

ELECTRONIC NEWSLETTER OF THE GEORGIA SKEPTICS

VOLUME 5, NUMBER 5
SEPTEMBER/OCTOBER 1992

CONTENTS

PSEUDOHISTORY, by L. Sprague de Camp
FDA CLINIC RAID PANICS MAVERICK MEDIC'S COMMUNITY, Reprinted from NCAHF
Newsletter
THE STUDY OF PSEUDOSCIENCE AND THE PARANORMAL IN THE UNIVERSITY CURRICULUM,
by Keith M. Parsons
THE LOST CONTINENTS OF MU AND LEMURIA, by Hugh Trotti

Georgia Skeptics is a non-profit local group which shares a common philosophy with the national organization CSICOP (Committee for the Scientific Investigation of Claims of the Paranormal), and seeks to promote critical thinking and scientific inquiry as the most reliable means to gather knowledge of the world and universe. Like CSICOP, Georgia Skeptics encourages the investigation of paranormal and fringe-science claims from a responsible, scientific point of view, and helps disseminate the results of such inquiries.

Material from the Georgia Skeptic newsletter may be used by anyone, provided attribution is given to the author and the organization.

For further information, contact the Georgia Skeptics through the Astronomical Society of the Atlantic BBS at (404) 321-5904, or:

Becky Long, President
2277 Winding Woods Dr.
Tucker, Georgia 30084
(404) 493-6847

Joining the Georgia Skeptics organization is encouraged because membership dues help us to disseminate the results of skeptical inquiries to the public and to hold educational events. Yearly dues are \$17.50 for individual memberships, \$21.00 for families, and \$12.50 for full time students.

PSEUDOHISTORY

by L. Sprague de Camp

L. Sprague de Camp has generously allowed us to quote from his article (copyright 1981 by the Terminus, Owlswick, & Ft. Mudge Electrick Street Railway Gazette, September 1981 issue of the

magazine Amra: Swordplay & Sorcery, p. 15):

If man's survival depended on holding only correct beliefs, the species would long since have joined the mammoth and the tyrannosaur. So long as men's beliefs in things that are not so do not lead to such follies as jumping out a window thinking one can fly, people manage.

In history, widely-held 'tain't-so stories include the creation myth of the ancient Hebrews; the legends of Atlantis and Lemuria; tales of the founding of the native Amerind civilizations by shiploads of Egyptians, Phoenicians, Hebrews, Sumerians, Nigerians, Celts, Norsemen, or Japanese; and claims that civilization was initiated by little green men from some other planet. Besides these whigmaleeries, several widespread beliefs about well-established historical matters can easily be confuted. But people believe them anyway; Robert Howard [author of the original "Conan" stories - Ed.] embraced several. He should not be blamed, since he was not in a position to investigate the questions thoroughly. Let me list some of them:

1. That the ancient Egyptians were solemn mystics, given to contemplating Fate and Eternity. This tradition seems to have arisen in the eighteenth century, when savants began to puzzle over Egyptian hieroglyphics; while Giuseppe Balsamo, alias Count Cagliostro, called himself the "Grand Copt" in beguiling his suckers. Mme Blavatsky, before she discovered her Tibetan Mahatmas, claimed to be the mouthpiece of a society of Egyptian Adepts. In the early twentieth century, Oswald Spengler, in his *Decline of the West*, reinforced this picture by portentous remarks about the brave Egyptian soul.

Like other peoples, the ancient Egyptians included folk of all temperaments and personalities. But if Egyptian culture had a bias, it was towards the jolly extrovert, fond of beer, games, parties, and picnics, with a keen sense of humor - which any visitor to modern Egypt will find still in force.

2. That the Aryans - meaning the Indo-European speakers who in the second millennium B.C. conquered vast areas from Portugal to India, and imposed their languages and some other culture traits upon the conquered - were tall, blond, blue-eyed Nordics, who won by superior courage and other moral virtues.

As far as the record goes, the original Aryans, semi-nomadic cattle-raising barbarians, spread out from somewhere in Poland or the Ukraine. They owed their success to a terrible new secret weapon: The horse-drawn chariot. Their racial type is not known; but it was probably the Alpine, prevailing in that region today. Anyway, the Aryans soon disappeared as a

distinct racial ethnoses by intermarriage with the conquered.

