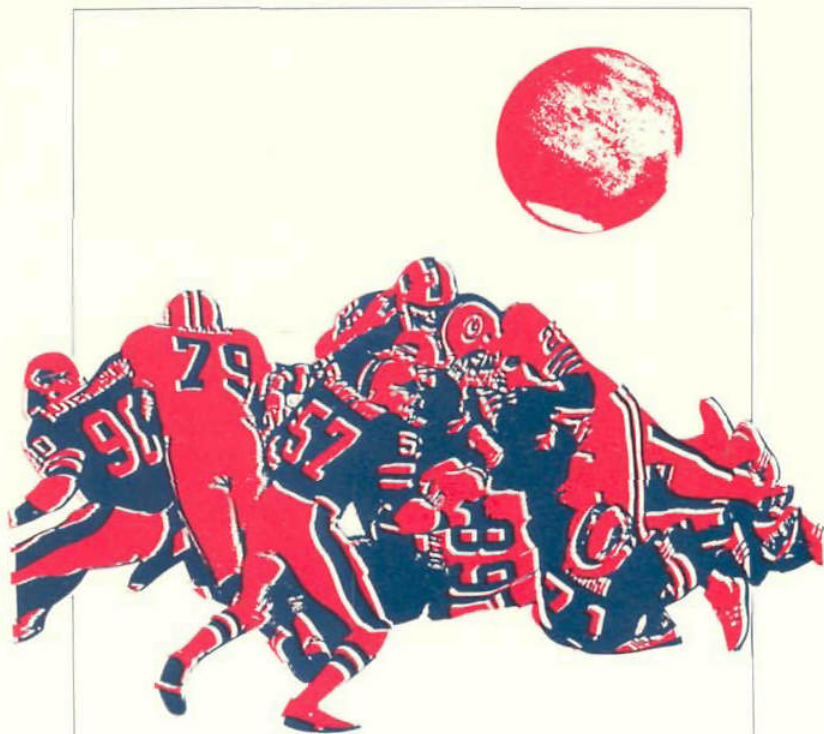


the *Skeptical Inquirer*

THE ZETETIC



The 'Mars Effect' and Sports Champions

Intuition and ESP/ Self-debunking Tests

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On the cover: Photographs courtesy of NASA and the Buffalo Bills Football Club.

News and Comment

Readers will note that in this expanded issue considerable space is devoted to four reports addressing the claims of the so-called "Mars effect" on sports champions. The claimed effect has received international attention in recent years. The lead-off report is the first presentation of results of the U.S. test of sports champions. Some familiar with the research have felt that it should have been published earlier, in preliminary form; others, that publication should be withheld till still further testing can be done. We feel it best to place the data, analyses, and different interpretations before the interested reader at this time. Scientists and the public will thus have the most current and complete information on which to assess the issue.—Editor

Amityville hokum: The hoax and the hype

The movie version of *The Amityville Horror* opened last summer to the hype that might be expected for a filmed story of supposedly supernatural events prominently labeled by the publisher as "A True Story." But by the week of the movie's July 27 opening, a lawyer who had figured in the murder case that initiated the story revealed that most of the subsequent events were a hoax, "invented over many bottles of wine." He thus confirmed the suspicions of virtually everyone who had examined the story with even a modicum of skepticism.

It always was difficult to know how seriously anyone took the best-selling book by Jay Anson. But certainly the "true story" claim helped significantly to boost its sales. The newspaper advertising for the movie version did not repeat the claim, but the coming attractions shown in theaters did show a full-screen view of the cover of the Anson book with the huge words "A True Story" impossible to miss.

The "true story" claim was suspect almost from the beginning. Our reviewer, Robert L. Morris (*SI*, Spring/

Summer 1978), found numerous holes in the supposed factual basis of the book and concluded: "Various problems, including inconsistency, exaggeration, and distortion, are abundant, and there is suggestive evidence of fabrication. As it stands, the cover of the book would appear to constitute false advertising and should be handled in the same way as false advertising is handled in analogous cases."

Although Anson later, incredibly, admitted that he himself did not know whether the book was true, the Lutzes, the family whose story was supposedly told in it, maintained the events were real. That claim was flatly contradicted this past summer by lawyer William Weber. Weber had defended Ronald DeFeo, convicted in the 1974 slayings of his family in the house in Amityville, New York, that the Lutzes later bought and temporarily occupied.

Weber said the Lutzes had come to him after the trial and told him they had had supernatural experiences in the house. He was intending to write a book about the trial and told them their experiences might be useful for his book. Numerous tape-recorded sessions with the Lutzes ensued. Weber gave the following version of events in an interview

with the Associated Press distributed on July 26.

"We created this horror story over many bottles of wine that George Lutz was drinking," said Weber. "We were really playing with each other. We were creating something the public would want to hear about."

He said the Lutzes took information he had learned from DeFeo about the house and the murders and put them into their own account about their "experiences." For example, he said, the Lutzes' story about a stench, flies, and gnats coming from a bedroom was based on his information that police reported a stench emanating from a bedroom where a body was found.

Weber said he told Kathy Lutz the murders were supposed to have taken place at 3 A.M. "So Kathy said, 'Well, that's good. I can say I'm awakened by noises at that hour... and I could say I had dreams at that hour of the day about the DeFeo family.'"

Weber said when he showed the couple photos of the murder scene with black fingerprint marks on the floor, "George started talking about slime coming out of the keyholes, the green slime that they used in their book."

Asked why he did not make his allegations earlier, Weber was quoted as saying: "They haven't violated the law. If the public is gullible enough to believe the story, so be it."

Nevertheless, Weber filed a \$2-million lawsuit against the Lutzes, charging breach of contract and fraud. He alleged that they reneged on a deal with him and another writer to do the book Weber had proposed.

In September, testifying in Weber's lawsuit in a Brooklyn federal court, George Lutz admitted netting \$100,000 from the book and another \$100,000 from the film. The suit was settled out of court for undisclosed terms, and a countersuit by the Lutzes against

Weber was dismissed. The judge in the case, Jack B. Weinstein, was quoted as saying, "It appears to me that to a large extent the book is a work of fiction."

In the meantime, the man who had been living in the Amityville house for eight months when the movie's opening renewed interest in the case said the only horrors he had experienced were the hordes of tourists and gawkers who descended on the house. "I have never heard sounds of ghosts, ghouls, or the supernatural," 32-year-old Frank Burch told the *New York Daily News*. "The only sound you can ever hear in this house is a bump when I sometimes fall out of bed."



Ad for the movie "The Amityville Horror."

Likewise, the owners of the house subsequent to the Lutzes, James and Barbara Cromarty, discounted the Lutz-Anson story. Said Barbara Cromarty: "We know everything was a hoax."

None of this fazed American International Pictures. Quite the contrary. It had first worked to help make the book a best-seller, then heavily promoted the

movie. In July, the movie's co-stars went on a publicity tour with the Lutzes. American International spent \$6.2 million on promotion, more than the movie itself cost. The effort at marketing the paranormal paid off handsomely. By the first week of September, the movie had already become the most successful release in the studio's 25-year history.

—Kendrick Frazier

Science and creationism at Iowa State University

When classes opened at Iowa State University in the fall of 1979, a seminar course called "Critical Judgment" was nowhere on the schedule. It had been canceled abruptly—the latest event in a continuing controversy at the university concerning science, paranormal claims, and religious fundamentalism.

The critical-judgment seminar had been conceived in late 1977 by John W. Patterson, professor of materials science and engineering at ISU, after Patterson had openly challenged the pro-paranormal teachings of David A. Weltha, an associate professor of family environment at the university. The issue received statewide and national publicity (*SI*, Spring/Summer 1978).

Patterson's intentions in offering the seminar were to extol the virtues of critical judgment by applying it to several aspects of modern life—not just to Weltha's notions of human auras, reincarnation, astral projection, and ESP. It included discussions on creation vs. evolution, for example, because a seminar series on scientific creationism had been completed a year or so earlier in the same Seminar '70s program. The scientific-creationism seminar had been taught by three ISU professors, including D. R. Boylan, dean of engineering at the university.

Normally, seminars in the S-70s program are conducted for three quar-

ters, not necessarily consecutively. Patterson gave the critical-judgment seminar first in the spring quarter of 1978 and again in the winter 1978-79 quarter. It was proposed for fall 1979. This would have been its third and final offering, in accordance with the usual practice.

Patterson, however, received a phone call from the coordinator of the seminar program in late March saying that the fall course proposal had been rejected and that Boylan had written a memo to the Seminar '70s Committee encouraging the rejection.

Patterson says the cancellation was for "unprecedented reasons" and not because of any lack of student or instructor interest. He says the administrative committee ruled on "newly contrived" grounds, namely, that topics too closely involved with religious beliefs should no longer be allowed in the seminars. "Of course," Patterson points out, "many other religion-related seminars had previously qualified in the same program, including the one that promoted creationist views on origins and strongly opposed the evolutionary viewpoint."

"From the facts I have at hand—and I fear a great deal has been kept from me—it appears that the critical-judgment seminar was terminated largely because of religious pressure. Among other things," says Patterson, "I had questioned certain fundamentalist biblical interpretations. I had passed out some alternative interpretations of the Bible with a request that the students criticize these alternative interpretations."

