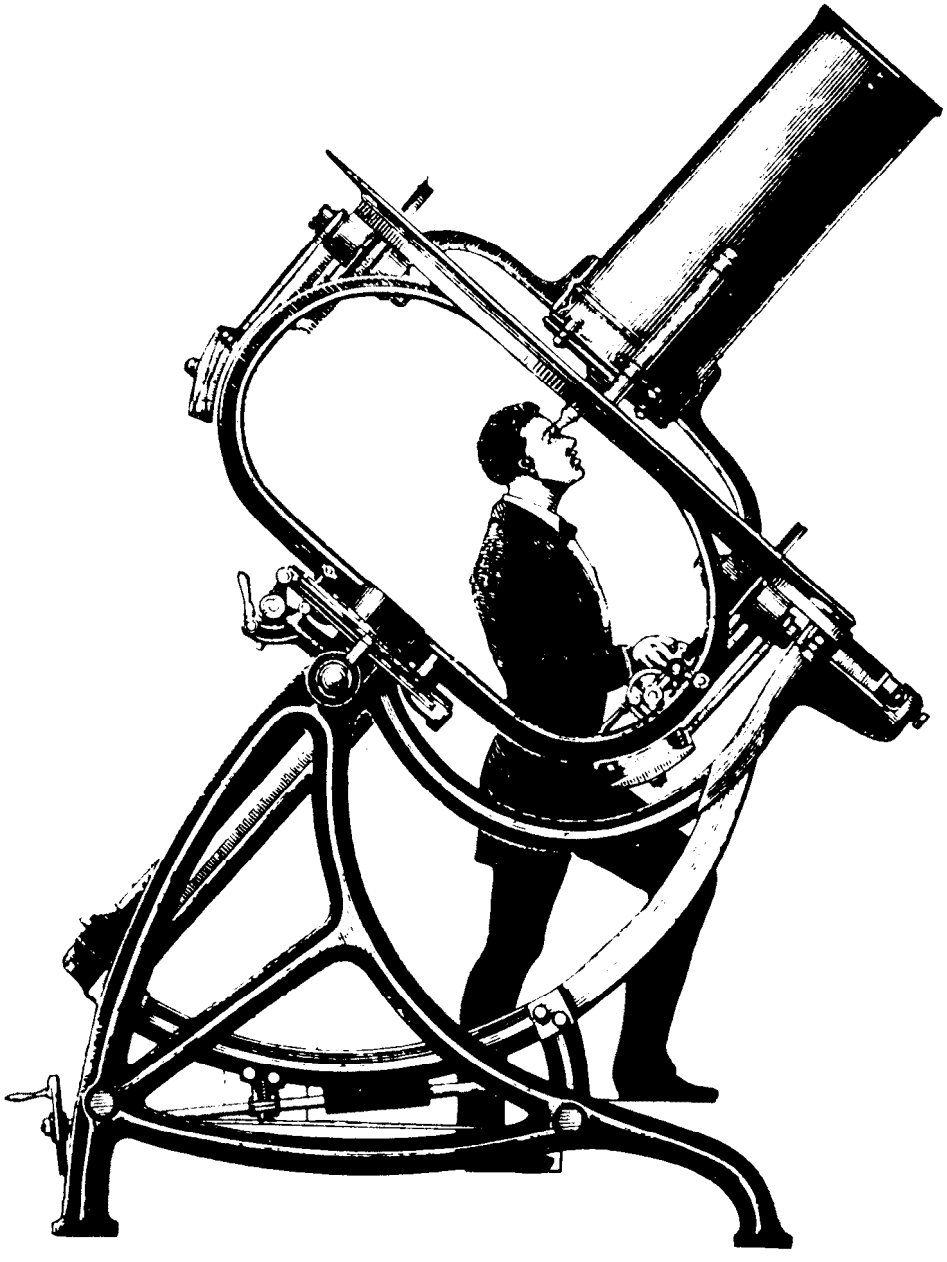

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A REQUEST FOR HELP

Andrew Neher (Psychology Dept.; Cabrillo College; 6500 Soquel Drive; Aptos, CA 95003) writes: "I am writing a book, to be published by Prentice-Hall, which discusses, among other things, a number of occultisms, together with empirical studies that have been conducted to test their validity. Such tests are few and far between, and I would appreciate your readers informing me of any empirical tests of the following beliefs of which they are aware: 1)"psychic" auras. 2) therapy and reflexology, 3) polarity therapy, 4) iridology, 5) homeopathy, 6) the I Ching, 7) radiesthesia, 8) numerology, 9) palmistry, & 10)pyramid power." Readers of ZS are invited to reply directly or through the editor of ZS.

