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Science and Dianetics

By Jeff Jacobsen

L. Ron Hubbard constantly makes the claim that dianetics is a "scientific fact." In fact, he makes that claim 35 times in *Dianetics*. For example, "All our facts are functional and these facts are scientific facts, supported wholly and completely by laboratory evidence" (p. 96). Hubbard shows that he highly regards correct scientific experimentation by carefully hedging his approval of another scientific experiment done by someone else. This test was conducted in a hospital to see whether unattended children became sick more often than attended children. "The test... seems to have been conducted with proper controls" (p. 143), he cautiously states, not having apparently seen the entire written report.

In *The Phoenix Lectures*, Hubbard is also critical of the early psychiatric work of Wundt in the latter 1800s: "Scientific methodology was actually not, there and then, immediately classified... what they did was unregulated, uncontrolled, wildcat experiments, fuddling around collecting enormous quantities of data..."¹

I am similarly cautious about Hubbard's experiments, especially since there seems to be no record of how they were done, what exactly the results were, what kind of control group was used, whether the experiments were double blind, how many subjects there were in each experiment, and other pertinent data. I have asked ranking Scientologists for this data, and have fervently searched for it myself, and have yet to see it. This brings up the question of whether Hubbard can call his original research science.

And, in keeping with the need to understand each word we use, it brings up the question of just what science is. What does it take for someone to legitimately make the claim that his ideas are scientifically proven? When can something be called a scientific fact?

As with many subjects in life, the deeper one looks into science, the murkier it gets. There is not even one single agreed-upon definition for science in the scientific community. Those people who seek to establish a unifying definition are dealing in what is called the philosophy of science. One of the most respected and most influential of these is Karl Popper. Popper claims that no theory can be called scientific unless it is falsifiable, that is, unless it can be demonstrated that deliberate attempts to prove a theory wrong are unsuccessful. Thus, a theory must open itself up to criticism from the scientific community to see whether it can withstand critical scrutiny.

Popper's formulation for scientific validation is:

- (1) It is easy to obtain confirmations, or verifications, for nearly every theory—if we look for confirmations.
- (2) Confirmations should count only if they are the result of *risky predictions*; that is to say, if, unenlightened by the theory in

question, we should have expected an event which was incompatible with the theory—an event which would have refuted the theory.

- (3) Every "good" scientific theory is a prohibition: it forbids certain things to happen. The more a theory forbids, the better it is.
- (4) A theory which is not refutable by any conceivable event is non-scientific. Irrefutability is not a virtue of a theory (as people often think) but a vice.
- (5) Every genuine *test* of a theory is an attempt to falsify it, or to refute it. Testability is falsifiability: some theories are more testable, more exposed to refutation, than others; they take, as it were, greater risks.
- (6) Confirming evidence should not count *except when it is the result of a genuine test of the theory*; and this means that it can be presented as a serious but unsuccessful attempt to falsify the theory. (I now speak in such cases of "corroborating evidence.")
- (7) Some genuinely testable theories, when found to be false, are still upheld by their admirers—for example by introducing *ad hoc* some auxiliary assumption, or by re-interpreting the theory *ad hoc* in such a way that it escapes refutation. Such a procedure is always possible, but it rescues the theory from refutation only at the price of destroying, or at least lowering, its scientific status.²

The falsifiability approach is a good one, because no theory can be proven as a fact unless every case possible is individually example to see that it applies to every possible case. For example, a popular example of a "fact" in science classrooms of the 19th century was that "all swans are white." This was, however, shown to be untrue when a variety of swan in South America was discovered to be black. This "fact" was proven wrong by a previously unknown exception to the rule, and this example points out that it is never entirely possible to prove a theory in the positive without examining every possible case of that theory. (It is, of course, not possible to completely falsify many theories also, but for the sake of brevity I would refer the reader to Popper's *Logic of Scientific Discovery* for further arguments on this subject.)³

Let us go now momentarily to one of Hubbard's scientific claims:

Its [the reactive mind's] identity can now be certified by any technician in any clinic or in any group of men. Two hundred and seventy-three individuals have been examined and treated, representing all the

various types of inorganic mental illness and the many varieties of psychosomatic ills. In each one this reactive mind was found operating, its principles unvaried.⁴

After the brief discussion previously of science, we can begin to question Hubbard's claim to scientific validity. Exactly who were these 273 people? Were they believers in Hubbard's theories or a representative sample of the public at large? Exactly how was the experiment conducted that proved the existence of the reactive mind? This needs to be known so others can try it to test for variables that Hubbard may have overlooked, to see if his experiment produced a statistical fluke, and to help in conducting experiments to try to disprove the theory. The more times an experiment is conducted, the more likely it is shown to be true, keeping in mind of course that no matter how many times an expedition went looking for white swans, it would find them, so long as they didn't go to South America.