3. That Classical or Graeco-Roman war galleys were rowed by slaves. This belief seems to have been floated by Lew Wallace, in his novel *Ben-Hur*. Now the idea is fixed in the minds of the many who saw a movie version of the novel, either the silent film of the 1920s with Ramon Navarro, or the more recent remake with Charlton Heston.

While the Graeco-Roman world saw slavery perhaps more prevalent than anywhere else in history, galley-rowing was one job that was not entrusted to slaves. The rowers were not only free men but also fairly well-paid ones. The only exception to the rule was that a hard pressed city-state might offer its slaves their freedom if they would serve as rowers and the city-state won the war. Galley slavery seems to have been a Renaissance invention. It began in the fifteenth century, when the Christian and Muslim powers were raiding one another across the Mediterranean and capturing more prisoners than they knew what to do with. See Lionel Casson: *The Ancient Mariners and Ships and Seamanship in the Ancient World*. 4. That the Picts were small, dark people, conquered by big, blond Celts. Howard talks about this in his letters to Lovecraft.

The idea of small Picts probably originated in a medieval history of Norway, which described them as pygmies who lived in underground shelters, in which they hid when, at midday, they lost their strength. Kipling exploited the idea in his stories "A Centurion of the Twentieth," "On the Great Wall," and "The Winged Hats." Howard paraphrased Kipling's poem *A Pict Song*, printed with

these stories, in his own *Song of a Mad Minstrel*. Early British archaeologists, finding the remains of the Celt's underground storage chambers, took these as confirmation of the Norse legend. Present evidence indicates that, so far from Britain's having seen the conquest of small brunets by blond giants, the fact was probably the other way round. The swarthy shrimps beat the blond giants at least twice: first when the Beaker Folk came, probably from Spain around 1700 B.C.; next when the Romans conquered England in A.D. 43. As far as we can tell, the Picts were racially much the same as the modern Scots, who are largely descended from them. It is not settled whether the Picts spoke a Celtic tongue, or another tongue of the Indo-European family, or a pre-Indo-European language of another family, as is the case with Basque and Etruscan. See F.T. Wainwright: *The Problem of the Picts*. 5. That Rome fell because her people became decadent and indulged in orgies. A movie, *The Fall of the Roman Empire*, played on this theme, tying the fall of the Empire

to the breakdown after Marcus Aurelius. But the Empire kept going quite vigorously for two centuries after Marcus.

If by "decadent" you mean "doing things that the person using the word disapproves of or considers immoral," then when the Romans were most decadent, in the first centuries B.C. and A.D., they conquered the Mediterranean world. When they reformed their ways, recovered some of their earlier dignity, adopted Christianity, and abolished gladiatorialism, then the barbarians overcame them. 6. That the Saxons conquered England because the native Britons had become soft and unwarlike under Roman rule. But compare the comparative speed and ease with which the barbarians - Teutons from Germany and Sweden, Alans from Russia, and Huns from Mongolia - overran Gaul, Italy, Spain, and North Africa in the fifth century, with the long time it took the Saxons to push the Britons into Cornwall, Wales, and Scotland. Also consider the greater degree of replacement, in Britain, of the original population by the invaders than on the Continent. It is plain that, whereas the Continental provinces of the West Roman Empire accepted their new rulers with little fuss, the Britons put up a terrific fight.

7. That the Vikings wore horns or wings on their helmets. Somewhere in Dark Age literature is an allusion to the Scandinavian raiders as "Winghats," which seems to have given rise to the whole fantasy. My late friend Fletcher Pratt said that Paul de Chaillu, in his two-volume treatise *The Viking Age* (1889), explained the horned helmets. Actually, du Chaillu alludes only briefly to horned helmets. He bases his argument on two lines of evidence. One is a series of prehistoric rock carvings at Bohuslan, Sweden, which show crudely scratched humanoid figures with what look like horns. These pictographs could represent some sort of horned demons or satyrs. The other evidence is two horned bronze helmets in the British Museum. (Most old iron helmets have rusted away to nothing.) But one, dredged out of the Thames at London, is considered Celtic, of the first century B.C. The other, from the Italian heel, looks like and probably is a Greek helmet of the closed Corinthian type. Neither has aught to do with Vikings.