The Occult Underground. By James Webb. La Salle, IL: Open Court, 1974. 387 pp. $8.95.

Reviewed by Martin Gardner*

The Occult Underground by James Webb, a Scotsman, is the first of an elaborate two-volume study of modern occultism and its nineteenth century roots. The present volume (which appeared in England as The Flight From Reason) deals roughly with the hundred years from the abdication of Napoleon in 1814 to the outbreak of World War I in 1914. (The second volume, The Occult Establishment, was published in in 1976.--MT)

Webb believes that today's occult explosion is an extension of a revived interest in the paranormal that began in the early nineteenth century as a reaction to the Age of Reason. Science and rationalsim were expected to solve humanity's difficulties, but obviously they didn't. Wars, revolutions, and social upheavals -- intensified by technology and accompanied by the crumbling of Christian orthodoxy -- created a widespread backlash in western cultures against science and reason. Large numbers of good and intelligent people, unable to return to the faith of their fathers, found in the occult underground a strange new source of inspiration and enlightenment.

Webb calls it "underground" because it flourished outside the pale of religious and scientific establishments. Indeed, the great cults of unreason, Webb reminds us, had much in common with the revolutionary political movements of the time -- the same conspiratorial airs, the same charismatic leaders, the same rousing rhetoric, the same deep emotional commitment to a cause. Some leaders even had their feet in both camps. Socialist Robert Owen, for example, became as firm a believer in Spiritualism as did Socialist Upton Sinclair many decades later. Annie Besant was as active in British and Indian political and feminist causes as she was in promoting theosophy.

How many occult underground sentiments does Webb himself buy? It is impossible to tell. He is a member of the American Society for Psychic Research, and a contributor to two lurid occult encyclopedias, but in this book he strives to be objective and to avoid giving us his opinions on fundamental questions. He seems to think, though I am only guessing, that nineteenth-century occultism, in spite of its shabby pseudoscience and wild superstitions, was on the whole a healthy reaction to the excesses of eighteenth-century materialism. Occultism, in words that Webb quotes from the Irish poet and occultist William Butler Yeats, expresses the perennial human longing to "exchange civilities with the world beyond."

"To admit," writes Webb, "that there may be forces beyond one's material perceptions, principalities and powers of unguessable natures, requires a courage of its own. It is no more unjustifiable to foist on others an interpretation of the universe which requires the existence of elves and goblins than it is to enforce the acceptance of Marxism as a secular religion. The material reality and the immaterial reality are still battling for the crown."

Fair enough, but is not Webb subtly confusing science versus pseudoscience with materialism versus idealism? The two latter points of view are indeed still battling for the crown, but what do goblins and elves have to do with either? Atheists in Russia are just as susceptible to beliefs in goblins as theists in the Vatican. As Webb's history itself makes abundantly clear, within both idealism and materialism there is a constant struggle between reason and unreason, between respect and contempt for scientific method. Within either camp, it seems to me, only an extreme cultural relativist would see no grounds for a value judgment between reason and unreason.

The Occult Underground is a useful but disorganized and patchy attempt to survey the elves and goblins of the nineteenth century -- a monstrous tossed salad of names, dates, book titles, anecdotes, and historical speculations. Webb does not write as entertainingly as does Colin Wilson in The Occult, but Wilson's history is so marred by extreme credulity and egocentricity as to be of little value to any serious student of occult history. In contrast, Webb's book gives the impression of careful scholarship and reliable data. It is particularly good on French and Polish occultism, usually slighted and often omitted entirely from popular histories.