Was Hubbard seeking confirmation in his experiments or was he attempting to refute his theory, as Popper suggests a true man of science would do? Designing a test that will provide confirmation of a thesis is not difficult.

A Real Experiment Comes Up Dry

Hubbard does mention an experiment to perform that can prove the existence of engrams:

If you care to make the experiment, you can take a man, render him "unconscious," hurt him and give him information. By Dianetic technique, no matter what information you gave him, it can be recovered. This experiment should not be carelessly conducted because *you might render him insane*.⁵ (emphasis in original)

Three researchers at the University of California, Los Angeles, decided in 1950 to give this experiment a try.⁶

If an individual should be placed, by some means of [sic] other, into an unconscious state, then, according to traditional psychology, no retention of the events occurring about him should take place and consequently, no reports of such events can be elicited from the individual, no matter what methods of elicitation are employed (hypothesis I). According to dianetics, retention should take place with high fidelity and, therefore an account of the events can be elicited by means of dianetic auditing (hypothesis II).⁷

The Dianetic Research Foundation of Los Angeles cooperated with the experimenters by providing a subject and several qualified auditors. The subject was a 30-year-old male who worked for the foundation and was considered a good candidate for the experiment by the foundation since he had "sonic" recall and had been

audited. The experiment was carefully laid out according to dianetic theory and was at all times done under the cooperation and suggestions of the Foundation.

The subject was knocked unconscious with .75 grams of sodium pentathol by Dr. A. Davis, M.D., who is one of the authors of the experiment. When the subject was found to be unconscious, Mr. Lebovits was left alone with the subject while two recording devices recorded the session. Mr. Lebovits read a 35-word section of a physics book to the subject, administering pain during the reading of the last 18 words. He then left the room, and the patient was allowed to rest for another hour, at which time he was awakened.

Two days later, the professional auditors from the Dianetic Research Foundation began to audit the subject, trying to elicit the engram, or recording of the experiment that according to dianetic theory resided in the subject's reactive mind.

The auditors did elicit several possible passages from the subject and supplied these to the experimenters. The results were that "Comparison with the selected passage shows that none of the above-quoted phrases, nor any other phrases quoted in the report, bear any relationship at all to the selected passage. Since the reception of the first interim report, in November 1950, the experimenter tried frequently and repeatedly to obtain further reports, but so far without success."⁸

The experimenters concluded by stating that while their test case was only one subject, they felt that the experiment was well done and strongly suggested that the engram hypothesis was not validated. I know of no other scientifically valid experiment besides this one by non-dianeticists which attempted to prove Hubbard's engram theory.

There is one point I consider the most damning to Hubbard's attempt to cloak dianetics in scientific validity. While he seems to be inviting others to conduct their own investigations (and thus seems to be open to attempts to refute his claims), he never explains his own experimental methods, thus closing the door to the scientific community's ability to verify his claims. In order to evaluate Hubbard's claims, the scientific community would seek to replicate his experiments to see if the same results were obtained and to check for possible influences on the experiment Hubbard may have overlooked. They would also, as Popper suggests, try to shoot holes in the theory, either on a logical basis or by conducting refutational experiments.

If Hubbard really respected science, he would welcome and help the scientific community in its attempts to both support and refute his theories. But he and his successors in Dianetics and Scientology refuse to join in scientific debate over the merits of his ideas, maintaining a dogmatic rather than scientific stance. My attempts to get the experiments from the Church of Scientology have been in vain. I have never heard of anyone who has seen them, nor even anyone who claimed to know how they were conducted. It is mainly for this reason, I believe, that dianetics cannot claim scientific validity. Until Hubbard's supposed original

experiments are released to the public, dianetics can only be called science fiction.

As a footnote, the only reference I found to Hubbard's actual notes on any original experiments was on a taped lecture by Hubbard in 1950. He stated at that time that "my records are in little notebooks, scribbles, in pencil most of them. Names and addresses are lost... there was a chaotic picture..." A certain Ms. Benton asked Hubbard for his notes to validate his research, but when she saw them, "she finally threw up her hands in horror and started in on the project [validation] clean."⁹ If this is the type of material Hubbard was basing his "scientific facts" on, then there is probably no need to even see them to be able to reject them with good conscience.

