

# Science and the Parascience Cults

How can the public separate fact from myth in the flood of occultism and pseudoscientific theories on the scene today? Help is on the way.

BY KENDRICK FRAZIER

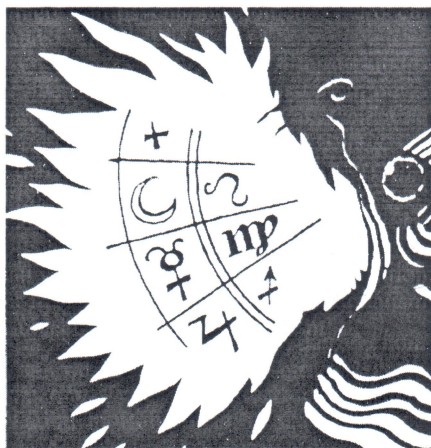
*Ancient astronauts, astrology, the Bermuda Triangle, UFO's, psychokinesis, psychic healing, Kirlian photography, pyramid power, reincarnation, immortality, astral projection, lost continents, plant communication, orgone energy, dianetics, chariots of the gods. Uri Geller, Immanuel Velikovsky, Erich von Daniken, Jeane Dixon.*

Over the decades, the subjects and the proponents of occultism and pseudoscience come and go, and the public's toleration of and fascination with cultist theories shifts like the wind. But by general agreement, the last decade has brought on a flood of interest in what is variously called fringe science, borderline science, pseudoscience, paranormal phenomena, occultism, mysticism, the cults of unreason, the new irrationalism or the new nonsense.

Whatever the label, one has to go only as far as the nearest magazine stand or paperback book rack to find it in abundant quantities. Entire publishing industries revolve around single paranormal claims. Fortunes are made by exploiting the public's fascination with the unknown—or seemingly unknown.

The typical scientist's reactions to all this is usually to throw up his hands in disgust, mutter about the naïveté and gullibility of the general public, turn back to his experiments and forget it, leaving the populace to their own misconceptions, for better or for worse.

The problem is a difficult one for science. The time and effort required to systematically point out the errors in fact and logic in a complex pseudoscientific theory are not trivial. When astronomer Carl Sagan delivered what many considered to be a devastating blow to the catastrophism theories of Velikovsky at the San Francisco meeting of the American Association for the Advancement of Science in February 1974, he lamented the time taken away from his own studies that the preparation of the 57-page paper had required (although he said the experience was worth it). Many scientists consider efforts at debunking beneath their dignity. Others just consider it useless. They argue that no matter what the facts are, there will always be a certain proportion of the



people willing to believe in any claim. And any attempt by scientists to tell why a popularly held idea or theory is not valid inevitably leads to complaints from the wounded of authoritarianism and scientific elitism. All this has made the scientific community reluctant to enter the fray. And this in turn has allowed occultist ideas to go largely unchallenged and unvaluated in the publicly visible arenas in which they flourish.

But now there is something new on the scene—a newly formed group of scholars, scientists and investigators willing and able to enter the debate. The formation of the Committee to Scientifically Investigate Claims of Paranormal and Other Phenomena was announced on April 30 at the meeting of the American Humanist Association in Buffalo, N.Y. Committee co-chairman Paul Kurtz, professor of philosophy at the State University of New York at Buffalo and editor of *THE HUMANIST*, has long been concerned about what he calls the "enormous increase in public interest in psychic phenomena, the occult and pseudoscience."

"Often," he states, "the least shred of evidence for these claims is blown out of proportion and presented as 'scientific' proof. Many individuals now believe that there is considerable need to organize some strategy of refutation. Perhaps we ought not assume that the scientific enlightenment will continue indefinitely; for all we know, like the Hellenic civilization, it may be overwhelmed by irrationalism, subjectivism and obscurantism.

"Perhaps antiscientific and pseudoscientific irrationalism is a passing fashion; yet one of the best ways to deal with it is for the scientific and educational community to respond—in a responsible manner—to its alarming growth."

The committee hopes to function like a consumer information group, serving the public and the news media by providing access to facts by which they can judge the validity of unusual claims.

They will establish a network of people interested in examining such claims, prepare bibliographies of published materials that examine such claims, encourage and commission research by objective and impartial observers in areas where needed, publish articles and books examining claims and convene conferences and meetings.

It will also publish a journal called *THE ZETETIC*, an expansion of a now twice-yearly newsletter edited by Marcello Truzzi, professor of sociology at Eastern Michigan University in Ypsilanti.