Chapters vary in interest. Some sections, such as those on Bahaism and theosophy, are rich and informative. Others are thin and disappointing. Webb's discussion of Spiritualism, for instance, dwells mostly on early mediums such as the Fox sisters and Andrew Jackson Davis. The colorful mediums of the late nineteenth century, and the passionate activities of Sir Arthur Conan Doyle, are mentioned only in passing.

Nowhere are Webb's lacunae so evident as in a section devoted to Christian adventist cults. Why, by the way, is such a section here at all? Adventism belongs to the history of Protestant fundamentalism. If a portion of an occult history is to include cults such as Mormonism, based on the immanence of the Second Coming, why ignore the far more influential forms of Protestant irrationalism such as Pentecostalism, with its emphasis on healing and glossolalia? Here again Webb ends his survey just when it begins to get exciting.

Consider, for example, William Miller, the New York rustic who raised such a hue and cry with his prediction that Jesus would return in 1843. Webb writes at length about it. When nothing happened, poor Miller was meek enough to admit his mistake and retire from the fray. But a small group of followers, including Ellen Gould White, decided that Miller's error was intended by the Almighty to winnow out the weak and to unite the strong who would correct Miller's mathematics and continue his inspired work.

This was the origin of Seventh Day Adventism, a much more significant movement than Miller's paltry efforts. In my opinion Mrs. White was a more remarkable prophetess than Mary Baker Eddy, to whom Webb devotes several pages. Mrs. White went into trances during which she seemed not to breathe. She had visions of the future. In one of many out-of-body experiences she traveled through the solar system and

described its planets and moons. She gave personal readings. She healed the sick. Above all she wrote enormous books that became the pillars of Adventist doctrine, and exerted an enormous influence on the formation of Jehovah's Witnesses and the Worldwide Church of God.

Garner Ted Armstrong's father,who founded the Worldwide Church of God, was originally active in an Adventist group that grew out of Miller's preaching, and all the major doctrines of Armstrongism can be found in Mrs. White's writings. Miller was dull and simple minded. Ellen White was something of a genius. One would have expected Webb to tell us less about Miller than about Mrs. White, but this extraordinary little woman is not even mentioned.

In spite of such omissions, and its equally arbitrary inclusions of religious causes such as the Oxford Movement that few would consider "occult," the book does shovel into one spot a vast heap of facts about some of the leading irrationalisms of the period. As such it is a valuable reference, and one that cannot but throw considerable light on today's still rising tide of preoccupation with the paranormal.

Previously unpublished, this review was written in 1974.

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Youth Brainwashing and the Extremist Cults. By Ronald Enroth. Kentwood, MI: Zondervan,1977. 218 pp. $6.95.

Reviewed by Roy Wallis

Ronald Enroth is one of the authors of an extremely interesting little book on the Jesus People (R.M. Enroth, E.E. Ericson & C.B. Peters, The Story of the Jesus People, Eerdmans, 1972). That book, like the present one, provided much useful factual information. The present volume, although it examines a wider range of "cults" (Hare Krishna, Children of God, Alamo Foundation, Love Family, Unification Church, The Way, and Divine Light Mission), does so in a rather superficial manner. It must be admitted that neither book exhibited the least theoretical or analytical originality, the latest being completely derivative for its ideas. Rosabeth Kanter's work on commitment and Robert Lipton's on "thought reform" provide the basis for the commentary. The main body of the descriptive half of the book is direct transcription of usually only a single individual's recorded experience on each group. We are doubtless expected to view that single case as typical of the experience of members of the cult, but no very persuasive argument or evidence is offered to support this view. The bulk of the remaining empirical information is derived from "anti-cult" groups and their professional supporters. Much of it is out of date.