This, says Patterson, prompted one student, Ron Lee, who was not enrolled in the seminar but who attended the creation vs. evolution portion, to complain to Boylan, the head of Patterson's college. Even though the S-70s program was not connected with the engineering college, Boylan, says

Patterson, wrote a memo that apparently persuaded the S-70s committee members to terminate Patterson's critical-judgment seminar.

Patterson went to considerable effort to document that Lee was the only student who had complained about the seminar, in contrast to Boylan's claim that his memo was on behalf of the students in the class. Patterson sent course evaluation forms to all attendees, explaining his desire to check Boylan's allegation. The only one who answered that he had complained to Boylan was Lee. Only one of the evaluations volunteered was neutral; all the rest were highly favorable. Some of the students wrote lengthy supportive statements.

All this occurred at a time when Iowa and ISU were steeped in considerable controversy concerning the fundamentalists, both locally and nationwide. Serious questions had been raised about the ISU Bible-study groups and about legislation that was being considered in the Iowa Senate to require that creationism be taught *as science* in the Iowa public school system. "Significantly," says Patterson, "Ron Lee and Dean Boylan had both received widespread visibility in the press because of their very active and outspoken support of the creationist teaching bill and because both were known to be deeply committed to fundamentalist Christian tenets."

Patterson says he does not question the integrity of Lee or Boylan or the sincerity of their beliefs. "Nevertheless, I think they have been overwhelmed by an ominous but very questionable superstitious system and, despite the intensity of their commitment, those outside that belief should be alerted. Alerted, that is, to the extent to which such superstitious beliefs can color and indeed distort one's views as well as one's professional judgment."

Patterson has recorded these

events and his concerns in a document he has entitled "The Victory of Religious Fundamentalists over Science and Critical Judgment at Iowa State University." In it he summarizes his complaint about the creationists. "The creationists have grossly distorted many facets of science to the public and have leveled ill-conceived attacks against anthropology, astronomy, biology, geology, paleontology, radiation physics, and thermodynamics, among other sciences. However, they are notoriously intolerant of any and all serious scrutiny. . . . They are quite content to observe while the 'other guy's ox is being gored' . . . But when the same scrutiny is applied to their dogma some rather different forces come into play and the rules of the game change dramatically, so that the most effective (if not appropriate) political machinery can be brought to bear.

"I submit, then," Patterson says in conclusion, "that committed religious believers in general, and creationists in particular, are the enemies of higher education and of science because they cannot seek an honest, critical inquiry into nature and they cannot support conclusions solely on the basis of scientific evidence and reasoning. Instead, they are compelled to weigh how well the conclusion in question will jibe with their religious dogmas.

"But having said all that, I would be opposed to any effort whatever to have such individuals silenced or their freedom of expression undermined. Instead, they must be drawn into open and highly visible confrontation with capable scientists who will candidly expose them and their views for what they really are. It is only in this way that the richness of the scientific or critical approach can be contrasted to the poverty of dogmatism and anti-intellectualism."

There was what Patterson calls a "happy upturn" to these events in Sep-

tember. The president of Iowa State University, in his annual convocation address, told the faculty he was "increasingly aware, increasingly troubled" about maintaining the university's integrity.

President W. Robert Parks, without mentioning the creationist movement by name, lamented that a university's nature makes its integrity prey to "the true believers in absolutes, who would use the university to promote their absolutist versions of truth." He was referring to those students who have insisted that professors and disciplines alter course content to include the students' absolutist views, which "have no credible basis in the scientific facts of that discipline." Parks said the university's scientists "have a right and an obligation" to respond to groups that claim "a monopoly on the absolute truth."

Patterson says Parks's expression of concern about the creationists' tactics helped "relieve the sense of frustration, cynicism, and almost resignation that had been building in the faculty—myself included." But it was far too early, he said, to consider the affair to have had "a happy ending." He cautioned: "Things at this stage are still changing or developing and there is still so much that has yet to be settled."

—Kendrick Frazier

Levitation for a fee in New Zealand

The lucrative levitation-claim business has made its way to New Zealand. While nobody has produced any documented evidence of a lift-off, several people have shown it to be a rip-off. Fortunately, a New Zealand consumer-protection organization, the Consumers' Institute, in Wellington, has investigated the claims and warns consumers about the absence of any support for them. In a recent issue of its



Consumers' Institute, Wellington, N.Z.

Levitation? No, merely Victoria University student Joy Stephens lofting herself with the help of a trampoline. Photo was used by Consumers' Institute in Wellington to show how easy it is to fake "levitation" photographs.

publication, *Consumer*, the institute described its efforts to obtain documentation of the claim of the Association for the Age of Enlightenment, Inc. (A.O.E.), that it can teach people to levitate and fly, for a substantial fee.

"We want to see someone do it—but are having extreme difficulty in getting a simple demonstration," says the Consumers' Institute report. "We asked four A.O.E. officials, including the senior man in New Zealand, Mr. A. G. Davy, to stage a simple demonstration of levitation for us. All four affirmed that they could levitate or at least achieve the first 'hopping' stage, but all flatly refused to give us the simple practical demonstration we wanted."

"The issue is really quite simple. All we want is to see someone in the lotus position rise 500 mm or more off the ground, without jumping and not aided by any visible means."

The institute described the case of a paraplegic widow, Mrs. Shirley Koszti, who has been confined to a wheelchair for 20 years. She found the claims that the International Meditation Society, a service of A.O.E., could teach one to levitate and fly attractive. She saw it as a way to help alleviate her confinement.

Mrs. Koszti paid \$2,100, believing at the time that the full cost of the eight-week course would be \$2,520. Once thoroughly involved, the lessons were extended and the weekly charge increased. Her total bill would now likely exceed \$5,000. Her one goal was to learn to levitate and fly. But she told the institute that during her preparation course she saw no hope of achieving this aim and, in fact, no evidence (other than hearsay) that anyone had learned to fly this way. She left the program after having been relieved of \$2,100. She later wrote to the Maharishi Mahesh Yogi, founder of the A.O.E., complaining that she had been "ripped off." She never received a reply. The Consumers' Institute shows a photo of Mrs. Koszti still firmly wheelchair-bound.

In the course of its investigation, the Consumers' Institute contacted the SKEPTICAL INQUIRER and CSICOP-member James Randi. Its report quotes key portions of Randi's article "'Levitation' for Fun and Profit" (*Zetetic*, Fall/Winter 1977) and quotes a letter from Randi saying, "The TM levitation claim is total codswollop, undemonstrated and unproven." (See, also, Randi's letter in our Spring 1979 issue.)

The Consumers' Institute makes clear it does not quibble with the possible beneficial aspects of meditation, nor the spiritual goals of the Transcendental Meditation people. But it warns the public against the levitation-for-a-fee racket. "We will not accept the...claims about levitation, invisibility, supernormal strength, etc., until someone shows us, by practical

demonstration, that the claims can be substantiated. Unless the Association for the Age of Enlightenment supplies satisfactory proof of its claims for supernormal abilities, we believe the police should investigate whether the Age of Enlightenment is taking money under false pretenses."

Several months later, in September, W. R. Dyer, of the Consumers' Institute, said that despite its challenge, "Nobody has offered to give us visual proof of levitation. We received several letters from people who said they could 'hop.' "

—K.F.

Put a little bounce in your life

Summer 1979 at the University of Massachusetts at Amherst was billed as an elevating experience. Three thousand students enrolled in a 40-day course in Transcendental Meditation. The highlight, intensive instruction in levitation, was available only to a third of the enrollees—those who could afford the \$3,000 fee. Others had to make do with simpler techniques costing \$800 to \$1,000. "Tuition" went to the World Government of the Age of Enlightenment, not to the university, which simply rented its facilities to the TM crew of approximately 100 instructors. Before expenses, \$3 to \$5 million was reaped by the TM people—at least indirectly using the name of the university as well as its facilities.

Nonenrollees were not allowed to witness the levitation sessions conducted behind heavily guarded doors and whitewashed windows, but at the end of the day, pale, exhausted-looking people could be seen pouring out of the levitation centers carrying pillows under their arms. The *Amherst Bulletin* reports that initiates spent their time hopping frantically. A TM spokesman says that hopping is a necessary stage

preceding levitation—it allows “mind-body coordination that will give you the desire to fly. Hopping is the fulfillment of that desire.” As “energy manifests itself” inside the student, a peak of enlightenment is reached and levitation will come naturally. Levitation is not guaranteed, but “a high percent” of students will achieve it—if not during the course, shortly thereafter, according to TM spokesmen. As one instructor noted, \$3,000 is a small consideration compared with what a student gets in return.

The teaching of precognition and psychic knowledge of the past were integral parts of the program. Only 1,000 of the enrollees levitate daily, according to spokesmen; but all practice scientifically proven meditation techniques, TM officials claimed.

Weekly press conferences noted the achievements of the sessions in bringing about positive changes in the world. “Good things” were noted each Monday as a result of group meditation. They included the overthrow of Anastasio Somoza and Jimmy Carter’s cabinet shake-up (General Somoza, Joseph Califano, Andy Young, and others might demur, but—). Asked about “bad things,” TM spokesmen averred that only good events were the result of the mass meditation, although their official press agents were more cautious.