I suspect Richard Wagner promoted this tradition, assuming that he clad Wotan and other characters in his Ring operas in winged headpieces, as is done nowadays. A precise tracking of this tradition of horned and winged helms through the nineteenth century is a possible subject for a Ph.D. thesis. To judge from the few Viking carvings and reliefs showing helmets, the Vikings were one of the few pre-gunpowder peoples who did not wear such things on their helmets. These headpieces were simple steel caps, sometimes with nose, eye, or neck guards. In practice, such projections would be more a hindrance than a help.

A blow, if it did not carry away the ornament, might knock the helmet down over one eye. In the days of armor, a king or noble often had two suits: a plain one for serious fighting, and a suit of "parade armor," with fancy decorations and crests, for putting on a show to impress the impressible. The movie *The Vikings*, with Kirk Douglas, recently rerun on TV, put helmets of the right kind on the actors, but it will be long before artists and writers stop giving Vikings helmets like that of Hagar the Horrible. Likewise they still show Amerinds greeting Columbus in the Bahamas wearing Plains Indians war bonnets. This is as realistic as giving them top hats and tailcoats. Of course, all this is no reason why Conan should not wear a horned helmet, as he does in several stories. Since the Catastrophe destroyed all records of the Hyborian Age, who can prove he didn't?"

That Rome fell because her people became decadent and indulged in orgies. A movie, *The Fall of the Roman Empire*, played on this theme, tying the fall of the Empire to the breakdown after Marcus Aurelius. But the Empire kept going quite vigorously for two centuries after Marcus. If by "decadent" you mean "doing things that the person using the word disapproves of or considers immoral," then when the Romans were most decadent, in the first centuries B.C. and A.D., they conquered the Mediterranean world. When they reformed their ways, recovered some of their earlier dignity, adopted Christianity, and abolished gladiatorialism, then the barbarians overcame them.⁶ That the Saxons conquered England because the native Britons had become soft and unwarlike under Roman rule. But compare the comparative speed and ease with which the barbarians - Teutons from Germany and Sweden, Alans from Russia, and Huns from Mongolia - overran Gaul, Italy, Spain, and North Africa in the fifth century, with the long time it took the Saxons to push the Britons into Cornwall, Wales, and Scotland. Also consider the greater degree of replacement, in Britain, of the original population by the invaders than on the Continent. It is plain that, whereas the Continental provinces of the West Roman Empire accepted their new rulers with little fuss, the Britons put up a terrific fight.⁷ That the Vikings wore horns or wings on their helmets. Somewhere in Dark Age literature is an allusion to the Scandinavian raiders as "Winghats," which seems to have given rise to the whole fantasy. My late friend Fletcher Pratt said that Paul de Chaillu, in his two-volume treatise *The Viking Age* (1889), explained the horned helmets. Actually, de Chaillu alludes only briefly to horned helmets. He bases his argument on two lines of evidence. One is a series of prehistoric rock carvings at Bohuslan, Sweden, which show crudely scratched humanoid figures with what look like horns. These pictographs could represent some sort of horned demons or satyrs. The other evidence is two horned bronze helmets in the British Museum. (Most old iron helmets have rusted away to nothing.) But one, dredged out

of the Thames at London, is considered Celtic, of the first century B.C. The other, from the Italian heel, looks like and probably is a Greek helmet of the closed Corinthian type. Neither has anything to do with Vikings. I suspect Richard Wagner promoted this tradition, assuming that he clad Wotan and other characters in his Ring operas in winged headpieces, as is done nowadays. A precise tracking of this tradition of horned and winged helms through the nineteenth century is a possible subject for a Ph.D. thesis. To judge from the few Viking carvings and reliefs showing helmets, the Vikings were one of the few pre-gunpowder peoples who did not wear such things on their helmets. These headpieces were simple steel caps, sometimes with nose, eye, or neck guards. In practice, such projections would be more a hindrance than a help. In practice, such projections would be more a hindrance than a help.