Notes

- ¹L. Ron Hubbard, *The Phoenix Lectures* (Los Angeles: Bridge Publications, 1982), p. 203.
- ²Karl Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (N.Y.: Harper Torch Books, 1963), pp. 36-37.
- ³Editor's Footnote: There have been many books and articles relevant to this issue published in the philosophy of science in the decades since Popper's *Logic of Scientific Discovery* was first published (1934 in German; 1959 in English), and it is the opinion of many philosophers (Larry Laudan being one notable example) that there is no principled way of distinguishing science from pseudoscience, or even from nonscience. A recent overview of some different "theories of science" may be found in chapter 2 of Ronald N. Giere's *Explaining Science: A Cognitive Approach* (Chicago: University of Chicago Press, 1988). Popper's "falsifiability" criterion probably is the most popular criterion for distinguishing between science and pseudoscience used by scientists themselves, the problem is that it appears to rule out some scientific theories and include some nonscientific ones (see, e.g., Laudan's articles in Michael Ruse's *But Is It Science* (Buffalo, N.Y.: Prometheus, 1988), reviewed in AS, February/March 1990 and July 1990).
- ⁴L. Ron Hubbard, *Dianetics* (Los Angeles: Bridge Publications, 1987), pp. 70-71.
- ⁵Ibid, p. 76.
- ⁶Jack Fox, Alvin E. Davis, and B. Lebovits, "An Experimental Investigation of Hubbard's Engram Hypothesis (Dianetics)," *Psychological Newsletter* 10(1959):131-134.
- ⁷Ibid, p. 132.
- ⁸Ibid, p. 133.
- ⁹"What Dianetics Can Do," Lecture Series 2, 1950. Reprinted with permission from *The Hubbard is Bare* by Jeff Jacobsen. Copyright © 1992 by Jeff Jacobsen, P.O. Box 3541, Scottsdale, AZ 85271.

A Healthy Dose of Sarsaparilla

By Jerome L. Cosyn

Hanging in my living room is an advertising poster from sometime in the late 1800s. It hangs in my house largely because of the wonderful artwork: a lovely, angelic, round-cheeked young girl, with blue eyes and curly blonde tresses and rosebud lips. A vision of virginal Victorian virtue, the epitome of youthful innocence and beauty, a paragon of health and rectitude, she gazes serenely into the distance, head turned slightly to profile in a posture that conveys wonder and hope and a guileless and immaculate strength. Pride without arrogance. Innocence without gullibility. A slight flush of rose in her cheeks reveals her energetic enthusiasm for life, for this child faces each new day with eager confidence. Her eyes betray no hint of worry or guilt or fear; she has never known pain or disease or suffering. In this painting is encapsulated everything the white Anglo-Saxon Victorian American parent could possibly hope for his children. The artist—totally unknown, of course—had an enormous talent: the ability to distill the dreams and hopes and grandeur of a proud and growing culture from a palette of oil colors onto canvas.

The portrait, naturally enough, takes up most of the poster: near-life size head and shoulders of the girl centered against a neutral background. Across the top, in tastefully bold-faced letters done in an eye-pleasing, jaunty calligraphy, not too large, not too bold, not too gaudy, is the name of the product: Ayer's Sarsaparilla. In the upper right and upper left corners, in slightly smaller, more sedate print, are the phrases: "Makes the Weak Strong" and "Improves the Complexion, Purifies the Blood". Across the bottom is the slogan:

"How fair she grows from day to day."

She Uses

AYER'S SARSAPARILLA

How quaintly absurd we find such claims today, for a simple product once known as a "tonic" (which is still the general term for soda pop in certain areas of the country) but which was essentially the drink we now call root beer. What would we think of A&W root beer advertised as "Makes the Weak Strong"? How about "Improves the Complexion, Purifies the Blood"? The sophisticated American mind of today would of course scoff at such pretensions, even if truth-in-advertising laws let them slip through. We know better than to place our faith in wild claims of health and vigor from ordinary foodstuffs. We can smile at the naive charm of those simpler times, seeing through such transparent attempts to manipulate us as easily as a modern ten-year-old dispels the myth of Santa Claus.