Conference organizers disavowed any religious overtones to their movement, which is dedicated to the teachings of Hindu monk Maharishi Mahesh Yogi. TM is moving rapidly to offer courses, based on the Maharishi’s teachings as a “perfect” guru, in high schools in a number of states and is working to shed its “hippie” image; monks and teachers no longer are obligated to wear holy robes, because it has become their “pleasure” to dress in civvies. Clearly, only an ethnocentric cynic would see a six-week training program

such as this as a religious exercise dedicated to delusion, paranormal belief, and multi-million-dollar commercialism, subsidized at least indirectly by state facilities and use of the university name and prestige to dubious ends.

Yet for some reason a grouch posted a banner opposite one of the campus training centers that read, “Remember Jonestown!”

According to the *Amherst Bulletin*, TM spokesman Jeff Evans derided this derision. “The official statement is that it’s not a cult, it’s not a religion. If you investigate it thoroughly you’ll see that it’s not that at all . . . but, I guess if you asked the people who were in Jonestown they would have said they weren’t in a cult either.” Resident monks and Perfect Masters also scoffed at the idea that TM was part of a cult or religion.

Meanwhile, levitation remained too serious a business to be observed by nonbelievers who had not paid their \$3,000 fee.

—John R. Cole

John R. Cole is an anthropologist at the University of Massachusetts.

Crippled UFO? The case of the phantom spacecraft

“Crippled UFO Orbiting Earth,” announced the *National Enquirer’s* banner front-page headline last July 17. Perhaps it was timed to help commemorate the tenth anniversary of the first Apollo moon-landing. With that event and the fall of Skylab fresh in everyone’s mind, outer space seemed a bit closer—not much farther away than the grocery counters around the nation where this weekly tabloid is sold.

According to the *Enquirer’s* Los Angeles stringer, Henry Gris, top Russian scientists had identified fragments of a derelict alien spaceship thousands of miles out in space. The discovery,

Gris continued, had been independently verified by American space experts.

As might be expected with such claims, however, professional satellite trackers were quick to deny the existence of such objects. The Public Information Office at NORAD (North American Air Defense Command) in Colorado Springs claimed to have no record of the alleged satellites: "Anything of that size at that altitude would have been spotted by our radar and optical nets years ago," asserted Air Force Tech. Sgt. Michael Bergman. "There's nothing there fitting such a description."

Optical tracking groups, such as the former Moonwatch team at the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts, also had no data to support the existence of such objects, even though they would have been clearly visible to the naked eye. The United Nations Committee on the Peaceful Use of Outer Space, which maintains a registry on all satellites, had no entry that would correspond to any of the claimed objects. Thus there was international agreement: the objects did not seem to exist. (The *Enquirer's* staff had evidently not bothered to check with any of these agencies whose job it was to keep track of satellites—or if any check was made, the negative results were not included in the article.)

The Russians, as quoted by Gris, were just as adamant in their positive claims. "We are convinced a crippled spaceship from another planet is circling earth," declared astrophysicist Sergey Bozhich in Moscow. "There is absolutely no doubt in my mind that we are dealing with the remains of a large alien craft," revealed Vladimir Azhazha. "The craft was at least 200 feet in length and up to 100 feet in width," added Aleksandr Kazantsev. "A [rendezvous] mission should be launched.... The benefits for mankind should be stu-

pendous," emphasized Aleksey Zolotov.

However impressive these assertions may sound, Western UFO experts have had experiences with earlier wild and unsubstantiated claims from the same people. Zolotov, well-known



Headlines in U.S., British tabloids.

champion of the "spaceship theory" of the 1908 Tunguska explosion (a theory almost universally rejected by practicing Russian space scientists, who are not quoted in the *National Enquirer*), is also a devotee of body auras and of faith healing. Kazantsev is one of the original "ancient astronaut" proponents, well known for his officially sanctioned attempts to prove "scientifically" that all the biblical concepts of God were actually based on human misinterpretations of visits from alien cosmonauts. Azhazha has claimed that the American moonship Apollo 13 was deliberately zapped by UFOs to prevent its setting off a nuclear bomb on the moon. All three men are also well known for their eagerness to endorse any wild UFO claims. Their credibility among in-

formed observers is not measurably different from zero.

Yet these "crippled UFO" claims are evidently corroborated by a scientific paper written by John P. Bagby in the January 1969 issue of the journal *Icarus*, according to Gris. Well, it's not exactly that simple either, as I found out when I telephoned Bagby at his office at the Hughes aircraft plant in Culver City, near Los Angeles. I asked him about the "crippled UFO" story, and he informed me that he had never been contacted by Gris (it would have been a local call) or by anyone else on the research staff of the *National Enquirer*; in fact, he had not even heard about the story until called by a relative in Chicago.

"There are too many coincidences between the Russian claim and my original paper regarding extrapolations based on unpublished assumptions," Bagby said. "The date of fragmentation and the number of groups and fragments—I doubt that they could have come up with them independently." Bagby agreed with a suggested scenario that Bozhich, the originator of the claim in Moscow, might have come across a copy of the *Icarus* article, or a translation of it, and might simply have repeated the data to Gris, implying it was *his* discovery.

Bagby still believes that the objects *he* reported are real and have been circling the earth since 1955. The absence of any sign of orbital decay suggests to him that the still-hypothetical objects are massive—perhaps mini black holes that could swallow radar beams and thus avoid NORAD's detection. "My work tends to make me discount the spaceship hypothesis," Bagby concluded.

The same "crippled UFO" story also appeared in a British tabloid (*Reveille*, July 29) under the front-page headline "Sensation in Space" ("Top scientist says: It's the discovery of the century—

a damaged alien craft is orbiting the earth"). In response, the weekly *New Scientist* checked with Desmond King-Hele, world-renowned expert on satellite tracking. King-Hele, who works for the Royal Aircraft establishment at Farnborough, denied the existence of such phantom satellites: "If there were objects of the size and distance suggested by the Russians, they would be tracked both by radar and visually," he said. "We have seen no such objects. . . . There are no alien spacecraft knocking around in orbit."

New Scientist also quoted from another report in *Icarus* (vol. 19, 1973, p. 547), by Jean Meeus, which vigorously disputed Bagby's 1969 paper. After demonstrating a total inconsistency of the claimed orbits, orbital motions, and brightness, Meeus scathingly concluded: "Bagby's story on the Earth moonlets thus appears groundless. The objects cited by Bagby do not exist."

The last word belongs to Charles Redmond, a public information specialist at NASA's Johnson Space Center in Houston. Since Gris's article seemed to imply that NASA has endorsed the theory (it has not, need I say?), people had been calling Redmond's office asking when the inspection and retrieval mission would be launched. "I told them that the mission would have to wait until we worked out the problems of biological quarantine, to avoid any possible contamination with interstellar germs which could be dormant on board the UFO," Redmond recalled with a boyish grin. "Oh my God!" he added, his face drawn in mock alarm. "Do you suppose any of the callers actually believed me?" Time will tell, but it is a safe bet that Redmond's joke will make its way into the folklore of UFOria, where UFOs abound but a sense of humor is nowhere to be found.

—James Oberg

Tabloids and moon "aliens"

Last July, writer and space specialist James Oberg (he works in mission control at the Johnson Space Center in Houston) disseminated a report he had written denouncing the "astronaut-UFO encounter" stories that are so popular in the UFO-fantasy literature.

"Hardly a UFO magazine, book, or movie goes by without the assertion that astronauts have seen UFOs too," it said. "Yet these stories can all be traced to media frauds, exaggerations, and misunderstandings of ordinary space-flight events. The entire collection of stories is baseless."

The dissemination of the report, under the auspices of the CSICOP's UFO Subcommittee, of which Oberg is a member, was made just before the tenth anniversary of the Apollo 11 moon-landing. Renewed public attention was then being given to the first moon-landing, and it was considered certain that UFO publications and the supermarket tabloids would polish up and again present their fabrications about that event.

Sure enough, in its September 11 issue, the *National Enquirer* fulfilled all expectations. "Aliens on Moon When We Landed," it announced to a waiting world. (Why it missed a chance to reveal this news on the anniversary of the Apollo landing is one of those unfathomable mysteries of nature.)

Oberg simply reissued the news release about his report on such wild claims. "The UFO stories referred to by the weekly tabloid are total hoaxes and fabrications, if that surprises any of you," Oberg wrote in a cover note to his friends and colleagues. "In fact, some very essential data are left out (inadvertently or deliberately is for you to decide): The claims of the Russian professor Azhazha are said to independently corroborate the claims of the Frenchman Chatelain. The truth is that

Azhazha has made no secret of the fact that his account relies entirely on the book by Chatelain and he is only repeating the stories (such as the totally absurd claim that Apollo 13 was carrying an atomic bomb to be detonated on the moon, which is why the UFOs shot it down in self-defense—or the claim that astronaut Michael Collins was so shaken by his space experiences that he became a Roman Catholic monk). But Azhazha's dependence on Chatelain is withheld from the readers of the *Enquirer*, who are meant to receive a different impression—a phony impression.