In short, there is little here for the academic observer of the

new religions. This book assumes that the reader will feel hostile toward the group concerned, or at least unsympathetic. It is written for Christians of fairly orthodox evangelical persuasion who see the new religions as a bad thing, and Professor Enroth allies himself with the professional anti-cult fraternity who have really observed very little cult activity, get their information already highly processed (i.e., after Ted Patrick has already "deprogrammed" the informants and after they have become convinced they were "brainwashed"), and lend their scientific credentials to a propaganda exercise without having earned the status of expert by sufficient careful,open-minded, or balanced research. Popular polemic is a virtuous enough activity, unless it becomes accepted as sound scholarly opinion. For those already firm in their traditional Christian commitment, this book will be a reassuring commentary on the new "false religions," but it should not pretend to any advanced scientific status.

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Encyclopedia of Occultism & Parapsychology. 2 Volumes. Edited by Leslie Shepard. Detroit, MI: Gale Research Co., 1978. 1,084 pp. $48.00.

Reviewed by Marcello Truzzi

This massive compilation is an integration, editing, and updating of Lewis Spence's 1920 Encyclopedia of the Occult and Nandor Fodor's 1934 Encyclopedia of Psychic Science. A great deal of the material in this collection is new, and Leslie Shepard has done us a great service in producing this work. Approximately 1000 of the 4000 entries are newly written by Shepard, and these are excellent and generally objective in tone so should satisfy both critics and proponents of the esoteric topics discussed. Readers will be especially pleased at the many addresses to publications and organizations Shepard has included. The books are not without faults, but given the enormous scope of the enterprise, Shepard has done an impressive job. I warmly recommend these volumes to anyone with a scholarly interest in the paranormal.

My only objection to the volumes is Shepard's decision to possibly too thoroughly integrate his contributions with those of Spence and Fodor. Though the sections from the latter's works are in different type (presumably from reproducing their sections from the earlier printings), it is extremely difficult to discern which articles (or sections of articles) were written by Spence or Fodor (luckily, we can usually spot Shepard's own additions by the newer type-face). Since the Spence and Fodor volumes are still available, I hope that Shepard's own pieces might eventually be published separately for those who already own the earlier books. I also wish that Shepard might have told us more about his criteria for inclusion/exclusion of the Spence and Fodor pieces. But these complaints are minor when viewed against the books' many virtues.

Shepard has done us a particularly good turn by his careful

indexing and cross-referencing of materials. In addition to a General Index, he provides us with nine special subject indexes, one of which (the index for Paranormal Phenomena) has forty-nine subheadings. So, the books are extremely usable as well as informative. Shepard has asked his readers to provide him additional information and corrections for future editions, so it appears that we can look forward to the continuation of this valuable project. The volumes are expensive but well worth the price. If you can not purchase them yourself, urge your library to get them.

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In Search of White Crows: Spiritualism, Parapsychology, and American Culture. By R. Laurence Moore. N.Y.: Oxford University Press, 1977. 310 pp. $12.50.

Reviewed by Marcello Truzzi

Historian R. Laurence Moore has written a truly remarkable social and cultural portrait of spiritualism and parapsychology in the United States in which he argues that "over the past 175 years spiritualism and then psychical research have offered Americans a 'reasonable' solution to the problem of how to accomodate religious and scientific interests." Moore's thesis is important in that his analysis stands sharply in contrast to the currently popular position among many orthodox scientists who allege that such interests constitute a reversion to superstition and irrationalism. Moore lucidly argues that the development of psychical research was primarily an attempt to concretize and materialistically deal with previously exclusively spiritual matters. As such, the principal opposition to spiritualism came from religion, and even its criticism from scientists was usually on religious grounds. Moore very neatly demonstrates the antagonism of the Transcendentalists, for example, who felt the spiritualists trivialized the metaphysical by confusing the spiritual with spirits.

In an article published several years ago ["The Occult Revival as Popular Culture: Some Random Observations on the Old and the Nouveau Witch," Sociological Quarterly, 13 (1972), 16-36], I argued that the current wave of interest in the occult and the paranormal is not a regression to supernaturalism but essentially a demystification of it, one which actually represents a healthy state in man's history in that it has taken once arcane beliefs and secret practices out of the closets (the secret societies and the ritual chambers) and tried to bring them into the experimental arena of modern empirical science. Thus, what many have called pseudosciences, I have preferred to view as embryonic or would-be proto-sciences. Though much of this attemptedly scientific activity will be badly done, and most of it will lead to falsifications and disenchantment with occult claims, science can only benefit in the long run from such experimentation and its inductive spirit. Moore argues along similar lines about the earlier interests in spiritualism and psychical research and reminds us of the generally progressive and liberal attitudes of those involved. He brilliantly and meticulously analyzes the early period in a manner that I hope will become a model for other researchers. His chapter "The Medium and Her Message," in its analysis of sex role factors in spiritualism, I found particularly impressive.