Nowadays we would never be taken in by snake-oil incantations and absurd assertions from fast-talking medicine show hucksters. Today, Americans are vastly more aware, more perceptive than those simple minded bumpkins of yore. We're seasoned, sharp and cynical, educated, worldly. We know about health and medicine and nutrition because there are thousands of books and magazine articles, talk show interviews and free government pamphlets, concerned co-workers and

relatives and even complete strangers on the street to explain it to us. We can't get through a day without being told a dozen times what's truly healthful and what to avoid; we're bombarded, lambasted, inundated with endless volleys of wellness programs and organic vegetables, workouts and smokeouts, vitamins and minerals and high-fiber, low-sodium alternatives. We monitor our calorie intake, our caffeine intake, our sugar intake, our sodium intake, our cholesterol intake; we watch the MSG and eschew carcinogens. We aerate, chlorinate, and fluoridate; we exercise and aerobicize. In even the smallest towns can be found a cornucopia of organic bean curd, hydroponic tomatoes, hand-made marmalade and high-protein low-fat tofu. In short, we are the most health conscious, medically aware, biologically in-tune society that mankind has ever produced, and it would be completely impossible for so obvious a canard as "Purifies the Blood" to deceive even a simple minded hick from out in the sticks where they can't even get MTV.

These days, when we are told that a certain breakfast cereal will prevent cancer, we know that it is true, because clean-cut, smarmy, bespectacled men with straight white teeth and conservative ties and white smocks stand before us clutching clipboards like stone tablets handed down from the mount by the god of scientific scrutiny, with actual factual objective reports that prove it to be so. Television advertising is awash in a veritable Sargasso Sea of graphs and charts and diagrams and statistics and reports, from the AMA, the ADA, the FDA and ubiquitous independent study teams, demonstrating to us with unimpeachable authority that the products offered to us are blessed and beneficial. C. Everett Koop is tireless, writing books, giving interviews, doing research, traveling everywhere, checking everything, providing a steady, life-giving stream of facts to keep us healthy and prolong our lives. And if you can't believe a former Surgeon General of the United States of America, who can you believe?

A bran muffin a day will add years to your life. The right facial cleanser will actually slow the aging process. Mothers who care about their kids would rather die than feed them the wrong brand of peanut butter. A simple shot glassful of cough syrup will eradicate enough symptoms to fill several chapters of a medical encyclopedia. Chicks dig guys who use tartar control toothpaste. The nutritionally correct choice of bread will build your body in a baker's dozen ways. Just one of these pills will cause your body to burn away as many calories as if you'd run a marathon—and it's COMPLETELY SAFE! You take your life in your hands if you use a product that isn't doctor tested, clinically proven, medically effective, nutritionally beneficial, dentist approved and scientifically validated.

Yes, gone are the days of primitive hucksterism and those quaintly transparent claims of health and vitality from ordinary food and hygiene products. American health awareness has come of age. "Purifies the Blood" indeed.

We've come a long way, baby.

Jerome L. Cosyn is a software engineer and freelance writer, a former contractor for NASA at the Kennedy Space Center, and has recently had his first article accepted for publication outside the U.S., in The Skeptic magazine of Great Britain. He lives in Wooster, Ohio.

Book Review

***Combatting Cult Mind Control* by Steven Hassan**

1988, Park Street Press, 226 pp., \$16.95 (hb), \$12.95 (pb)

Reviewed by Chaz Bufo

Cults: it's rare that people can agree on even a definition of them, and one sardonic explanation has been that "cult" is a pejorative term employed by members of any given religion to refer to other religions. Dictionary definitions are equally vague: "a group or sect bound together by devotion to or veneration of the same thing, person, ideal, etc.," so it's little wonder that there is no consensus on what constitutes a cult.

Thus, those who prefer precision in language can only welcome Steven Hassan's new book, *Combatting Cult Mind Control*. While Hassan's prime concern is to provide information of "exit counseling" for cult members, in the course of his discussion he furnishes much needed information about the nature and defining characteristics of cults.

In preparation for his discussion of exit counseling (a noncoercive alternative to "deprogramming"), Hassan, a former member and high-ranking official of the Unification Church, or Moonies, lists several different types of cults. Specifically, he lists religious cults such as the Unification Church and the Church of Scientology; political cults such as the Lyndon LaRouche organization; psychotherapy cults such as EST; and commercial cults, though he doesn't name any (Amway comes to mind).

What all these have in common is what Hassan considers the defining characteristic of destructive cults: "mind control." According to Hassan, "mind control is used to change a person's belief system *without informed consent* and make him *dependent on outside authority figures*." Quite often, cults initiate the mind-control process through the use of deceptive recruiting techniques. One way in which cults such as the Unification Church, Church of Scientology, and LaRouche organization do this is through the operation of front groups which recruit unsuspecting members of the public. Then, once a potential member has been sucked into the cult's controlled atmosphere, the cult proceeds to reconstruct his or her personality.