L. Sprague de Camp, as well as being a famous science fiction writer, has written some very good non-fiction. Among these are *Lost Continents: The Atlantis Theme in History, Science, and Literature* (1970 Dover paperback), and two books recently rereleased by Barnes and Noble booksellers: *Great Cities of the Ancient World* (Dorset Press, 1972), and the excellent *The Ancient Engineers* (available in a Ballantine 1987 paperback). These are only a few from his prolific pen. His fiction, in addition to being imaginative, can paint a very realistic setting for the tale, as in his short story "A Gun for Dinosaur" (from *The Best of L. Sprague de Camp*), which also contains very good advice if one must go hunting for big game. His humor can be amusing, as in the basic idea of the book *The Great Fetish*, in which the hero is put on trial for teaching theories which deny the Church of Evolution on a planet far away. He has been instrumental in bringing back the "Conan" fiction of Robert Howard, a "sword and sorcery" writer of adventure tales whose early death cut short a talented career. We wish Mr. de Camp good luck and good living on his move to Texas. - H.H. Trotti

FDA CLINIC RAID PANICS MAVERICK MEDIC'S COMMUNITY,
Reprinted from NCAHF Newsletter

Editor's Note: Atlanta's newly resurrected *Great Speckled Bird* recently carried an article entitled "Raid!", by Alexander G. Schauss, Executive Director of Citizens for Health. The article concerns an FDA raid on an alternative-medicine clinic in Kent, Washington, which was captured on videotape by a patient. The tape, which shows armed agents bursting into the clinic, has sparked an angry reaction from advocates of alternative-medicine.

A number of Hollywood celebrities have joined the protests against the raid, including Sissy Spacek, who says she uses homeopathic remedies at work and at home.

The National Council Against Health Fraud sheds some light on the FDA Raid, and the credentials of Alexander Schauss, in the following article, published in the NCAHF Newsletter, July/August 1992:

On May 8, a frantic plea by Alexander G. Schauss (see "Diet & Behavior "Expert" Fakes his Credentials," NCAHF Newsletter, January-February 1989) went through the communications network of organized "alternative" medicine. FDA agents and King County Sheriff's office personnel had raided the Kent, Washington, medical office of Jonathan Wright, MD, on May 6. The FDA seized illegally imported drugs, unapproved medical devices, and other items at the clinic. Sheriff's officers broke down the door and entered with guns drawn when people inside refused to open the door, which is police policy since emotions can run high at such times and irrational behavior can be anticipated (Schauss claims that no attempt was made to knock on the door).

Wright is a celebrity maverick. He is a member, and former chairman, of the Board of Governors of the National Health Federation, the leading anti-consumer protection lobbying group in the country. Supporters were asked to FAX White House Chief of Staff, Sam Skinner, on Wright's behalf, who Schauss said had dedicated a special FAX line to receive details on this raid. (Note: NCAHF responded by faxing Skinner the message that the FDA has been criticized by Congress for lack of enforcement, and should not be interfered with now that it is doing its job. The case should stand on its own merit, and not be politically fixed. Further, we pointed out that the influx of mail should be interpreted as an indication of just how large and well-organized quackery has become.)

The "medical freedom" advocates have made an issue of the guns drawn aspect of the raid and have managed to attract

Continued on Page 8

@titcont = RAID (Cont.)

some media attention. Paul Harvey covered the incident in a way sympathetic to Wright. (Harvey also wrote against FDA regulation of vitamins in his newspaper column, and advertises health food products, such as Kyolic garlic, which reveals his biases.)

Comment: The Wright affair has called attention to the

"alternative" medicine community in western Washington. On June 8, NCAHF President Dr. William Jarvis was called to KING-TV in Seattle for a taped interview on the matter. Dr. Herbert provided input by satellite. A key part of Wright's practice employs a device called the Computron, a galvanic device much like the Dermatron, Interro, Vega, and others, which measure electrical resistance on the skin. Readings are greatly affected by the amount of pressure on the probe, skin moisture and how long they are held in place. A unique feature of the Computron is a metal plate set in line which functions like the "well" on a radionics device. Substances which correspond to extracts given as drops on the patients' tongues are placed on the plate to test electornically for "allergies" (actually, ill-defined maladies that appear to be neurotic disorders).

Wright was back in business soon after and appeared to be enjoying the attention.

THE STUDY OF PSEUDOSCIENCE AND THE PARANORMAL IN THE UNIVERSITY CURRICULUM

by Keith M. Parsons

Do we live in an Age of Science? This question, like "Is there intelligent life on Earth?" surely seems to be intended facetiously or ironically. Could anything be more obvious than that our lives are influenced, down to the smallest details, by the results and methods of the natural sciences? However, if the question is taken as a query about the pervasiveness of scientific attitudes and habits of thought, the answer is hardly obvious. There are many indications that scientific thinking, when it doe-s occur, is a highly compartmentalized activity. This conclusion is supported by numerous statistics relating to the prevalence of paranormal and pseudoscientific beliefs.