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U.S. & Russian Scientists Reveal Astronauts Saw...
ALIENS ON MOON WHEN WE LANDED

"Azhazha and Bozhich are, by the way, two Russian UFO buffs long familiar to Western observers and long ago calibrated as totally unreliable purveyors of the wildest flying-saucer stories they can find or fabricate. Chatelain's own work (*Our Ancestors Came from Outer Space*) is so full of inconsistencies and absurdities that it is easily marked as unreliable. The other 'noted experts' have similarly phony credentials.

"Exposure of these old Apollo-UFO frauds has been in print for some time (*Analog*, November 1976; *Space World*, February 1977; *Search*, Winter 1977; *Skeptical Inquirer*, Fall 1978; *UFOs and Flying Saucers Quarterly*, Spring 1979), including detailed refutations of the various photo forgeries and fantasies by UFO writers and flying-saucer buffs, who apparently have no scruples about smearing our astronauts with dirty allegations of lying. But these unsensational true findings have naturally been ignored by the staff of the *National Enquirer*."

—K.F.

Session with a trance medium

I recently experienced an "in-depth personal consultation" with Ian D. Borts, who, according to his own publicity sheet, is a "trance psychic": "Similar to Edgar Cayce, Ian allows himself, with the aid of his director Steve Kinniburgh, to enter into a trance or sleeping state where communication is made with a group of entities which have been named Speaker."

Ian D. Borts and Stephen R. Kinniburgh form a division of Touchstone Associates, which is based in Ottawa, Ontario, Canada. Kinniburgh, incidentally, is a fireman in Ottawa, but he is considering making Touchstone his full-time activity, because "I can help more people than I can help by being a fireman."

The session, which took place in an ordinary room at a local Holiday Inn, lasted about an hour and a half and cost \$75. Since I was allowed to bring two friends (no extra charge), I invited a graduate student with expertise in experimental hypnosis and Henry Gordon, a Montreal-based mentalist magician. Gordon and I used phony surnames in case Touchstone Associates had been sophisticated enough to check up on the names of local skeptics. However, we need not have worried about the level of sophistication of Borts and Kinniburgh. Kinniburgh helped Borts enter a "trance" state with some slow counting and a brief prayer for the safety of this "soul" who was "seeking answers." Borts appeared to enter a relaxed state with slow, shallow breathing after about 15 minutes. We were then allowed to ask questions about "people, places and conditions anywhere in the world. Questions answered range from personal, social, physical, emotional, mental, and spiritual states, to business and financial conditions as well as investment ideas."

Borts's voice, when it was being

used by Speaker, assumed a peculiar, perhaps British-sounding, accent with many words preceded by a "kch" sound. Answers to questions were disappointingly predictable. Borts/Speaker was very concerned about elimination problems, so far as health is concerned. He recommended Miller's bran two or three times. My 65-year-old mother, contacted in Blackpool, England, by Speaker, had arthritis and lower-back pain; and my father, also 65, had some difficulty hearing (which he does). My mother has never complained about arthritis or lower-back pain, but she has severe chronic bronchial congestion. Speaker did not diagnose this condition. Vitamins B₆ and B₁₂ were mentioned more than once. Henry Gordon was urged to try oil of wintergreen for his bursitis. Gordon was also urged to "look carefully" before entering into a business venture. Mr. Laurence, the graduate student in experimental hypnosis, was told to take his girlfriend to the Institute of Tropical Disease, in Toronto. Speaker was very specifically insistent here. Such specific directives could potentially cost people time and money. However, Touchstone Associates was careful enough to have me sign a document releasing them from any responsibility with regard to medical or other advice.

At one point Henry Gordon asked about his long-departed sister. Taking the bait, Speaker indicated that Gordon's dead sister's spirit was involved in helping deprived children in Belgium. Mr. Gordon never had a sister.

Perhaps the session could have been more compelling to less sophisticated observers, but in general it did not even reach the level of good fortune-telling or cold reading (see R. Hyman, *The Zetetic*, Spring/Summer 1977).

Kinniburgh and Borts told us they can manage five or six sessions a day. These are a minimum of \$75 for the personal consultation to \$175 for a bus-

iness consultation involving "one to five individuals or partners who wish investment ideas and financial forecasts. . . ." In spite of the obvious financial possibilities, Kinniburgh and Borts assured us that they were "not getting rich" and were concerned to help people. I wonder why Kinniburgh doesn't get Borts to tell the Ottawa Fire Department where and when the next fire is going to occur.

—T. Gray

T. Gray is in the Psychology Department at Concordia University in Montreal. He is a member of the Canadian section of the CSICOP.

Magnetic "cures" by mail

An otherwise respectable industry specializing in magnetic tape for audio and video use has decided to enter the profitable world of mail-order with a set of products designed to lure the unknowing victim with hints of surcease from aches, pains, and discomfort. Dr. Abrams with his electronic flummery and Reich with his "orgone" generators set the example for this kind of advertising, and now Madison Avenue has applied new gloss to the techniques.

TDK Electronics Co. of Tokyo has taken ads in airlines magazines offering its "rare earth magnetic necklace" (\$27.95 to \$32.95) and an "ortho-obi" magnetic belt (\$39.95). For that kind of money, one would expect more than a set of tiny bar magnets on a chain. But that's what's being sold—along with preposterous suggestions about medical benefits. It begins with the question, "What have over 3 million people discovered about the amazing effects of this rare earth magnetic necklace?" Then, rather than answering the question, it suggests, "Find out for yourself."

The "Epaule" (French for "shoulder," for some unknown reason used as

the registered trade name of this wonder) is, we are assured, "Japanese Government certified"—though no explanation is offered of that certification—and we are told that the Japanese government "tested and approved" the device. For what? Sharp edges? Radioactivity? We are not told.

"Developed for NASA for use in U.S. space flights, the magnets are made of Rare Earth Cobalt." Now, that's not only fascinating and useless but a great leap forward for technology. A new element—rare earth cobalt—has been created! There is no such animal, though strong magnets have been made of ordinary cobalt/iron alloys for a long time now.

But, we are further assured, TDK is "a \$500 million company." Good. So they are successful. But can they tell the truth about their product? Where are the "amazing effects" and the "remarkable benefits" that will "astonish you"? The "ortho-obi" belt boasts "all the amazing benefits of our necklace, and then some!" and is ten times as strong as the necklace, "with magnetic assembly positioned at your back." So what?

The suggestion is clear that this magnetic claptrap can benefit the wearer in specific ways. No evidence whatsoever is given, and the unwary send in their money with "NASA," "rare earth," "certified," "approved," "amazing," "remarkable," and "mysterious" ringing in their ears. But what it amounts to is summed up in a bit of the Madison Avenue jargon within the ad: "The effects of this necklace are highly individual. You must discover for yourself how the mysterious natural energy in Epaulé can benefit you."

The ads are topped with a photo of an elderly couple, full of smiles and with a tennis racket. This is what makes the ad even more cruel and fraudulent. Can three million customers be wrong? Yes.

—James Randi

Cold water on mammoth theory

Quick-frozen bodies of mammoths, discovered in Siberia, are often claimed to be evidence for extraordinary climatic disasters. Certain writers attribute such catastrophes to sudden axis tilts, to encounters with other planets, to the Noachian flood, or to similar bizarre ecological excursions—with the common factor being that “science cannot explain these results.” Tropical flowers are said to be found barely digested in the stomachs, and even in the mouths, of the dead beasts; their meat, when thawed, is fresh enough to eat. Some unrecognized worldwide cataclysm is allegedly required to account for this.

Not so, writes William White in the June 14, 1979, *New Scientist*. “Accounts of the actual degree of preservation evident have been exaggerated,” he claims, pointing out that, although enough tusks have been found to account for 50,000 individual mammoths, fewer than 50 have been found in which any soft tissue at all was preserved; moreover, “of the preserved carcasses only some 10 percent are substantially intact, and even these few show signs of putrefaction that had commenced before freezing became complete.”

Nor is it true that such animals had been native to a subtropical climate that suddenly changed into the Ice Age. According to White, the mammoth “was well adapted to conditions of extreme cold, possessing a 9-cm-thick layer of subcutaneous blubber in addition to the double thickness of pelt.” The beasts died in the same climate they were born in; furthermore, continues White, “in the best-preserved specimens, death was almost exclusively the result of falls, landslides, or drowning,” all of which would have contributed to freak burial and freezing in the permafrost.

White concludes: “Thus, no catastrophic event need be invoked to

explain the extinction of the mammoth, and the preserved specimens demonstrate merely the chance conservation of corpses under special conditions and not the instantaneous demise of the entire community as a result of climatic calamity. Attempts to marshal the few frozen cadavers of this Arctic creature as evidence for precipitate glaciation ought to be given the cold shoulder.”