Cults do this through a three-state process: unfreezing, changing, and refreezing. "Unfreezing" refers to techniques such as those used by the Moonies to disorient potential members at Unification Church "retreats." These include sleep deprivation, complete denial of personal privacy, malnourishment, the use of deliberately confusing language ("The more you try to understand what I am saying, the less you will never be able to understand it. Understand?"), guided meditations, confessions, and prayer sessions. Once a potential

member is “unfrozen,” cults move quickly to “change” him or her, to impose a new personality structure. This is done through indoctrination: “Repetition, monotony, rhythm: these are the lulling, hypnotic cadences in which the formal indoctrination is generally delivered.” In their disoriented state, “unfrozen” potential recruits are often told that their “old self” is holding them back, and that they should ask God what to do with their lives. Not surprisingly, “God” usually answers that they should join the cult.

Once the new cult identity has been established, it is “refrozen.” This is done through several means including disownment of one’s “old” self and interests (in as dramatic a manner as possible), teaming up with a more established cult member who serves as a model, immediate assignment of the new member to recruit others, the adoption of a new name, and radical alteration of personal appearance, as in the Hare Krishnas. Once the new personality has been “refrozen,” cults cement their hold on the new member by deliberately fostering phobias which make the idea of leaving the cult a terrifying prospect, by stripping him or her of assets (which makes admission that she or he has made a mistake by joining the cult extremely painful), and, probably most important, by teaching the new member thought-stopping techniques.

Cults, virtually without exception, are virulently anti-intellectual, and they emphasize blind acceptance of their teachings as a cardinal virtue. Doubt and questioning—in other words, critical thought—are considered sinful and dangerous, and in many cults members are told that their doubts come directly from the devil. A Moonie slogan expresses this cult position quite succinctly: “Stamp Out Doubt.”

This is done through thought-stopping techniques, especially the use of hypnotic praying and chanting. Whenever doubt raises its frightening head, cult members can stop it dead in its tracks through repetitions praying and chanting. (It’s of more than passing interest to note that at least one mainstream religion, the Catholic Church, makes use of thought-stopping techniques; for generations Catholic school children have been taught by their religious instructors that they should ward off “impure thoughts” through repetitious prayer.)

After presenting his analysis of cult mind-control, Hassan then lists several complementary methods through which the hold of cults upon members can be broken. These revolve around re-establishing contact with the member’s “real self” and very carefully influencing the person to begin thinking for himself once again. For legal and ethical reasons Hassan prefers this approach to coercive “deprogramming” (despite the fact that he himself underwent a successful deprogramming), and he cites in detail a large number of cases which demonstrate the effectiveness of his style of exit counseling. In many ways, these cases constitute the most fascinating portion of this very readable book, and they should provide great encouragement to anyone with a friend or family member in the clutches of a cult.

One especially useful section of the book, and one which skeptics will find of particular interest, instructs

readers in ways to unsettle cult members during chance street encounters. Hassan observes that straightforward verbal attacks almost always leave cult members feeling like members of a persecuted, virtuous minority, and end up strengthening their commitment to the cult. He believes that appearing to be sympathetic and interested, and then (after initial rapport has been established), asking questions such as “Is your group considered to be controversial by anyone? If people are critical of your group, what are their main objections?” “What does your group believe? Does it believe that the ends justify the means? Is deception allowed in certain circumstances?” and “What are the three things you like least about the group and the leader?” are much more effective ways to shake a cult member and to influence him or her to leave the cult eventually.

Overall, *Combatting Cult Mind Control* is a gold mine of information for curious skeptics and for families with members in cults. There are, however, certain aspects of Hassan’s beliefs and of his approach to “exit counseling” which, I suspect, most skeptics would find disturbing. Probably the most troubling aspect is that while Hassan does encourage cult members to question and to doubt, he does not encourage them to do so in a systematic manner; that is, his approach does not teach or encourage scientific thinking—and it doesn’t even seem to recognize that it exists. Thus, Hassan considers former mind-control cult members who have subsequently joined fundamentalist, creationist churches to be successes. He relates instances of his working with a Church of Christ preacher, Buddy Martin, during “exit counseling” sessions. In some cases, members of Christian fundamentalist cults (such as “shepherding” churches) have “exited” from their cults directly into Martin’s congregation.