A recent Gallup poll reports some remarkable results (Gallup and Newport, 1991): One fourth of adult Americans believe in ghosts; one in four report telepathic experiences; one in six claim to have communicated with the dead; more than half believe in the Devil; one in ten claim to have talked with the Devil; one in seven claim to have seen a UFO; one in four believe in astrology.

Belief in the paranormal is high among university students. Two New Zealand researchers report that 80 percent of the students in their psychology classes believe in telepathy and 30 percent claim to possess psychic powers (Marks and Kammann, 1980). A poll of students at Concordia University in Montreal, Canada, showed that 85% of students expressed belief in ESP; 69% in UFO's; 55% in

astrology; 43% in ghosts; 55% in the Bermuda Triangle; 46% in Erich von Daniken's theories; 49% in psychic surgery; 43% in miracles; 46% in biorhythms; and 69% in reincarnation (Gray, 1984).

Another study indicates that more than 30% of American high school biology and life-science teachers would rather teach creationism than evolution (Eve and Dunn, 1989). Further, 43% believe that Noah's Flood was a real event; 25% hold that humans were created much in their present form by God within the last 10,000 years; 29% expressed belief in psychic power and the ability to contact the dead (Eve and Dunn, 1989).

The above data indicate that paranormal and pseudoscientific beliefs are remarkably common, even among those groups that have had an above-average level of scientific education. Yet it has been convincingly shown that many of the above beliefs do not stand up under careful scrutiny (Kurtz, 1985; Strahler, 1987; Klass, 1983; Dean, 1987). Hence, the scope of scientific thinking seems to be oddly circumscribed. When it comes to building bridges, designing computers, developing new medicines, or deciphering the structure of a protein or galaxy, science is given free reign. When it comes to other areas, however, scientific methods are either ignored altogether or, as in arguments of "scientific creationists," are reduced to a travesty (Kitcher, 1981).

What, if anything, should universities be doing to encourage the wider application of scientific thinking? This question, however, and indeed the whole discussion so far, begs a much more fundamental question: Is there really anything here to teach? It is now widely recognized that there is no such thing as a single, unique, ahistorical, universally-applicable, Scientific Method (Bernstein, 1983). The efforts of foundationalist philosophers to formulate and to justify such a Method have been sharply criticized (Rorty, 1979). If the concept of a universal, foundationally-grounded Scientific Method is thus a myth, what would the inculcation of "scientific thinking" consist of?

First of all, even if there is no Scientific Method, it does not follow that scientific attitudes are unimportant or that the characteristic goals of science are unattainable. The scientific attitude and its concomitant goals are well summarized by Frederick Grinnell:

What distinguishes the scientific attitude from other attitudes is the assumption of universal, intersubjective validity...If this goal is to be reached, it must be possible, in principle, for an investigator's observations and hypotheses to be studied and verified intersubjectively. Therefore,

individual investigators do science with the expectation that other investigators will be able to make the same observations and reach the same conclusions (Grinnell, 1987, p. 124).

Popperians might wish to substitute "corroboration" where Grinnell talks about verification, but they would certainly agree about the importance of intersubjectivity.

Further, the lack of a Scientific Method does not mean that there are no scientific methods. Science progresses and routinely employs a variety of methods that have been very successful in promoting consensus among qualified investigators in areas where those methods are applied (See Giere, 1984, for an elementary exposition of many such methods).

But what about those methods themselves? What authority do they have over and above their sociological status as the methods that scientists (presently) accept? If these methods cannot be epistemically grounded, then they would seem to have no authority over anyone not inclined to accept them. Further, the goal of intersubjective verifiability is not shared by all. Indeed, many proponents of "New Age" doctrines specifically repudiate intersubjectivity and its concomitant notion -of an objective, publicly-available reality. Thus, when pressed by skeptics on the legitimacy of her belief in, say, trance channeling, Shirley MacLaine will retort that such a belief is "her reality (Gordon, 1989, p. 406)." Is it not, then, a simple case of intellectual imperialism to insist that the world's Shirley MacLaines march to the beat of science? Is there not a danger that universities will become involved in such imperialism--that they will become apologists for a scientific ideology?