Continued on page 26.

BOOKS BRIEFLY NOTED*

*Listing here does not preclude later full review.

Akins, William, The Loch Ness Monster. N. Y.: Signet, 1977. 169 pp. $1.50 paperback. One of the better recent surveys of the "Nessie" literature. Recommended reading.

Angebert, Jean-Michel (translated by Lewis A. M. Sumberg), The Occult and the Third Reich. N. Y.: Macmillan, 1974. 306 pp. $8.95. Subtitled "The Mystical Origins of Nazism and the Search for the Holy Grail," this study attempts to demonstrate that the Nazi cosmology was a synthesis of the occult, nurtured by ancient neo-paganism. Fun but unconvincing scholarship.

Beyerchen, Alan D., Scientists Under Hitler: Politics and the Physics Community in the Third Reich. New Haven, Conn.: Yale University Press, 1977. 287 pp. $18.50. An important and major study important to ZS readers for its discussion of the impact of the "Aryan physics" movement.

Bowen, Charles, ed., Encounter Cases from Flying Saucer Review. N. Y.: Signet, 1977. 221 pp. $1.75 paperback. A reprinting of two dozen international reports of UFO encounters from the British UFO periodical many consider the best international pro-UFO survey. Very provocative though uneven papers and will not convince the skeptical, but a useful collection.

Bowles, Norma, Fran Hynds, and Joan Maxwell, Psi Search. N. Y.: Harper & Row, 1978. 168 pp. $6.95 paperback. A book presentation of the exhibition of parapsychology circulated through the Smithsonian Institution Traveling Exhibition Service. Very one-sided and pro-psi, but full of excellent photos and much useful information. Surprisingly uncritical work considering the auspices.

Bracewell, Ronald N., The Galactic Club: Intelligent Life in Outer Space. San Francisco: San Francisco Book Co., 1976. 143 pp. $3.95 paperback. An excellent non-technical introduction, cautious but delightful presentation, nicely illustrated.

Brandon, Jim, Weird America: A Guide to Places of Mystery in the United States. N. Y.: E. P. Dutton, 1978. 259 pp. $4.95 paperback. A travel guide to those interesting but controversial sites of alleged paranormal happenings that should add an exciting dimension to your tourist trips. Includes photographs and maps.

Brennan, J. H., An Occult History of the World, Volume I. London: Futura, 1976. 320 pp. $3.50 (Canadian) paperback. The title probably says it all. Wild but fun; for those who like imaginative fiction.

Cavendish, Richard, A History of Magic. N. Y.: Taplinger, 1977. 180 pp. $9.95. Like his earlier The Black Arts, a clear and useful introduction for the popular market.

Chatelain, Maurice (translated by Orest Berlings), Our Ancestors Came From Outer Space. Garden City, N. Y.: Doubleday, 1978. 209 pp. $7.95. A "former NASA space expert" with a computer one-ups von Däniken.

Clafin, Edward, with Jeff Sheridan, Street Magic: An Illustrated History of Wandering Magicians and Their Conjuring Arts. Garden City, N. Y.: Doubleday Dolphin, 1977. 157 pp. $5.95 paperback. An off-beat conjuring history , nicely done and well illustrated.

Cohane, John Philip, Paradox: The Case for the Extraterrestrial Origin of Man. N. Y.: Crown, 1977. 182 pp. $10.00. Unlike von Däniken and the other popularizers, this book attempts (unsuccessfully) to build its case on "scientific" evidence, especially the gaps in evolutionary theory. Better than I had expected from the title.

Cohen, Daniel, The World of UFOs. N. Y.: J. B. Lippincott, 1978. 160 pp. $7.95. An entertaining and skeptical but moderate review of the history of UFO reports geared primarily at the juvenile audience.