Among the nearly 40 members of the new committee are astronomers George Abell, Bart Bok and Carl Sagan; philosophers Brand Blanshard, Antony Flew, Sidney Hook and Ernest Nagel; authors Isaac Asimov, Daniel Cohen, L. Sprague De Camp, Charles Fair, Martin Gardner and Philip J. Klass; psychologists Ray Hyman and B. F. Skinner; and magician James Randi.

Most of the committee members have studied or written extensively on cults and pseudoscience. Many of them have been active critics and debunkers. Nonetheless, the committee co-chairmen insist that the group, though critical, will be open-minded. "We wish to make it clear that the purpose of the committee is not to reject on a priori grounds, antecedent to inquiry, any or all such claims, but rather to examine them openly, completely, objectively and carefully," says Kurtz.

Committee members lament the shortage of critical thinking in today's society. "It is vital that individuals develop some understanding of the effective criteria for judging these claims," says Kurtz. Often scientists who attempt to point out flaws in cultist theories are accused of being close-minded. But, observes committee member L. Sprague De Camp, author of

more than 30 books of science fact and science fiction, "Many people have developed minds that are not only open, but gaping."

Often subjects, considered long put to rest, bob up again years later. "In the history of cultism, one is always experiencing a feeling of *déjà vu*," says De Camp. Astrology is an example of a pseudoscientific idea once considered thoroughly discarded but now newly rearisen to popularity. As Kurtz says, by the year 1900, astrology was widely viewed as a merely historical curiosity. "Few intellectuals or educated persons thought that it contained any truth at all. It existed only on the fringes of society among uneducated folk." Now, he notes, it has made a notable resurgence, "and even supposedly sophisticated people claim to believe in it."

Such concern led to the now famous statement "Objections to Astrology," published in the September/October 1975 issue of *THE HUMANIST* and signed by 186 scientists. The statement stirred far greater public interest than its originators had expected. The formation of the Committee to Scientifically Investigate Claims of Paranormal and Other Phenomena is an outgrowth of that effort.

One indication that the new committee will try to be fair in its approach to its task is that its co-chairman, Truzzi, considers the astrology statement to have been misguided. He says its conclusions weren't wrong—astrology is bunk—but nevertheless the statement, with its august signatories, was an appeal to authoritarianism and a misuse of scientific credentials.

Truzzi brings to the new effort a refreshing sense of fairness and balance and the perspective of a sociologist of knowledge long involved in sociological studies of the occult.

Truzzi cautions his colleagues not to place all the occultist groups into one package. In fact, some of the best debunking literature comes from the occultist groups themselves, because they distrust each other and attempt to show why



their beliefs are right and the other occultist beliefs are wrong.

Truzzi has prepared a taxonomy of occultism, placing cults along a five-point scale with sources of validation ranging from scientific to purely mystical.

The first group he calls proto-scientific occultism. The best example is parapsychology. Here, he says, essentially scientific criteria for demonstration of the anomalies is desired and attempted, but the claims have not been fully integrated into the scientific community (in this case psychology) due to a lack of sufficient evidence that might convince the skeptical established sciences.

The second group is quasi-scientific occultism. An example is astrology. Here "lip service" is paid the search for scientific criteria for validation, but the search for hard evidence is more a stated goal than an actuality.

The third group is pragmatic occultism. Example: magic beliefs. Here, the basic attitude is that the method works and could be demonstrated to the skeptical scientist but that the occultist has no desire to do so.

Groups four and five are shared and solitary mystical occultism. Example: messages from spirits. Here, beliefs center around some personal demonstration of truth without the possibility of empirical validation. Truzzi points out that the final two groups are outside the scientific realm and thus should not be of concern to scientists. That parallels his view that the new committee should be concerned with a cult group only to the extent that it makes scientific claims.

"We tend to tar the proto- and quasi-scientific occultists with the brush of the mystical occultists," Truzzi says. "That is a serious mistake."

Truzzi also points out that what distinguishes science from pseudoscience is not subject matter but methodology. Principles inherent in the methodologies of science include "falsifiability" (one will get a negative result if the hypothesis is not true), replicability (different researchers should be able to get the same results), intersubjective verifiability (agreement between advocate and critic of criteria for verifying), and the logical

principle called Occam's Razor (the simplest of two equally satisfactory explanations takes precedence).

These are long-accepted principles for sifting out valid from invalid ideas within science, and, says Truzzi, "to the degree that those making claims are willing to use the methodologies of science, we must welcome them."