Here an important distinction needs to be made. Pseudoscientists, such as the "scientific creationists," crave the respect of scientists. They are at pains to emphasize their own scientific credentials and insist that their doctrines are scientifically superior to the accepted "dogmas" of "orthodox science (see Gish, 1973, e.g.)." They strongly affirm scientific goals and attitudes. Indeed, they often liken themselves to the great persecuted scientists of the past--Galileo, Copernicus, Pasteur--and explain opposition to their views as the effect of prejudice or stupidity (Gardner, 1952, pp. 12-13). In other words, pseudoscientists typically think that they are the ones doing good science and it is their opponents who have abandoned scientific ideals.

To the extent that pseudoscientists claim loyalty to accepted scientific ideals, it is fair to judge them by the standards that scientists presently take to embody or

promote those ideals. If, on the other hand, they reject the standards presently employed within the scientific community, they have the burden of justifying new standards. Either way, there is no need to dig any deeper into the issue of the epistemic grounding of scientific methods. Those who would dance with scientists must pay the methodological piper: Either they must agree to be judged by the standards that currently guide scientific inquiry or they must justify some new set of such standards. The only alternative is to admit that their theories should not be considered scientific.

What, though, about those who simply reject the scientific worldview with its concomitant attitudes, goals, standards, and presuppositions? For instance, could there be a scientific critique of the New Ager's claim that reincarnation is "her reality?" This claim is not very clear, but if we interpret it as it seems to be intended, as entailing a radical species of relativism, a philosophical critique might be in order. Many forms of relativism have been subjected to cogent philosophical criticisms (Siegel, 1987).

However, so long as the New Ager is satisfied with the claim that reincarnation is only real for her (whatever that might mean), it is hard to see how a scientific critique is possible. After all, whatever the "real for me" claim means, it clearly seems to repudiate the fundamental aim of scientific knowledge identified by Grinnell--intersubjective verifiability. To criticize a claim that repudiates intersubjective verifiability on the grounds that it is not intersubjectively verifiable is clearly to beg the question.

There is an ethical consideration here also. Does it not smack of intolerance, is there not at least a whisper of persecuting zeal in the criticism of someone who is only making modest claims of "her reality?"

The problem is that New Agers seldom hold to such modest claims. Usually they are quite willing to show (for an appropriate fee) how "their reality" can become "your reality." That is, they frequently slip from claiming that something is "their reality" to claiming that it is reality, period. The marketing of New Age techniques, philosophies, and paraphernalia is big business. Indeed, as media critic Jay Rosen argues, the ideals of the New Age movement, with its promises of instant personal transformation, are identical to those of American consumer culture:

The promise of instant transformation is repeated with nauseating regularity in television ads, when for example, a woman with lifeless hair and a miserable love life becomes in the space of a few seconds a glamorous blonde with a

rich and handsome man on her arm. As theories of how personal change occurs, the New Age movement and the consumer culture are nearly identical. Both promise complete and total transformation, but only if you buy the right product or learn the right technique (Rosen, 1989, p. 4-02).

With New Agers thus involved in a soteriological hard sell, instruction in the scientific evaluation of New Age claims would seem to be a valuable form of consumer education. A dose of scientific skepticism might be very useful to a cancer patient whose New Age friends urge her to abandon chemotherapy for homeopathy or to a group of taxpayers whose local police department is about to hire a "psychic investigator."

I conclude that educating students in the scientific evaluation of paranormal and pseudoscientific claims need not involve universities in intellectual imperialism or in teaching intolerance. The scientific criticism of pseudoscience invokes those very standards that pseudoscientists themselves endorse, or would endorse if they consistently followed their professed principles. The scientific evaluation of paranormal claims, such as those made by New Agers, serves as an antidote to gullibility and makes for a more educated consumer in the marketplace of ideas.

What, then, are the specific pedagogical means whereby paranormal and pseudoscientific beliefs should be addressed in the university curriculum? In the view of the present author, the ideal locus for such a study would be in the context of a course in critical thinking, where "critical thinking" is defined to encompass informal logic and the principles of scientific reasoning. Usually such courses are housed in Philosophy departments, but they could conceivably thrive in departments of English, Rhetoric, Psychology, or any of the natural sciences.