Cohn, Norman, Europe's Inner Demons. Herts, GB: Paladin, 1976. 302 pp. $5.25 (Canadian), paperback. Excellent historical survey of the witch hunts of the 16th and 17th centuries.

Douglas, Alfred, Extra-Sensory Powers: A Century of Psychical Research. N. Y.: Overlook Press, 1977. 392 pp. $15.00. A very useful but very partial history favoring the psychical interpretation. Highly readable and an excellent introduction.

Ebon, Martin, Atlantis: The New Evidence. N. Y.: Signet, 1977. 151 pp. $1.50 paperback. The best survey of the recent literature on a perennial concern in cryptogeography. A balanced presentation.

Editors, The World Almanac of the Strange. N. Y.: Signet, 1977. 482 pp. $2.50 paperback. A wealth of information, largely uncritically examined, but a real bargain.

Gonzalez-Wippler, Migene. The Complete Book of Spells, Ceremonies and Magic. N. Y.: Crown, 1978. 376 pp. $12.95. Incomplete, but jam-packed and a hodge-podge of goodies for the would-be spell-caster. Strictly for the popular market.

Gould, Stephen Jay, Ever Since Darwin: Reflections in Natural History. N. Y.: W. W. Norton, 1977. 285 pp. $9.95. Excellent essays including ones on Velikovsky and unconventional science.

Heffern, Richard, Time Travel: Myth or Reality? N. Y.: Pyramid Books, 1977. 192 pp. $1.75 paperback. A light romp through the general literature dealing with all forms of time travel including pre-cognition, imaginative fiction, etc. Uncritical but interesting.

Hoyle, Fred, On Stonehenge. San Francisco: W. H. Freeman, 1977. 160 pp. $6.50 paperback. Hoyle's defense of the argument that Stonehenge was used to predict eclipses.

Hynek, J. Allen, The Hynek UFO Report. N. Y.: Dell, 1977. 299 pp. $1.95 paperback. Concentrating on the National Archives materials, this is an important sequel to Hynek's The UFO Experience, particularly for its quantitative summaries of a vast quantity of UFO reports.

Jerome, Lawrence E., Astrology Disproved. Buffalo, N. Y.: Prometheus 1977. 233 pp. $14.95. Does not match its title since it fails to examine much of the pro-astrological material, but an excellent introduction to the negative case.

King, Francis, The Magical World of Aleister Crowley. N. Y.: Coward McCann & Geoghegan, 1978. 210 pp. $8.95. Among King's best works, this volume is full of new information on the Great Beast and is particularly valuable for its materials on the followers of Crowley since his death in 1947.

King, Francis, Satan and Swastika: The Occult and the Nazi Party. Herts, GB: Mayflower, 1976. 288 pp. $2.95 paperback. One of the better surveys for the popular market.

Klide, Alan M., and Kung Shiu H., Veterinary Acupuncture. Philadelphia: University of Pennsylvania Press, 1977. 297 pp. $35.00. A very important work for anyone seriously interested in acupuncture since the positive results with animals raise serious questions for any explanations based upon clients' alleged suggestibility. Excellent references, an historical overview along with its text material for veterinarians.

Krupp, E. C., ed., In Search of Ancient Astronauts. Garden City, N. Y.: Doubleday, 1978. 300 pp. $10.00. An excellent critical review and debunking of a wide variety of esoteric claims on such things as Stonehenge, von Däniken, archaeoastronomy, Velikovsky, etc. A good statement of the Establishment position, unlikely to settle the issues discussed, but fair-minded in its general orientation.

Leary, David M., Edgar Cayce's Photographic Legacy. Garden City, N. Y.: Doubleday, 1978. 233 pp. $12.95. A nice collection of photographs by the psychic but mainly of interest to Cayce fans.

Laycock, George, Mysteries, Monsters and Untold Secrets. Garden City, N. Y.: Doubleday, 1978. 160 pp. $6.95. Uncritical and mildly sensationalized account for juveniles. Emphasizes the alleged scientific mysteries even when they've been long solved.