He proposes two additional principles important in dealing with anomalous claims: First, the burden of proof is on those who claim the existence of an anomaly; second, extraordinary proof is necessary for extraordinary claims.

The cults and pseudosciences often have their own peculiar forms of logic. L. Sprague De Camp points to the circular logic often used by pseudoscientists. For example, UFO enthusiasts sometimes start by assuming what they wish to prove. (If flying saucers exist, the reason they haven't been exposed to view is that the government has censored the news; the fact that the government has squelched this information shows that UFOs exist.)

De Camp repeats five criteria for judging UFO contact reports first presented by a University of Denver general science instructor in 1950: that the report be first-hand; that the teller shows no obvious bias or prejudice; that he be a trained observer; that the data be adequate and available for checking; and that the teller be clearly identified.

Philip J. Klass, an editor for *AVIATION WEEK & SPACE TECHNOLOGY* and a member of the new committee, devotes much of his spare time to detailed investigations of UFO sightings. At a symposium on "The New Irrationalisms: Antiscience and Pseudoscience," at the meeting of the American Humanist Association on May 1 in Buffalo, Klass presented case studies of three dramatic UFO reports. The sightings were widely seen and highly intriguing. Those who exploit and exaggerate UFO mysteries for a living, Klass says, would end there and say, "Oh, isn't that mysterious!" Klass investigated the reports further and documented the causes of the three seen phenomena. In case one, it was a Soviet rocket booster reentering the atmosphere and breaking into flaming fragments. Case two was a hoax perpetrated by youngsters who made balloons by heating the air in nine plastic laundry bags and attached railroad flares with time-delay fuses to them which when they went off appeared to observers, both air and ground, to be a fleet of UFO's firing weapons at the surface. In case three, a report by airline pilots of a flaming UFO passing within a few hundred feet of their aircraft turned out to be, as shown by triangulation from numerous ground reports, a large meteor passing through the atmosphere 120 miles north of their planes.

In each case trained observers had their senses deceived. And in each case the observer's mind had filled in missing—and mistaken—details.



Concludes Klass: "In the final analysis, after 10 years of investigating the toughest UFO cases, I can say to you without any reservation that UFOs come from the viewer's imagination when we see something unusual at night."

Klass has written two books documenting and explaining UFO sightings. They have experienced the usual fate of debunking books: small sales and little visibility. The problem is typical. Scientists and other investigators who propose articles and books showing straightforward explanations for claims of strange phenomena are told by publishers that the public doesn't want to read that an enigma is explainable. People want to be intrigued and mystified. The result, say the critics, is that the literature of occultism, with its abundant distortions of fact and logic, far outweighs in quantity and visibility the critical analyses of the same claims. The true information rarely catches up with the misinformation; the facts rarely meet the myths. And all the people who honestly would prefer to know whether widely publicized claims are true or not are deprived of any easy way of learning.

As De Camp says, "If I undertook a thorough analysis of one of Von Daniken's books, the result would be a book several times the size of the original. It would take years of my time; and, if I were mad enough to write it, who then would read it?"

This, despite the fact that, in De Camp's words, "Von Daniken's books are solid masses of misstatements, errors and wild guesses presented as facts, unsupported by anything remotely resembling scientific data."

Larry Kusche, a skeptical investigator who has conducted a detailed investigation of the Bermuda Triangle "mystery," found that most of the "facts" upon which the alleged mystery was premised simply were not true. As he concludes in his book *The Bermuda Triangle Mystery—Solved: "The Legend of the Bermuda Triangle is a manufactured mystery. It began because of careless research and was elaborated upon and perpetuated by writers who either purposely or unknowingly made use of misconceptions, faulty reasoning and sensationalism. It was repeated so many times that it began to take on the aura of truth."*

Kusche's book, which Truzzi considers a model debunking effort, has sold respectably, but it is just one against many books having vastly greater sales that promote the legend. His book is soon to have broader impact, however. It serves as the basis for a NOVA television program, "Pseudoscience and the Bermuda Triangle," to be telecast on PBS the week of June 27.

Of all the modern claims of paranormal phenomena, the one that has had the broadest interaction with the scientific community in the last five years concerns the claimed psychic powers of Uri Geller.

Geller has conducted demonstrations before physicists, undergone tests at the Stanford Research Institute and been the subject of a research report and a restrained editorial in NATURE. Some scientists and journalists have expressed amazement after witnessing Geller's abilities at such things as key bending, duplicating drawings made by others in private,

and restarting stopped watches. Some of these same observers have become skeptics after learning more about his techniques.