Naturally, the content of critical thinking courses will vary, but the topics covered often include the following: basic inductive logic (probability, analogy, inductive generalization, etc.), scientific reasoning (hypothesis confirmation, causal arguments, etc.), the construction and evaluation of arguments, informal fallacies, rhetoric, and the use and misuse of language. Each of these topics provides an avenue for the examination of paranormal and pseudoscientific beliefs and of the reasoning employed by advocates of those beliefs. Indeed, a number of texts employed in such courses already adopt such an approach (Giere, 1984; Moore, 1989). Thus, K.D. Moore uses exercises concerning "psychic surgery" to teach the principles of hypothesis evaluation and has students perform a "remote viewing" experiment to illustrate how

coincidence can be mistaken for causation (Moore, 1989, p. 119, pp. 143-5).

In critical thinking courses, paranormal and pseudoscientific beliefs are useful chiefly because they supply a profusion of negative examples, i.e., instances of fallacious reasoning or the misinterpretation of rational principles. For instance, proponents of shaky hypotheses will often attempt to insulate their hypotheses from empirical falsification by surrounding them with a protective belt of ad hoc auxiliary hypotheses. J.W. Grove describes how this is done in parapsychological research:

First, a standard argument of parapsychologists like [J.B.] Rhine and [S.G.] Soal and their associates over the years has been that the attitude of the experimenter strongly influences the psychic subject...Thus, when the subject has a bad day, that is, for example, consistently fails to guess the order in which sequences of ESP cards are dealt in a manner statistically better than chance, there is a handy excuse. Experimenter attitude is said to be especially important when he or she is not a believer, -and observers who are brought in to test the alleged effects...invariably produce a diminishing in the psychic's powers. Secondly, the acknowledged fact that psychics almost always show a marked decline in ability over time (suffer "burnout") was explained by Rhine as evidence of the 'elusiveness' of psi (his term for psychical phenomena). Thirdly, the phenomenon of a subject 'scoring a hit' (guessing correctly) on either the card ahead or the card behind, but not hitting the target, that is, not correctly guessing the card actually dealt, is described as 'forward or backward displacement,' as if this designation provides an explanation of something (Grove, 1989, pp.148-9).

Similar tactics are practiced in astrology, as the remarkably candid confessions of a professional astrologer reveal:

If I find a very meek and unaggressive person with five planets in Aries, this does not cause me to doubt that Aries means aggression. I may be able to point to his Pisces Ascendant, or to his Sun conjunct Saturn, or to his ruler in the twelfth house; and, if none of these alibis are available, I can simply say that he has not yet fulfilled his Aries potential. Or I can argue (as I have heard argued) that, if a person has an excess of planets in a particular sign, he will tend to suppress the characteristics of that sign because he is scared that, if he reveals them, he will carry them to excess. But if on the next day I meet a very aggressive person who also has five planets in Aries, I will change my tune: I will say that he had to be like that because of his planets in Aries (D. Hamblin, quoted in Dean, 1987, p. 173, emphasis in original).

Clearly, such tricks can be used to explain away practically any contrary evidence. Insofar as we wish to warn students against such tricks, examples drawn from the realm of pseudoscience and the paranormal provide invaluable pedagogical aids. Pseudoscience and the paranormal provide a multitude of (literally) textbook illustrations of traps and pitfalls to be avoided by anyone who wants to think scientifically.

Finally, and this is hardly an unimportant consideration, students tend to be much more interested in learning scientific thinking when it is tied to examples drawn from pseudoscience and the paranormal. For instance, students who would be bored by an abstract discussion of Darwinism are fascinated by the debate between creationists and evolutionists. The principles of scientific reasoning come alive when placed within such a controversy.

I conclude from the above reasons that the critical scientific examination of pseudoscientific and paranormal claims should have a prominent part in the university curriculum. Such a study will not involve the university in promoting intellectual imperialism or intolerance. Indeed, I think that, on the contrary, skill at critical thinking is a powerful antidote to dogmatism and bigotry. Hence pedagogical techniques that promote such thinking must be beneficial.

BIBLIOGRAPHY OF WORKS CITED

Bernstein, Richard J. *Beyond Objectivism and Relativism*. Philadelphia: The University of Pennsylvania Press, 1983.

Continued on next page

Dean, Geoffrey. "Does Astrology Need to be True?" (Part 1). *The Skeptical Inquirer*. Vol. 11, #2, Winter, 1986-87, pp. 166-84.

Eve, Raymond A., and Dunn, Dana. "High School Biology Teachers and Pseudoscientific Belief: Passing it On?" *The Skeptical Inquirer*. Vol. 13, #3, Spring, 1989, pp. 260-3.