Another troubling point is that Hassan—in the admitted total absence of physical evidence—insists that there are underground satanic cults engaging in “ritual sex, bloodletting, ...the killing of animals” and “ritual murder.” Given that Hassan seems to have no appreciation for scientific investigation, it isn’t terribly surprising that he’s been taken in by the tabloid-style hype concerning “satanic cults.” But it is saddening. Because he presents so much valuable information in the book, it seems quite likely that many readers will accept as true his unfounded statements about “satanic cults.” (For sane analyses of the “satanic cult” question, see *In Pursuit of Satan*, by Robert D. Hicks, Prometheus Books, 1991, and *Satan Wants You*, by Arthur Lyons, Mysterious Press, 1988.)

Two minor, but irritating, aspects of *Combatting Cult Mind Control*, in its hardback version, are that it has no index—a crying need in a book of this type—and that it was “typeset” on a laser printer. I’ve seldom seen a worse-looking “typesetting” job; and I find it mystifying that the publisher would spend the very large sum of money necessary to print a hardcover book, but deliberately fill it with 300-dot-per-inch, laser-printed sludge. Fortunately, these problems were corrected in the subsequent paperback.

But, even if they had been left uncorrected, these problems would be relatively minor. *Combatting Cult Mind Control* is well written, often fascinating, and provides a wealth of information on the nature and practices of destructive cults. It belongs on the bookshelf of every skeptic with an interest in cults; and it should provide hope to anyone with a loved one in the grip of a cult.

Chaz Bufe is the author of Alcoholics Anonymous: Cult or Cure? (reviewed in AS, January/February 1992) and presently lives in Tucson. This review is reprinted, with permission of the author, from The Match!, Summer 1992, pp. 33-35. A slightly different version also appeared in the Bay Area Skeptics' newsletter, BASIS, November 1991, pp. 3, 5.

Michael Persinger and Tectonic Strain Theory

By Jim Lippard

The March/April *Arizona Skeptic* printed my review of *Space-Time Transients and Unusual Events* by Michael A. Persinger and Gyslaine F. Lafrenière, a 1977 book which attempted to find correlations between various alleged anomalies, finding significant correlations between such events and solar and geophysical forces. In that review, I called this alleged correlation "interesting" and stated that it "deserves further investigation," while expressing some reservations about some of Persinger's data. As it turns out, Persinger's theory, known as "tectonic strain theory" or TST, has been subjected to further investigation. What follows is a bibliography assembled by Chris Rutkowski of the Royal Astronomical Society of Canada at the University of Manitoba, who has himself published a number of works critical of Persinger (see below).

Rutkowski's Work

- "Geophysical Variables and Human Behavior: XVI. Some Criticisms." *Perceptual and Motor Skills* 58(1984):840-842.
- "Geophysical Variables and Behavior: XXXIV. Further Comments." *Perceptual and Motor Skills* 63(1986):18.
- "Earthlights, earthquakes, UFOs and the TST; or, Who is Michael Persinger and Why is He Saying Those Things About Me?" *International UFO Reporter* 11(1, 1986):4-8.
- "Explaining Everything with the TST: A Response to Paul Devereux." *International UFO Reporter* 11(6, 1986):22.
- "UFOs as Natural Phenomena." In Evans, H. & Spencer, J., eds. *UFOs 1947-1987: The 40-Year Search for an Explanation*. London: Fortean Tomes, 1987, pp. 273-279.
- "Geophysical Alternatives." In Spencer, J. & Evans, H., eds. *Phenomenon*. London: Futura, 1988, pp. 301-307.
- (with Marc del Bigio) "UFOs and Cancer?" *Canadian Medical Association Journal* 140(June 1, 1989):1258-1259.

"Radiative Processes and the Generation of UFO Experiences." *International UFO Reporter* 14(5, 1989):9-11, 23.

"Critical Comments About Earth Lights and the TST." *Journal of UFO Studies* (n.s.) 2(1990):144-146.

"The TST: Down for the Count." *Journal of UFO Studies* (n.s.) 2(1990):166-168.

Other Critical Works

Mauge, C. "Persinger's Tectonic Strain Theory: Strengths and Weaknesses." *Magonia* no. 24, November 1986, pp. 13-18.

Campbell, S. "Lights of Fancy." *Probe Report* 3(4, April 1983).

Campbell, S. "UFO Data." (letter) *New Scientist* (September 15, 1983):799.

Campbell, S. "UFOs and Faults." (letter) *New Scientist* (October 20, 1983):217.

Book Review

Logic and Contemporary Rhetoric by Howard Kahane

1992, 6th edition, Wadsworth, 350 pp.

Reviewed by Jim Lippard

I have been teaching logic and critical thinking courses at the University of Arizona for the last few years and have tried a number of different approaches and textbooks in each. For logic, my favorite book has been Howard Kahane's *Logic and Philosophy: A Modern Introduction*. As a result, after teaching critical thinking three times previously with different texts each time, none of them quite to my satisfaction, I decided to try Kahane's book designed for critical thinking courses, *Logic and Contemporary Rhetoric*. I believe I've found a winner.