The evidence is very strong that they have all been tricked. James ("The Amazing") Randi, a magician who has been investigating Geller and his techniques for the past two years, calls Geller an outright fraud. He provides impressive documentation for the case that Geller's feats are those of a skilled and accomplished magician or conjurer, not a psychic as claimed.

Perhaps the most persuasive line of evidence is that Randi and many other magicians can duplicate all of Geller's feats, using only magicians' tricks. But the case hardly rests there. Randi reveals that Geller has frequently been caught at cheating; that the tests of Geller's skills at SRI were done under incredibly sloppy conditions, often controlled by Geller himself; that in the SRI tests that eliminated the possibility of aid from a confederate, Geller either refused to try the test or failed it; that when Randi helped Johnny Carson and his staff set up the controls on demonstrations Geller performed on "The Tonight Show," Geller failed miserably; that Randi himself has easily fooled some of Geller's strongest advocates, such as British physicist John G. Taylor; that Randi by means of Geller-like tricksterism convinced PSYCHIC NEWS that Randi was a psychic; that in Israel where Geller got his start, even his friends, relatives, former girl friend and former managers swear that Geller is a cheat and a liar; and that Geller's close friend in Israel, Itzhaak Saban, acknowledges that he used to sit in the front row at performances and give Geller hand signals and that Geller then had no "psychic" abilities. Randi elaborates on all these matters in his new book, *The Magic of Uri Geller*.

Randi says he asked Harold E. Puthoff, one of the two SRI physicists who tested Geller, to answer five simple true-false questions about the testing procedures. He has not had a reply. "He will not answer those questions because he cannot without showing that he is not a capable investigator in dealing with Uri Geller."

Randi, like many magicians (SN: 8/3/74, p. 78), rebukes scientists for assuming they have the skills to assess the validity of psychic demonstrations. The opposite is the case. Scientists, with "their straight-line thinking," are among the very easiest types to fool. "Wherever there is any possibility of . . . chicanery being an element in any experimental process, an experienced conjuror must be called in," says Randi. "And not just any conjuror, but one whose specialty is just that particular brand of chicanery."

He also chastizes the media for reporting only those demonstrations in which Geller is successful, ignoring his failures.

*Continued on page 350*

## Debunking Books

*Here is a brief selection of books that critically analyze cultist ideas and theories and that are considered responsible and worthwhile to the interested reader.*

- CHRISTOPHER, MILBOURNE, *Mediums, Mystics and the Occult*. T.Y. Crowell, New York, 1975.
- DE CAMP, L. SPRAGUE & DE CAMP, CATHERINE C., *The Ancient Engineers*. Ballantine, New York, 1974 (reprint of 1960 book).
- EVANS, CHRISTOPHER, *Cults of Unreason*. Farrar, Strauss, and Giroux, 1973.
- FULLER, URIAH, *Confessions of a Psychic*. Karl Fulves, Teaneck, N.J., 1975. An expose of Uri Geller's effects by a rival. (Available from Karl Fulves, Box 433, Teaneck, N.J., by sending \$3).
- GARDNER, MARTIN, *Fads & Fallacies in the Name of Science*. Dover Publications, New York, 1957.
- HANSEL, C.E.M., *ESP: A Scientific Evaluation*. Scribner, New York, 1966.
- JASTROW, JOSEPH, *Error & Eccentricity in Human Belief*. Dover, New York.
- KLASS, PHILIP J., *UFOs Explained*. Random House, New York, 1975.
- KUSCHE, LAWRENCE DAVID, *The Bermuda Triangle Mystery—Solved*. Warner Books, New York, 1975.
- RANDI, THE AMAZING, *The Magic of Uri Geller*. Ballantine, New York, 1975.
- SILVERBERG, ROBERT, *Scientists and Scoundrels: A Book of Hoaxes*. T.Y. Crowell, New York, 1965.
- THIERING, B., & CASTEL, E. (eds). *Some Trust in Chariots: Sixteen Views on Erich von Daniken's "Chariots of the Gods."* Popular Library, New York, 1975.

\* \* \* \* \*

Subscriptions to THE ZETETIC, the committee's new journal of research into occultisms, are available by sending a check for \$10 to 923 Kensington Ave., Buffalo, N.Y. First issue this summer.