Lecourt, Dominique (translated by Ben Brewster), Proletarian Science? The Case of Lysenko. N. Y.: Schocken Books, 1978. 170 pp. $11.50. An excellent scholarly study of the politics of science.

Le Poer Trench, Brinsley, Secret of the Ages: UFOs from Inside the Earth. N. Y.: Pinnacle, 1977. 240 pp. $1.75 paperback. Hollow Earth theory revisited. Yech!

Long, Joseph J., ed., Extrasensory Ecology: Parapsychology and Anthropology. Metuchen, N. J.: Scarecrow, 1977. 427 pp. $16.00. An uneven and unconvincing collection (except for the solitary negative essay by A. Bharati) but certainly one of the most interesting and provocative directions currently part of serious parapsychology. Fascinating reading.

Lorenzen, Coral and Jim, Abducted: Confrontations with Beings from Outer Space. N. Y.: Berkeley Medallion Books, 1977. 228 pp. $1.75 A general pro-UFO survey based mainly on APRO files. Though unconvincing in its extraterrestrial solution, much valuable material is presented including some particularly interesting critical reactions to prominent UFO debunkers.

Meredith, Dennis L., Search at Loch Ness: The Expedition of the New York Times and the Academy of Applied Science. N. Y.: Quadrangle, 1977. 183 pp. $9.95. A general account of the most recent failing attempt to solve the riddle of Loch Ness.

Monroe, Robert A., Journeys Out of the Body. Garden City, N. Y.: Doubleday Anchor, 1977. 280 pp. $3.95 paperback. A first-person account of astral projection experience. Intriguing but scientifically nearly valueless.

Moon, Mary, Ogopogo: The Okanagan Mystery. North Pomfret, N. Y.: David & Charles, 1977. 195 pp. $5.95 paperback. An excellent general survey on the numerous alleged "water monsters" in the lakes of Canada, concentrating on the famous Ogopogo of Okanagan Lake in British Columbia sighted repeatedly since the late 1700s up to the present.

Needleman, Jacob, A Sense of the Cosmos: The Encounter of Science with Ancient Truth. N. Y.: E. P. Dutton, 1976. 179 pp. $3.50 paperback. A humanistic approach to science and mysticism seeking greater integration.

Nicholas, J. W., Psience: A General Theory of Existence. Santa Barbara, Ca.: Church of Psience, distributed by Ross-Erikson, 1977. 68 pp. $3.95 paperback. A metaphysical work but a very creative one. The "Caveat Lector" by Richard de Mille makes the book of special interest to ZS readers.

Osis, Karlis, and Erlendur Haraldsson, At the Hour of Death. N. Y.: Avon, 1977. 244 pp. $3.95 paperback. A major international study of "death experiences" and the case for survival. Quite unconvincing to the skeptic, but fascinating reading.

Playfair, Guy Lyon, The Indefinite Boundary. N. Y.: St. Martins, 1976. 320 pp. $10.00. A general work concerned with the relationship between matter and spirit, mainly anecdotal in character, but highly readable and full of interesting items, particularly about psychic phenomena in Brazil.

Pochan, A., The Mysteries of the Great Pyramids. N. Y.: Avon, 1978. 288 pp. $2.25 paperback. An excellent and largely debunking book which should be must reading for anyone interested in the so-called pyramid mysteries.

Rogo, D. Scott, ed., Mind Beyond the Body: The Mystery of ESP Projection. N. Y.: Penguin, 1978. 365 pp. $2.95 paperback. A first-rate collection presenting the experimental evidence in support of OBEs. Though I did not find the evidence here overwhelming, I was impressed by the intelligent level of the book. Recommended.

Russell, Jeffrey Burton, The Devil: Perceptions of Evil from Antiquity to Primitive Christianity. Ithaca, N. Y.: Cornell University Press, 1977. 277 pp. $15.00. A major historical study, Highly recommended.

Sachs, Margaret, and Ernest Jahn, Celestial Passengers: UFOs and Space Travel. N. Y.: Penguin Books, 1977. 220 pp. $2.95, paperback. A popular survey based on NICAP files, this largely uncritical pro-UFO book also contains reports on government projects related to future and current space travel.