A disadvantage of some critical thinking texts is that the authors sometimes don't seem well-versed in logic. Kahane, the author of a popular (and entertaining) logic text, doesn't suffer from this problem. *Logic and Contemporary Rhetoric* is well organized, filled with up-to-date and relevant examples (including some from the *Skeptical Inquirer*), and is enjoyable to read as well as to teach from. My students appear to be enjoying the book as well.

The nine chapters of the book give the reader an introduction to arguments and reasoning, a classification of forms of fallacious reasoning, a discussion of impediments to cogent reasoning such as superstition, prejudice, and self-deception, and a discussion of the use and misuse of language. Three chapters address specific forums of argument: advertising, the news media, and school textbooks. Examples in the book address such issues as the paranormal and fringe sciences, political and economic issues, scientific controversies, and more. Still more examples are drawn from cartoon sources such as *Doonesbury* and *Calvin and Hobbes*, each illustrating some particular fallacy in a memorable way.

This book is highly recommended for all skeptics; my only reservation is its excessive price (almost \$30 for a paperback). Given the price, it is probably worthwhile to look for previous editions at used bookstores that deal in college texts.

Book Review

Sai Baba's Miracles: An Overview edited by Dale Beyerstein

1992, privately published, 128 pp., \$10

Reviewed by Jim Lippard

Dale Beyerstein, a philosophy professor active in the British Columbia Skeptics and co-editor (with his brother Barry) of the recent Prometheus book *The Write Stuff*, has assembled a fascinating look at the alleged miraculous powers of Indian guru Sai Baba. The book simply takes Sai Baba's claims one at a time, quoting from books by his followers, and then examines the evidence produced by investigations of his critics. Sai Baba claims to be omniscient and omnipotent, to have resurrected the dead, to have telepathic powers, to have materialized objects from nothing, and to have fulfilled ancient prophecies of both the Bible and the Koran.

Beyerstein's book shows discrepancies between accounts of Sai Baba's followers, internal inconsistencies in Sai Baba's claims, and presents plausible explanations for every alleged miracle in this book. In one case, a materialization which Sai Baba performed before a camera exhibits strong evidence of sleight-of-hand. The videotape is available from Sai Baba's followers.

The book is in a format which makes both easy reading and quick reference (should Sai Baba begin to gain a following in the southwestern U.S.; apparently he has followers in Canada). There are a fair number of typographical errors, but this is certainly forgivable in light of the nature of the publication (5.5-inch by 8.5-inch, laserprinted with cardstock cover, self-published).

Copies of the book may be obtained from Dale Beyerstein, Apt. A, 1267 W. 70th Ave., Vancouver, BC V6P 2Y4, Canada.

Media Update

Jeff Jacobsen's previous contribution to the *Arizona Skeptic*, "Dianetics: From Out of the Blue?" (*AS*, September/October 1991) was reprinted in the British and Irish skeptics' magazine, *The Skeptic* (vol. 6, no. 2).

Jim Lippard has recently been criticizing creationism before a largely creationist audience in two radio debates on Christian station KVOI 690 AM in Tucson. The debates were both with Monty Wyss, head of the Tucson Association of Creationists and principal of Tucson Christian School, and took place on June 12 (for one hour) and July 7 (for two hours). The debates were taped (though only the first 90 minutes of the July 7 debate), and copies may be obtained by sending blank cassettes and S.A.S.E. (with appropriate postage) to Jim Lippard at P.O. Box 42172, Tucson, AZ 85733. Also see the Margaret Niel article listed in "Articles of Note," this issue.

Newsletter Production Volunteers Needed

As you have no doubt noticed, this publication has not been arriving to your mailbox on time. This is not because of lack of material, or even because of lack of a

completed newsletter. The bottleneck in the production is getting copies made, folding and stapling them, and mailing them off. If you would like to volunteer your labor (copying, staples, and stamps are paid for out of the Phoenix Skeptics' account) to get the newsletters out in a more timely manner, please contact the Phoenix Skeptics or the newsletter editor.

Applications are also being accepted for the position of editor, to take over the job sometime in 1993.