Gallup, George H., Jr. and Newport, Frank. "Belief in Paranormal Phenomena Among Adult Americans." *The Skeptical Inquirer*. Vol. 15, #2, Winter, 1991, pp.137-46.

Gardner, Martin. *Fads and Fallacies in the Name of Science*. New York: Dover Publications, Inc., 1952.

Giere, Ronald. *Understanding Scientific Reasoning*.
New York: Holt, Rinehart and Wilson, 1984.

Gish, Duane T. "Creation, Evolution, and the Historical Evidence." *The American Biology Teacher*. March, 1973, pp. 132-40. Reprinted in Michael Ruse, ed. *But is it Science*. Buffalo: Prometheus Books, 1988, pp. 266-82.

Gordon, Henry. "The Shirley MacLaine Phenomenon." *The Skeptical Inquirer*. Vol. 13, #4, Summer, 1989, pp.405-7.

Gray, Thomas. "University Course Reduces Belief in Paranormal." *The Skeptical Inquirer*. Vol. 8, #3, Spring, 1984, pp. 247-51.

Grinnell, Frederick. *The Scientific Attitude*. Boulder, CO: Westview Press, 1987.

Grove, J.W. *In Defense of Science*. Toronto: The University of Toronto Press, 1989.

Kitcher, Philip. *Abusing Science*. Cambridge, MA: MIT Press, 1982.

Klass, Philip J. *UFO's: The Public Deceived*. Buffalo: Prometheus Books, 1983.

Kurtz, Paul, ed. *A Skeptic's Handbook of Parapsychology*. Buffalo: Prometheus Books, 1987.

Marks, D., and Kamman, R. *The Psychology of the Psychic*. Buffalo: Prometheus Books, 1980.

Moore, Kathleen Dean. *Inductive Arguments: A Field Guide*, 2nd ed. Dubuque, Iowa: Kendall/Hunt, 1989.

Rorty, Richard. *Philosophy and the Mirror of Nature*. Princeton: Princeton University Press, 1979.

Siegel, Harvey. *Relativism Refuted*. Dordrecht, Holland: D. Reidel, 1987.

Strahler, Arthur. *Science and Earth History*. Buffalo: Prometheus Books, 1987.

Dr. Keith Parsons is a founder and former Executive Officer of the Georgia Skeptics. He received his first PhD in Philosophy from Queens College, and is currently pursuing a second doctorate, in the History and Philosophy of Science at the University of Pittsburgh.

THE LOST CONTINENTS OF MU AND LEMURIA

by Hugh Trotti

Many years ago, before cities and parking lots existed, a land was discovered which had exceptional environmental qualities. The early cattle herders of Europe, long before the neolithic revolution which introduced settled village life and agriculture, were delighted to discover this enhanced environment. They transported their scant herds of cattle, and lived an abundant life in this hitherto unknown paradise. Their herds grew both in number and in weight, browsing in their carefree way upon the lush foliage and grasses available. They named this wonderous place "Moo", for reasons lost in the dim vistas of past history.

At length tragedy of an unforeseen nature struck. The cattle herds became so large, and the individual cows so heavy, that the continent began to sink. The herders quickly called a council, and desperately sought an answer to the terrible fate confronting both themselves and their beloved animals. "What shall we do if Moo sinks?" they intoned despondently. No rescue seemed possible.

But wait! A sea-going stranger appeared and informed them of an island nearby which was almost as bountiful as their beloved Moo. Quickly gathering their herds together, they transported them to this new location. It was already claimed by the ancestors of the French peoples, but arrangements were made for the new settlers to share the land - which had already been named Le-Moo-Ria by the inhabitants (who were also herdsman). This ancient French dependency also vanished from the pages of history - and to this day no one knows where it was, or its exact description. But there remains an island of "Jersey" off the coast of France . . . could that be the lone remaining vestige of what of what was in fact the ancient cattleman's paradise?

It may well be that Madame Blavatsky and other preternatural leaders had seen cow horns in their crystal balls or dreams, and mistaken these horns for crystals of a geological nature. It may seem that they missed the names of these mysterious ancient places, but when you consider that "Mu" and "Moo" are so close in pronunciation, as are "Lemuria" and "Le-Moo-Ria", we must give credit where it is due, and term the occult performances astounding.

THE END