Singer, Barry, Course on Scientific Examinations of Paranormal Phenomena: Resources and Suggestions for Educational Approaches. Journal Supplement Abstract Service, MS. 1404. Washington, D.C.: American Psychological Association, 1977. 30 pp. $6 paper; $2 fiche. This excellent resource will prove most valuable to those teaching academic courses on science and the paranormal. Basically, this is thd detailed outline, bibliography and general guide used by Dr. Singer in his course at California State University, Long Beach. Contains many very useful ideas and much valuable information.

Sklar, Dust, Gods & Beasts: The Nazis & the Occult. N.Y.: Thomas Y. Crowell, 1977. 180 pp. $9.95. A sensational book claiming links between occultism and the rise of Naziism but going well beyond the usual such claims by trying to warn against occultism dangers today. Of the many books dealing with this topic, I found this one among the least useful.

Sontag, Frederick, Sun Myung Moon and the Unification Church. Nashville, Tenn.: Abingdon, 1977. 224 pp. $8.95. A most interesting book, decidely pro-Moon in orientation, but absolutely essential reading for anyone seriously interested in the Unification Church. If fully to be believed, there are real surprises awaiting the reader of this book. The book is not uncritical but is basically a most sympathetic one.

Sprague, Roderick, and Grover S. Krantz, eds., The Scientist Looks at the Sasquatch. Moscow, Idaho: University Press of Idaho, 1977. 156 pp. $3.25, paperback. A most interesting compilation of seven articles on the sasquatch (bigfoot) reprinted from Northwest Anthropological Research Notes plus introductory material. All are well-researched, scholarly pieces by conservative but open-minded writers, most of whom are not yet satisfied that the sasquatch is a living animal species. This small volume should substantially help to encourage serious research in this neglected area by those best trained to investigate and evaluate the evidence.

Uphoff, Walter and Mary Jo, New Psychic Frontiers, 2nd Edition. Gerrards Cross, England: Colin Smythe Ltd., 1977. 278 pp. $9.50. A very uncritical but nonetheless highly useful general survey of many areas of research into the paranormal. Particularly valuable for the many names and addresses listed.

Walker, Dward E., Jr., ed., Systems of North American Witchcraft and Sorcery. Moscow, Idaho: University of Idaho (Anthropological Monographs of the University of Idaho, No. 1), 1970. 295 pp. Eleven excellent ethnographic studies of sorcery and witcheraft Quite an antidote to some of the popular nonsense written about American Indian religions.

Wheatley, James M. O., and Hoyt L. Edge, eds., Philosophical Dimensions of Parapsychology. Springfield, Ill.: Charles C. Thomas, 1976. 483 pp. $24.50. An extremely useful collection of papers, including many of the "classics," dealing with philosophic issues surrounding parapsychology. Probably the best single place to get introduced to the many issues involved. Highly recommended.

White, John, and Stanley Krippner, eds., Future Science: Life Energies and the Physics of Paranormal Phenomena. Garden City, N. Y.: Doubleday Anchor, 1977. 598 pp. $4.50 paperback. A treasure trove of some of the wildest and most fanciful but certainly intriguing stuff to come out of parapsychology last year. Certainly a bargain at the price, but unlikely to convince any skeptics. Forty-one articles plus appendices makes brief comment difficult. The article "The Skeptics" by Saul-Paul Sirag should be called to special attention.

Wolman, Benjamin B., ed., et al., Handbook of Parapsychology. N.Y. Van Nostrand Reinhold, 1977. 967 pp. $35.00. This massive compilation has some excellent papers but also includes some strange items (e.g., a reprinting of Gardner Murphy's section on William James). Despite the strange organization of the book, it is most useful and contains some excellent reviews of the literature. Unfortunately, I do not think it does the job for parapsychology that similar handbooks have done for other specialized areas in psychology, for example, the Handbook of Social Psychology. Given the cost of the book (which is not that unreasonable given its size), you might prefer to read your library's copy. But you should encourage your library to get the book if it doesn't already have it.

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