Electronic Version of the Newsletter

ASCII text versions of the *Arizona Skeptic* are available beginning with volume 5, number 1 (July/August 1991). They are presently available for download from GENIE's PSI-NET area and the Cleveland Freenet Skeptics SIG. If you would like ASCII versions of the newsletter to upload to local bulletin boards or other commercial services such as CompuServe or Prodigy, you may obtain them by sending a 3.5-inch diskette to the editor at P.O. Box 42172, Tucson, AZ 85733 (send either a disk mailer and postage or an S.A.S.E.) or, if you have Internet access, by sending email to lippard@ccit.arizona.edu (or lippard@arizvms.bitnet). Also available is an index (by author and by subject) to all published issues of *The Arizona Skeptic*. Specify Macintosh or MS-DOS format. Subsequent issues will become available as they are published; issues prior to volume 5 may also become available in the future.

Upcoming Meetings

The Phoenix Skeptics will meet at the Jerry's Restaurant on Rural/Scottsdale Road between McKellips and the river bottom, with lunch at 12:30 on the first Saturday of each month except where it conflicts with a holiday.

The September meeting will be on the second Saturday, the 12th. The scheduled speaker is Chaz Bufe, author of *Alcoholics Anonymous: Cult or Cure?* (reviewed in *AS*, January/February 1992).

Articles of Note

Jacob Cohen, "Yes, Oswald Alone Killed Kennedy," *Commentary* 93(June 1992):32-40. A look at the movie *JFK* and the case against multiple gunmen in the Kennedy assassination.

David H. Freedman, "A Chaotic Cat Takes a Swipe at Quantum Mechanics," *Science* 253(August 9, 1991):626. Joseph Ford of Georgia Tech claims to have found a flaw in quantum theory. When a physical system called Arnol'd's cat is transformed from classical theory to quantum theory and back, its chaotic aspect is lost, and that's not supposed to happen. This is just in theory, but Ford thinks he can come up with a physical experiment which will demonstrate that quantum mechanics is wrong.

Herbert Lindee, "Ghost Lights of Texas," *Skeptical Inquirer* 16(Summer 1992):400-406. Lindee offers a possible solution to mystery lights seen in Marfa and Saratoga, Texas (see also the two articles on the Marfa lights in *AS*, May/June 1992; Lindee's

solution is *not* compatible with James Long's description of the lights he saw).

Pamela Lister, "A Skeptic's Guide to Psychics," *Redbook* (July 1992):102. A semi-skeptical look at psychic readings in a surprising place. Most magazines in this genre are regular purveyors of astrology, numerology, and holistic medicine; it is gratifying to see some space given to skepticism.

Charles C. Mann, "Extinction: Are Ecologists Crying Wolf?" *Science* 253(August 16, 1991):736-738. An article which discusses some difficulties which arise in estimating the number of species and their rate of extinction, which generally supports the case made by Julian Simon (*AS*, March/April 1992, pp. 4-5).

Margaret Niel, "The Timeless Debate: Evolution vs. Creation," *Good News* (Tucson evangelical

Christian paper) 5(June 1992):21-22. A fairly objective (considering the source) examination of some creationist arguments and evidence against them, though it doesn't present any of the evidence for evolution, despite the fact that much was given to the writer in a taped two-hour interview. The July 1992 issue of the newspaper prints a letter from Jim Lippard in response to this article.

Edward Sorel, "Religion in the News," *The Nation* 254(June 22, 1992):847. This one-page collection of newsclippings (no sources given) and Sorel cartoons includes one claiming that Moscow University has named a building after L. Ron Hubbard, given him an honorary (and posthumous) Doctor of Literature degree, and will be publishing a Russian-language edition of *Dianetics*.

The Arizona Skeptic is the official publication of the Phoenix Skeptics and the Tucson Skeptical Society (TUSKS). The Phoenix Skeptics is a non-profit scientific and educational organization with the following goals: 1. to subject claims of the paranormal, occult, and fringe sciences to the test of science, logic, and common sense; 2. to act as clearinghouse for factual and scientific information about the paranormal; and 3. to promote critical thinking and the scientific method. The contents of The Arizona Skeptic are copyright © 1992 by the Phoenix Skeptics unless otherwise noted. Material in this publication with Phoenix Skeptics copyright may be reprinted provided that The Arizona Skeptic and the author are provided copies of the publication in which their work is reprinted. Address all correspondence to the Phoenix Skeptics, P.O. Box 62792, Phoenix, AZ 85082-2792. Submissions for publication in The Arizona Skeptic may be sent to Jim Lippard, P.O. Box 42172, Tucson, AZ 85733 or electronically to LIPPARD@CCIT.ARIZONA.EDU. All manuscripts become the property of the Phoenix Skeptics, which retains the right to edit them. Subscription rate is \$12.50 per year.

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