—James Oberg

Court cases

- A jury in Portland, Oregon, has awarded a young woman \$2 million in damages in a suit in which she claimed the Church of Scientology defrauded her by failing to fulfill promises of improving her life. Julie C. Titchbourne, of Portland, alleged that she suffered emotional distress as a result of her bad experience with the church in 1975-76. On August 15, the jury ruled that the defendants committed fraud.
- A Greenwood, South Carolina, faith healer was sentenced to 12 years in prison after a conviction on several conspiracy charges, including one “to commit assault and battery of a high and aggravated nature” on a newspaper reporter who had investigated him. Leroy Jenkins, 44, pleaded unsuccessfully with the circuit judge for a fine instead of a prison sentence “so I can continue my ministry.” Jenkins said 340,000 families contributed to his crusades and millions of people watched his Sunday telecasts over 37 stations. He was found guilty on May 22 of assaulting Rick Ricks, a reporter for the Anderson, South Carolina, *Independent*, who with a fellow reporter had disclosed certain faith-healing practices of Jenkins’s, in a series of newspaper articles. Jenkins was also found guilty of conspiring to assault a highway patrolman and to burn his house and of conspiracy to burn the house of a creditor.

- A 23-year-old Annapolis, Maryland, woman was charged with assault and battery on two young children in a ritual she said she learned from the movie *The Exorcist*, according to an August 4 article in the *Washington Post*. The mother of the boys told police that, while self-styled exorcist Camille Booth held her in a trance, Booth beat the children with a Bible, cut the buttocks of the 11-month-old boy with a glass, and directed her to throw the children from a third-floor window. The mother refused. Booth was booked on two counts of assault and battery. Said Annapolis police detective Gary Simpson: "I can see where movies and real life have apparently merged."

—K.F.

In brief

- James Oberg traveled to London in October to accept a "1,000-pound award" for winning the scientific-paper competition on UFOs sponsored by Cutty Sark Scotch Whiskey. Oberg won the prize for a specially written 4,000-word essay entitled "The Failure of 'the Science' of UFOlogy." The essay examined the status of UFOlogy and found it severely lacking. The essay's basic point, says Oberg, is that the reason science has been unresponsive to the claims of UFOlogists so far is not that UFO proponents are heretics but that their claims have failed to meet the standards of valid scientific evidence.

Oberg works in mission control at the Johnson Space Center in Houston as a computer specialist for the space shuttle. He is a Fellow of the CSICOP, a member of its UFO Subcommittee, and a frequent contributor of investiga-

tive reports about UFO claims to the SKEPTICAL INQUIRER. He also writes the monthly UFO column for *Omni* and free-lance articles on space science. Oberg says he was delighted at winning the award and pleasantly surprised that it went to an essay critical of UFO research. This essay was subsequently published in the October 11 *New Scientist*.

- A symposium entitled "The History and Evolution of the Pseudosciences" was scheduled for January 4, 1980, at the annual meeting of the American Association for the Advancement of Science, in San Francisco. Speakers at the symposium, which was arranged by physicist Rolf M. Sinclair, of the National Science Foundation, were to be psychologist Ray Hyman, of the University of Oregon, sociologists William Sims Bainbridge and Rodney Stark, of the University of Washington, astronomer Edwin C. Krupp, of Griffith Observatory, and conjuror-investigator James Randi. In another AAAS symposium, on the frontiers of the natural sciences, on January 6, statistician Persi Diaconis, of Stanford University, was to give a paper entitled "Statistics and ESP."

- James Randi will be interviewed in the April 1980 *Omni*. *Omni* senior editor Scot Morris, the interviewer, says it is the longest interview the magazine has ever published.

- James Randi's book *Flim-Flam*, from which his article on Edgar Cayce in our Fall '79 issue was excerpted, is now scheduled for publication by Crowell in May 1980.

—K.F.

Psychic Vibrations

When NASA's plans to use the space shuttle to rescue the falling Skylab had to be scrapped due to schedule delays, there remained but one force on earth capable of holding Skylab in its shaky orbit: psychic power. Some of the top psychics in the world combined their psychic oomph to give Skylab the boost it needed to stay in orbit. Under the direction of a radio promotional wizard, Mike Harvey of WFTL-AM, in Ft. Lauderdale, Florida, a network of "Skylift for Skylab" radio programs was created in the United States, Canada, Britain, and Australia, having a potential audience of 12 million. Listeners were instructed to "relax, visualize themselves as being in contact with Skylab, and then to visualize Skylab as moving out into space." Page Bryant, a favorite "psychic" of the *National Enquirer*, explained: "We are going to use our energy so that Skylab will not fall, so our space program will not be interrupted." Noted spoon-bender Uri Geller, quoted in the *Washington Post*, explained: "You have to believe. Don't think this is a ridiculous experiment—it's not, it's serious. Help us to push Skylab higher and higher." In spite of this valiant psychokinetic effort, Sky-

lab made a fiery return to earth, exactly as NASA predicted. The score: Matter 1, Mind 0.

* * * * *

The latest issue of J. Allen Hynek's publication, *International UFO Reporter* (the first "monthly" issue to appear in six months), contains a UFO report that is beyond any doubt one of the most intriguing in the whole UFO literature: a six-foot UFO-naut was reportedly seen standing next to a landed UFO that was only two feet high. Their technology must indeed be *vastly* more advanced than ours!

* * * * *

Move over, Bigfoot. There is another weird creature now being spotted who threatens your near-monopoly on Monsterdom: Bighead. The "Para-Hominid Research Group" in Ohio has catalogued reports of a "hairy humanoid" that differs from your run-of-the-mill Bigfoot in one significant aspect: its head, estimated at three feet in diameter, is larger than its body. Police officers have searched the area where

Bighead was spotted, south of Mansfield, Ohio, without success. At least Bighead seems to have fared better than the Bigfoot that was reportedly captured by Chinese troops in Yunnan province in 1962. According to the Canadian paranormal research publication *Res Bureaux Bulletin*, a Chinese scientific journal reported that the creature is unfortunately not available for study because the well-fed troops of the Peoples' Army "ate" him.

Paranormal researcher and anti-nuclear activist Larry Arnold delivered a startling talk to the annual conference of the International Fortean Organization in Washington, D.C., this past August. He chronicled the "Fortean Psi-Side" of the nuclear accident at Three Mile Island. It seems that numerous psychics and sensitives had premonitions of impending doom for months before the incident, some of them spiritually floating above the plant, sensing "chaos" and a "red glow in the air" above the cooling towers (which experienced no problems—the reactor did—but being so conspicuous, the cooling towers are always imagined to be grossly radioactive). However, it seems that these psychic insights were not publicly revealed until *after* the incident. Similarly, the tears allegedly wept by a bronze statue ten days beforehand were for naught; statues so seldom express any feelings at all that its urgent warning was understood only in retrospect. (An official from MUFON, a major UFO group, traveled to Harrisburg to investigate reports that the incident at Three Mile Island coincided with an unusually large number of UFOs loitering in the vicinity.) Arnold does not feel that such accidents can be prevented by any safety measures, because "while human error played a large part in this accident, humans can be telepathically manipulated, and our equipment

can be psychokinetically controlled." As an alternative energy source, Arnold suggests research into the "earth's magnetic field," which is not a source of energy at all; the only energy you can extract from a static magnetic field is whatever energy you put into the system through motion, minus the amount lost in conversion. Let us hope that the Department of Energy doesn't establish a bureau to fund compass power.

The late Charles Fort, chronicler-satirist-humbucker, was in many ways the founding father of present-day oddball theories, and the annual meetings of the Forteans bring together everyone from the farthest-out kook to the undecided to hard-nose debunkers to casual bemused observers. In another talk at this year's Fortfest, Dr. Craig Phillips, director of the National Aquarium in Washington, presented the results of his study of photos and sketches of the supposed "plesiosaur" hauled aboard a Japanese fishing boat in 1977. He concluded that it was the badly decomposed carcass of either a whale shark or a basking shark. Also seen at Fortfest: a gray-haired gentleman wearing a hand-lettered T-shirt proclaiming him to be "Secretary to God Almighty."

The Don't-Question-Just-Write-What-They-Tell-You Award for Creative Journalism should go to the author of a recent article in *Writer's Digest* entitled "Selling Ghost Stories" and subtitled "You don't have to believe in ghosts to write about 'em." Noting that "the angles in the occult market are endless: ghosts, ESP, metaphysics, astrology, demoniac possession, witchcraft—anything that is supernatural," the author says she follows up newspaper reports of hauntings by getting magazine assignments and then interviewing the percipients. "Whether I, the writer, believe or doubt is unimportant," she says in her

most telling statement. "It's the *percipient's word* (or the documentation) that counts. My ms. is always checked by the *interviewees* for accuracy" (emphasis added). No independent checks of the veracity of the interviewees' stories are deemed necessary. "I never state, 'This story is true.' The reader must judge its truth for himself. I merely present the facts [*facts?*] in dramatic, fast-paced form." She'd get along fine with *Amityville Horror* author Jay ("I don't know whether the book is true") Anson.

* * * * *

Close encounters of the X-rated kind: Director Donald Bryce is releasing a new skin flick titled "Close Encounters of the Barest Kind," a parody of Steven Spielberg's blockbuster UFO film released in 1977. Reviews of the film reveal that it features no less than four separate alien sex interludes. "We do not sleep alone," the film's ads proclaim.