# CORVUS 500

## SCIENTIFIC CALCULATOR



with Reverse  
Polish  
Notation

**ONLY  
\$84.95**

*More calculating power than the HP21  
More memory registers than the SR51  
Get the best for less!*

This new entry in the Scientific Calculator field offers the best package available today . . . the efficiency and simplicity of Reverse Polish Notation, a powerful 4-register stack with 9 memory registers, a 12 digit display for exacting accuracy, (scientific format of 10-digit mantissa, 2-digit exponent), total capability in scientific functions plus additional capabilities in statistics, conversions and business.

Combining ease of entry with the most versatile keyboard available, the best viewing angle, brightness and readability with the most calculating power available . . . the Corvus 500, at its \$84.95 price is the best buy of any comparable equipment on the market today.

### PROVE IT TO YOURSELF!

Try the Corvus 500 for 10 days . . . FREE! Prove to yourself that it meets your every calculating need. If you are not satisfied, for any reason, your full purchase price will be refunded.

### The Corvus 500 is Complete!

Everything you need to use your new Corvus 500 is in the package:

- ✓ Rechargeable nickel Cadmium Batteries
- ✓ Adaptor/Charger
- ✓ Soft Carrying Case

### ✓ Instruction Manual

The compact, contoured case is 5½" long, 3" wide, 1¼" high and weighs only 8 oz.

### The Corvus 500 is guaranteed!

The Corvus 500 is warranted against defects in materials and workmanship for a period of one year from the date of delivery. The Corvus 500 is warranted both by the manufacturer and by Global, a company with 18 years of outstanding service to the data field.

## TOLL-FREE ORDERING

**NATIONAL: 800/621-2307**

**ILLINOIS: 800/972-2668**

Call or write today! Both phone and mail orders accepted. (5% DISCOUNT WITH CHECK OR MONEY ORDER). BankAmericard or Master Charge Cards accepted. Illinois residents add 5% Sales Tax. Add \$2.50 for postage and handling. For mail orders, complete this coupon:

**GLOBAL** Division of Global Tabulating Co., Inc.  
1231 W. Washington Blvd., Chicago, Ill. 60607

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cash Payment: Check or Money Order enclosed. I understand that cash payment entitles me to a 5% Discount.

BankAmericard  Master Charge

Credit Card No. \_\_\_\_\_ Expiration Date \_\_\_\_\_

Signature: \_\_\_\_\_

## . . . Parascience

Geller and other supposed psychics, Randi says, have been aided by four special assumptions believers and even "objective" experimenters accept in judging psychics' abilities: No real psychic can produce phenomena upon command or upon a regular basis (thus when they fail, that's considered proof that they're genuine); that a psychic sometimes has to cheat when his psychic powers temporarily wane (so when he's caught, the cheating is forgiven); unless the detractor can explain *all* the phenomena exhibited, his case is not proved; and psychics cannot be expected to produce results when skeptics are present or when controls inhibit the psychic's sense of being trusted.

"If we were to try applying similar rules to, say, the science of astronomy, we would be laughed out of the running," says Randi.

\* \* \* \*

With the diversity and complexity of anomalous claims on the scene today, how well will the new committee succeed in its task of helping distinguish between the bogus and the valid? Much depends on the committee's acceptance by the public and the scientific community. That, in turn, will depend greatly on how well it achieves a balance between skepticism and receptivity. It must avoid what committee member Ray Hyman, professor of psychology at the University of Oregon, notes has been characteristic of too many past debunking efforts (mainly books) that take a holier than thou attitude, polarize potential readers and are as irresponsible with facts and arguments as those they criticize.

A good debunking effort, according to his standards, treats believers as just as moral, honest, intelligent and well meaning as disbelievers. "The problem is not to tell believers how stupid they are. The problem is, rather, to understand how our minds work to create conviction, even when the available facts may be inadequate to sustain that conviction."

It must give more than lip service to Kurtz's avowal for the need to maintain an open mind: "I would insist that it is essential that scientists be willing to investigate claims of new phenomena. Science cannot be censorial and intolerant, nor cut itself off from new discoveries by making judgments antecedent to inquiry."

On the other side, those making claims, and the public, must acknowledge that scientific acceptability requires that such research, as Kurtz emphasizes, "be responsible and carefully conducted, that the evidence not be outstripped by conjecture, nor the conclusions based upon the will to believe."

Or, as Einstein once wrote, "Imagination is good but it must always be critically controlled by the available facts. There is no distinct philosophical approach which leads directly to truth."