* * * * *

MARCEN—the Maryland Center for Unconventional Phenomena, a rapidly growing UFO/paranormal research group—recently announced its support for Professor Robert Carr's Project Lure. Carr is the retired professor of mass communications from the University of South Florida who made head-

lines in 1974 with his claims about crashed saucers retrieved by the Air Force and about the pickled little humanoid bodies secretly stored in Hanger 18 at Wright-Patterson Air Force Base. Project Lure is a scheme to draw UFOs down from the skies to a "safe-landing zone" by means of arrays of lights and other shiny baubles and trinkets. Once they land, Carr proposes giving the UFO-nauts "virtually anything they want" in exchange for their superior technology and knowledge. To advance this aim, MARCEN has published a "peaceful petition" to be filled with signatures and sent to the President of the United States. It urges "all branches of the U.S. Armed Forces to cease attacks" upon UFOs, explaining that "the UFOs' occupants obviously are not hostile, else they would have retaliated during the 25 years of armed pursuits and attacks by our fighter planes and fear-crazed armed civilians." "Mr. President," the petition continues, "an administration capable of détente with the inscrutable Chinese and with those truly alien minds within the Kremlin is already well qualified to attempt détente with the more reasonable and pacific beings who pilot UFOs.... For this great step forward you will enjoy the plaudits of our planet, Mr. President, and especially the applause of voters under 30, children of the Space Age, to whom the present UFO cover-up is worse than Water-gate." ●

Four - Part Report on Claimed "Mars Effect"

Results of the U.S. Test of the "Mars Effect" Are Negative

Paul Kurtz, Marvin Zelen, and George Abell

Introduction

The research of Michel and Françoise Gauquelin has attracted considerable attention on both sides of the Atlantic. Although they are critics of traditional astrology, they nonetheless claim to have found a statistical correlation between the professions and personalities of certain individuals and the positions of certain planets in the sky at the time and places of their births. The alleged correlation between the position of the planet Mars in the heavens at the time of birth and the incidence of being a sports champion was taken as a test case of the Gauquelins' hypothesis.

According to the Gauquelins, if the sky is divided into 12 sectors (similar to the Placidian "houses"), Mars appears in the sectors just above

The authors would like to thank Frank Dolce, Germain Harnden, and Neal Radice for their assistance in this study.

Paul Kurtz, professor of philosophy at the State University of New York, Buffalo, is chairman of the CSICOP.

Marvin Zelen is professor of statistical science at Harvard University.

George Abell is professor of astronomy at the University of California, Los Angeles.

the eastern horizon and just west of the meridian (the first and fourth sectors) at the time of birth of sports champions more often than can be expected by chance. The Gauquelins have compiled data for a total of 2,088 European sports champions. If there is an equal probability of an athlete being born in any of the 12 sectors, then we would expect that 1/6 (approximately 16.7 percent)¹ of the athletes would be born in the key sectors. However, the Gauquelins show that in their sample this proportion is approximately 22 percent. For many years the Comité Para of Belgium investigated the Gauquelins' research but was unable to confirm it. The Gauquelins have held that the Comité Para replicated their results; the Comité, however, questioned the Gauquelins' procedure for calculating the theoretical frequency with which Mars appears in the "key" sectors at the birth times of the general population, in comparison with which the alleged deviations were found.

In 1977, Professor Marvin Zelen, a Fellow of the Committee for the Scientific Investigation of Claims of the Paranormal, proposed a new test of this Mars effect, which is now called the *Zelen test*. In Zelen's proposal the Gauquelins would select at random a subset of sports champions from their original sample and then for each champion obtain birth data for all other people born in the same areas on the same day. The plan was later modified to select individuals born within ± 3 days of the champions. If the champions were born in the first and fourth sectors significantly more often than were the people in this new control sample, this would tend to support the Mars effect hypothesis. The Gauquelins selected names from the *chief-lieux* of the departments and provinces of France and Belgium, areas where 303 champions from the original sample were born. According to the Gauquelins, the Zelen test confirmed the Mars effect, resulting in a statistically significant difference ($P = .03$). (Cf. *Humanist*, Nov./Dec. 1977.)

The authors of this paper are not convinced by the Gauquelins' interpretation of the results of the Zelen test. The Mars effect was significant only in the Paris part of the sample, and was relatively weak or nonexistent for the rest of France and for Belgium. If it was a real effect, one would expect to verify the phenomenon with data from diverse geographical areas. Moreover, the Gauquelins did not employ a random selection as originally planned: They used the entire list of Paris champions but in other areas used only champions born in the chief towns. Since our 1977 report, we further learned that in the city of Paris they did not even compare champions born in each of the 20 arrondissements but only in the fourteenth arrondissement. (This was not reported in their paper and we only learned of it from the Gauquelins recently, after questioning them about it.) The reason for comparing champions and nonchampions from the same village, town, or arrondissement was to equalize any

environmental factors that might influence active participation and achievement in sports.

Our independent calculation, based only on male sports champions, resulted in a P -value of .04. The Gauquelins have objected to our omitting women from the analysis of sports champions. But surely women have not had the same opportunities men have had to pursue sports. It is obvious that sexual discrimination and sex roles are important factors. Accordingly, it seemed unjustifiable to compare the sample of 303 sports champions, which contained 294 males and 9 females, with the total larger population of nonchampions, which included both males and females on roughly a 50-50 basis. In our analysis using the Zelen test, therefore, we dropped the females in that sample and compared the male champions with male nonchampions only.²

In any case, the central issues are whether the original sample of 2,088 champions is representative of outstanding athletes in general, whether the Mars effect shown by that sample is real or a statistical fluctuation, and whether the Mars effect is an artifact of the selection process or the application of the test. Consequently, Kurtz, Zelen, and Abell, in cooperation with the Gauquelins, agreed to conduct an entirely independent study of U.S. sports champions to see if the Mars effect could be replicated.

The U.S. Test

At a meeting in July 1977, Kurtz, Zelen, Abell, and M. Gauquelin outlined plans for the U.S. test. A representative sample of U.S. sports champions was to be selected from directories of sports champions.

At the outset we did not know how much information we would obtain, e.g., whether the hour of birth was generally recorded, or whether the data would be released to us even if it were. Gauquelin himself has encountered similar difficulties in obtaining complete data from some countries. We selected all 340 American champions listed in the *Lincoln Library of Sports Champions* (Frontier Press, 1974).³ We also selected 218 names from *Who's Who in Football* (Arlington House, 1974), primarily, but not exclusively, the players who made the All-Star or All-Pro teams, and 47 All-Star players from *Who's Who in Basketball* (Arlington House, 1973). Thus our first proposed sample was composed of a total of 605 sports champions. This total was reduced by 41 names for which birth data were not available in the directories, leaving a total of 564 names. To avoid any bias by Kurtz, Zelen, and Abell, the actual selection of the champions was made by two neutral researchers, Frank Dolce and Germain Harnden.

Once the list was compiled, we wrote to the state offices of birth

registry, pointing out the scientific character of our inquiry. Birth data were not available for many of the champions, primarily because of the newly enacted U.S. Privacy Act, which prohibits states from providing such information without the consent of the individuals themselves. Twenty-one states refused to send us information, on the basis of the Privacy Act, and five states, plus the District of Columbia and Puerto Rico, did not reply. Five states had no champions in them, and one state did not respond to our original request until six months later (those data were included in our second sample). Nevertheless, 18 states waived the rule and sent information, from which we compiled data on 128 champions. Of these 128 champions, 19.5 percent were born with Mars in key sectors. Although statistically this proportion was not significantly different from the expected 16.7 percent, we felt that the sample was too small and M. Gauquelin agreed with this judgment.

Accordingly, we decided to expand the sample by requesting information on more champions from those states that responded to our first canvass. We selected the remaining champions who resided in those states and who are listed in *Who's Who in Football* (330 names) and *Who's Who in Basketball* (145 names). This list included many All-Star and All-Pro players in basketball and football not included in the first sample. Since we had no idea initially of how much information would be forthcoming, not all the All-Star and All-Pro players were selected in the first sample. We also added the names of champions listed in *Who's Who in Track and Field* (Arlington, 1973), which contains 111 names of American champions from those states, and in *Who's Who in Boxing* (Arlington, 1974), which contains 92 such champions. We sent requests for data on these champions to the 18 cooperative states, but received replies and birth information from only 14 of them. Even those 14 states did not have records of 186 of the champions. In all, our second canvass yielded data on 197 additional champions.

In a third canvass we wrote to those states initially refusing information, and from all states we requested data on athletes listed in the directories but whose names had been omitted in the first and second canvasses. Three additional states subsequently responded to our second and third inquiries. The final number of states providing information was 22. From those cooperating states, we requested information on 682. (See Table 1.) Thus the total sample that resulted from all three canvasses contains 408 names, a number we deemed large enough for a preliminary study.

Our view has been that there should be no bias expressed by our selection process. Accordingly, requests for birth information for *all* of the sports champions listed in the various directories who were born in the states offering information were sent by Germain Harnden. According

TABLE 1

States That Sent Information on Birth Data

State	Number Requested	Number Received
Alabama	39	20
Arizona	3	2
California	175	60
Colorado	12	7
Delaware	1	1
Hawaii	4	2
Kansas	31	25
Kentucky	52	35
Nevada	2	1
New Hampshire	3	1
New Jersey	69	38
North Carolina	31	25
North Dakota	3	3
Massachusetts	20	9
Minnesota	19	17
Montana	2	2
Ohio	93	73
Oregon	25	17
South Carolina	22	14
Utah	15	15
Virginia	23	16
Wisconsin	38	25
Totals	682	408

to our understanding, they are famous sports champions because they are listed in *Who's Whos* of sports figures who have distinguished themselves in their respective sports by outstanding achievements.

Results of Statistical Analysis of American Sports Champions

Dennis Rawlins calculated the "Mars sector" of the sky corresponding to the birth time and place of each athlete for whom we received birth data. Rawlins's calculations have been spot-checked by one of us (Abell) and found to be accurate. The Gauquelins themselves have had Rawlins's calculations checked and found them accurate. The number of American sports champions born with Mars in each of the various sky sectors is shown in Table 2.

According to the Gauquelins' hypothesis, the key sectors are 1 and 4

and one would expect to find a significantly larger number of champions born with Mars in these sectors than would be expected in a random distribution. The observed proportion of births falling in the key sectors is $(30 + 25)/408 = 0.135$. In a population of which our sample of 408 is representative, the 95 percent confidence interval is 13.5 ± 3.3 percent. In other words, one would expect that there was only a 5 percent chance that the true percentage of births in the key sectors would lie outside the range of 10.2 to 16.8 percent.

If there were an equal chance of a birth time falling within each sector, one would expect the true proportion in sector 1 and in sector 4 to be $2/12 = 0.167$. This value is barely within the 95 percent confidence interval calculated from our data. On the other hand, in Gauquelin's sample of 2,088 champions, 21.6 percent are in the key sectors. This value is clearly outside the 95 percent confidence interval of the present sample of American athletes. (The 95 percent confidence interval in Gauquelin's sample is 21.6 ± 1.8 percent.)

Since the observed proportion (13.5 percent) is less than the theoretical result (16.7 percent) if there was no "Mars effect," it is not necessary to carry out a statistical test of significance. Nevertheless, we

TABLE 2

Distribution of American Sports Champions Among 12 Celestial Sectors
Relative to the Position of Mars at Birth

Sectors	Number of Champions Born in Sector
1*	30
2	39
3	35
4*	25
5	33
6	22
7	39
8	37
9	29
10	47
11	36
12	36
Total	408

* Sectors 1 and 4 are "key" sectors.

TABLE 3

Summary of Test of Significance Comparing Events in Key
Sectors with Theoretical Probability of $P = 1/6$

Sectors	Observed Number in Sector	Theoretical Expectation	Observed Minus Expectation
Key (1 and 4)	55	68.0	-13.0
Other	353	340.0	13.0
Total	408		

$$\text{Chi-square} = \frac{(13)^2}{68} + \frac{(-13)^2}{340} = 2.98$$

Two-sided test: $P = .090$

One-Sided test: $P = .945$

have done so for completeness. The calculations are summarized in Table 3. If we wished to test the hypothesis that the proportion, p , is $1/6$ (no relationship) against the alternative that p should be greater than $1/6$, a one-sided significance test would result in a $P = .95$. That is, the data are well within what would be expected if one-sixth of all births fall in each sector. Alternatively, if we compare the hypothesis $p = 1/6$ with the alternative that p can be either greater than or less than $1/6$, a two-sided test shows that the P value is .09.

Another way of examining the data is to compare the number of births in each sector with its theoretical expectation based on the condition that there was an equal chance of birth times falling within each of the 12 sectors. The theoretical expectation would then be $408/12 = 34$ births in each sector. The standard chi-square test shows that in random samples from such a theoretical population we would obtain larger deviations from a uniform distribution of births among the sectors 18 percent of the time (chi-square = 14.98; 11 degrees of freedom). Hence the data are consistent with an equal chance of birth times falling within each of the 12 sectors.

We conclude that the analysis of American sports champions shows no evidence for the Mars effect.

Notes

1. Dennis Rawlins has calculated the theoretical expectations for sectors 1 and 4 to be 17.17 percent (See his article, p. 26.)

2. We have not deleted females from the U.S. test because they are not being compared with nonchampions. In the U.S. study there are 9 female sports champions, with one born in a key sector. If the women were deleted, it would not affect the results significantly.

3. One champion, Louis Groza, was inadvertently omitted from the first sample because of confusion with his brother Alex Groza; but he was added later, making a total of 341 from the *Lincoln Library*.

Report on the U.S. Test of the Gauquelins' "Mars Effect"

Dennis Rawlins

In his analysis of 2,088 European sports champions, Michel Gauquelin found that Mars appeared in a specified pair of his 12 celestial "sectors" (1 and 4) at the birth of about 22 percent (more exactly, 21.65 percent) of the sample, instead of the theoretical expectation of 17 percent (about 2 in 12; more exactly, 17.17 percent).¹

The odds against this occurring by chance are some millions to one. Unlike Zelen, Kurtz, and Abell in their paper in the November/December 1977 *Humanist*,² I do not doubt the rates, analysis, or odds. Indeed, in a March 1977 memorandum, I established that Gauquelin had taken proper account of astronomical-demographic influences (they are minor, anyway—see Appendix), about which some question had been raised by CSICOP and the Comité Para.

However, because there could have been unknown problems with the European sampling (on which all previous CSICOP studies have been based), it was deemed desirable to see whether Gauquelin's prediction of 22 percent success could be verified with a fresh sample.

In 1977-78, Kurtz and aides gathered a sample of star U.S. sportsmen, of a size proportionally comparable (in depth) to the European one. The birth data were available for only 407.^{2a} However, this number proved quite sufficient to test the hypothesis.

Because I had already expressed myself strongly on the subject of Gauquelin, I asked to have nothing whatever to do with the choice of a new sample.³ However, after a while, I was retained by CSICOP to calculate

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celestial positions (a strictly computational labor, happily not subject to statistical bias or predisposition).

Incidental note: Gauquelin's method (faithfully adhered to in this experiment) of dividing the sky into 12 sectors happens to be identical to the division into 12 mundane "houses" of a horoscope (except that Gauquelin numbers in reverse order—e.g., his favorite sectors, 1 and 4, correspond to mundane houses 12 and 9, respectively). I might also note that traditionally (at least since Ptolemy's *Tetrabiblos*, 18 centuries ago), the two most significant points of astrologers' house division are the Ascendant ("oroscopus") and the Midheaven. The east bound of Gauquelin's sector 1 is the Ascendant, and the east bound of his sector 4 is the Midheaven.⁴

I mention such peripheral points only because it has been stated that Gauquelin's results have nothing to do with traditional astrology!

A person sympathetic to astrology (and who was not told the nature of the test—or even that Gauquelin was involved) was hired to determine, for each birth, the correct time-zone and whether Standard or Daylight time obtained.

To assist in placing the results in context, I arranged my computer program to yield, for each birth, the sectors of all planets, and the sun and the moon. The results are displayed in Table 1.

Table 1 Scores for Each Sector, for All 10 "Planets" for the U.S. Test, 407 Sports Champions												
Sector:	1	2	3	4	5	6	7	8	9	10	11	12
"Planet":												
Sun	36	36	40	33	29	23	27	28	35	34	43	43
Mercury	43	34	38	31	30	25	24	30	34	36	38	44
Venus	41	40	37	41	24	21	27	30	36	35	35	40
Moon	30	33	36	36	39	37	30	35	31	28	32	40
Mars	30	39	35	25	33	22	39	37	29	47	36	35
Jupiter	32	40	41	31	32	28	38	32	36	36	29	32
Saturn	34	35	41	32	35	37	36	32	43	29	25	28
Uranus	33	33	33	44	46	41	28	34	33	24	26	32
Neptune	47	42	39	34	33	28	32	23	36	29	30	34
Pluto	53	34	54	37	50	34	20	26	27	16	31	25

Using for each sector the theoretical probability $1/12$ (very close to what might be obtained by more refined methods; see Appendix) for the likelihood that Mars was in any given sector at the moment of an athlete's birth, we expect to find about 34 ± 6 in each sector ($407/12 \doteq 34$ and $(407 \cdot 11)^{1/2}/12 \doteq 6$).

That is, according to the bell-shaped (Gaussian) curve, about 68 percent of the sector-counts in Table 1 should be in the range 28 to 40, and about 95 percent should fall in a range twice as broad (99.7 percent in thrice the first range).

Excluding the slow-moving outer three planets (Uranus, Neptune, and Pluto—where sectors 1 through 6 averaged overlarge counts, due to astronomical factors that exercised a particularly strong effect on the Pluto data, as is readily seen in Table 1), we find a near-perfect Gaussian fit—indicating that all the scores are virtually chance (see Appendix). Thus the experiment fails to verify Gauquelin's neo-astrological hypothesis.

If we examine the Mars results in particular, we find that the highest sector-score is that of sector 10 (47 hits). Gauquelin's specified sectors received only 30 hits (sector 1) and 25 (sector 4), for a two-sector total of 55. This is distinctly (but not significantly) below chance expectation (67.8 ± 7.5 for a pair of sectors).

By a coincidence that (from Gauquelin's viewpoint) is rather perverse, the sector 1 and sector 4 scores both represent sharp relative *minima* in relation to the adjacent sector-counts—the very opposite of the European findings (see Gauquelin's graphs, e.g., *Humanist*, Jan./Feb. 1976, p. 31).

Beyond testing the specified hypothesis: the Mars scores' chi-square indicates a probability of about 0.2, not significant. This is of some additional interest in connection with the strange assertion (*Objections to Astrology*, pp. 58-60) that one ought to use an "empirical" standard-deviation instead of a theoretical (a priori) one in such analyses. The chi-square test shows that an empirically derived standard-deviation does not convincingly supplant the theoretical value. (And, if it did, this could be confirmatory, not negative, regarding astrology.)

While our experiment clearly does not support Gauquelin, the question remains: How strongly does the test on such a modest sample disqualify his hypothesis? The answer is surprisingly firm.

Gauquelin predicts 21.65 percent success—i.e., 88.1 ± 8.3 out of 407. The actual (sector 1 plus sector 4) score, $30 + 25 = 55$, is only $13\frac{1}{2}$ percent of 407. (This ought finally to dispose of the expectation of the 1976-77 Zelen, Kurtz, and Abell study that 22 percent, not 17 percent, was the true theoretical expectation level, and thus that Gauquelin's European results represented nothing out of the ordinary.) Since 55 is 33.1 below the score predicted (88.1) by Gauquelin for sectors 1 and 4, the normalized deviation ($33.1/8.3$) is nearly 4, which corresponds to odds of over 10,000 to 1 against our test results occurring^{4a}—if Gauquelin's "Mars effect" were real.

Since independent data show Gauquelin's neo-astrology to be this unlikely, one is left wondering: How has Gauquelin been able to publish study after study, year after year, confirming his theories, at highly

significant levels, often corresponding to odds of millions to one? I leave the solution of this mystery to future researchers and/or the reader's imagination.

Gauquelin himself once suggested that changing birth-techniques explain away the failure of entirely independent testing to replicate his work (a fate it shares with all other astrological claims). I will close by quoting from my 1977 prediction (*SI*, Fall/Winter 1977, p. 82): "If subsequent retestings fail to confirm Gauquelin's theories, can he not... say, 'My observations [only] concern births occurring in Western Europe before 1945.'"³ As I commented then: "Curious parochialism from the author of *The Cosmic Clocks*."

Postscript: I would urge our Committee henceforth to take the precaution before embarking on another extensive attempt at replication of an alleged paranormal experiment to request formally: (a) that the claimant's loopholes be provided us in advance; (b) that a leading apt occult organization back the claim's validity; (c) that post-test judging be performed by competent, neutral third-party referees.

Note added October 8, 1979: These computations and analyses were done in 1978 (long before the other papers appearing here). I have only just been informed that a 408th subject (L. Groza) was later added to the final sample. Considering its trivial effect on the results, I have not bothered refiguring all the earlier work at the last prepublication minute.

Finally, I wish to add these comments:

All the other papers here make excellent points while criticizing each other for post hoc sample-splitting ploys—when they like the data. But then they all turn right around and themselves use those very same condemned sample-chopping tactics—when faced with test results that were not in accord with their expectations.

Ironically, Gauquelin's crème-de-la-crème alibi plays right into my original suggestion (*SI*, Fall/Winter 1977, p. 82; *SI*, Winter 1978, pp. 72-73) that the best test of Gauquelin's Mars effect would be to see if he could use this mundane-horoscopic discovery's assistance to beat bookmakers' odds on sports events. Such a simple, predictive experiment would evade all of the ambiguities and suspicions that have clouded and wasted so much previous labor and research in this area.

Further commentary on the issues raised in this paper and in these notes is available from the author.

Acknowledgments: For assistance in this work, I thank Mary D. Kidd, Mart Peep, John Schopp, Mary Frances Sodaro, Fred Talbert, and Lorraine Clayton. However, I am entirely responsible for the accuracy of

the experiment (beyond the point of the state birth-registries' return of the requested raw data to CSICOP).

Appendix

In the discussion above, the expectation score for sector 1 plus sector 4 is found simply by multiplying 2/12 times the sample-size: $(2/12 \cdot 407 = 67.8 \approx 68$ hits expected.

However, if we include astronomical-demographic influences, the expectation number of hits for sector 1 plus sector 4 is about 69 instead of 68. (In sector 1, it is 36 instead of 34; in sector 4, 33 instead of 34.) This modest effect is what some CSICOP and Comité Para critics of Gauquelin have been obsessed with for so long—without ever bothering actually to calculate its magnitude.

The effect (inclusion of which only makes Gauquelin's case a little worse)⁶ is computed by combining⁷ (a) astronomy and (b) demography. The first, (a), is the planet's tendency to be near the sun more often than not. The second, (b), is the daily birth curve. This is the variation of the birthrate with hour, or—roughly speaking—the birthrate variation as the sun revolves daily through the sectors of the sky. One may see from the sun data of Table 1 that this variation has an amplitude of about 20 percent.

In this connection, there is a serious problem with Gauquelin's reflex protest that the U.S. replication-failure is explained by different birth methods' upsetting the diurnal rhythm, thus "masking" the alleged Mars effect here. A comparison of his European daily birth curve (Gauquelin, *Birth and Planetary Data*, Ser. C, v. 1, p. 50) shows a pattern noticeably similar to the U.S. curve (approximately given by the sector-counts for the sun in Table 1, above): an amplitude of about 15-20 percent, the high around sunrise, the low about sunset.⁸ And so, for the U.S. test, the expectation curve is also similar to Gauquelin's European one (*ibid.*, p. 80, or *SI*, Winter 1978, p. 71): phase same as birth-curve's (high near sunrise, low near sunset), amplitude about one-third as high, namely, about 5 to 7 percent. For example, 6 percent of $34 \div 2$; so sector 1 expectation $\approx 34 \div 2 = 36$.

If birth procedures are supposed to be so different here that they suppress the Mars effect in the United States, then why are these curves so similar here and in Europe?

Notes

1. The slight difference ($17.17\% - 2/12 = 0.5\%$) is due to Gauquelin's careful accounting for the small astronomical-demographic influences inherent in the problem (see Appendix).

2. Two years after its publication, this paper's authors have still not answered my repeated questions about it. For example, why collect (and have Gauquelin laboriously compute) control data on more than 16,000 nonchampions associated with 303 of the old (1960s) 2,088 champions data—and then reject Gauquelin because (as was known in advance) the smallness of the old-data subsample (303) did not in itself permit very firm conclusions regarding the already well-established 22% rate (as did all 2,088)? The plain fact is that Zelen, Kurtz, and Abell proposed their challenge (*Humanist*, Jan./Feb. 1976; and Sept./Oct. 1976) in confident expectation that 16,000-plus control data would deflate Gauquelin's champion claims by also exhibiting a 22% rate (Mars in sectors 1 and 4). The actual 17% outcome was thus a clear success for Gauquelin and should have been openly reported as such.

2a. A 408th name was added later (see my "Note added October 8, 1979" in this paper.

3. I vainly urged that the rest of CSICOP also stay out of sampling, as a matter of policy. However, since some have expressed suspicions regarding the fairness in this instance, I am bound to state that I (more than anyone) can vouch for the fact that Kurtz's selection was unbiased. To fudge the sample, one must correctly pre-compute celestial sector positions, but Kurtz, Zelen, and Abell never did accomplish this before the samples were finally turned over to me and the solutions given to them.

4. The probability is only 1 in 33 of one's happening by pure chance to choose such a pair of sectors consistently (i.e., both angular or both cadent) and contiguous to these two astrological bigpoints. This, strongly indicates that Gauquelin has not simply tried a lot of different houses and then picked out (a posteriori) those with the best scores. His other planet-profession studies have also found sectors 1 and 4 to have the most nonrandom scores.

4a. The CRC tables (e.g., *CRC Handbook of Mathematical Tables*, 1975 ed., p. 933) have for decades listed 1 in 15,773 probability (odds 15,772 to 1) for 4 or more standard deviations, two tailed. Since 15,773 is merely the inverse of a three-significant-digit figure (6.34×10^{-5} , also given in CRC), it is expressed too exactly. (Same for nearby data in same column.)

5. Likewise, the failure to replicate Gauquelin's European results for post-1945 is excused: "As the 'natural' diurnal rhythm of delivery is disappearing, so too is the planetary effect. Modern medical practices are replacing the cosmic environment and masking its role" (Gauquelin, 1973 self-quoted by him in *SI*, Winter 1978).

6. The total deviation (sector 1 plus sector 4) is now $55 - 69 = -14$. This is pretty close to astro-missing (see *SI*, Fall/Winter 1977, pp. 80-81). We also find that the chi-square test probability is now nearer 0.3, no significance whatever.

7. Mathematical details available from author.

8. Besides the sun and Mars, one may discern variations with the same phase (high near sunrise, low near sunset), though with different amplitude, in the Table 1 data for Mercury and Venus, and for the same reasons as Mars—solar proximity (see (a) and (b) in my Appendix). Note that at sunrise the sun moves from sector 12 to sector 1; at sunset, from sector 6 to sector 7.

Star U.S. Sportsmen Display the Mars Effect

A comment on the Kurtz-Zelen-Abell experiment

Michel and Françoise Gauquelin

It has been found that famous European sports champions tend to be born more often than nonsports figures when Mars is in its rising or culminating

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sector (i.e., sectors number 1 and 4 of Mars's diurnal movement divided into 12 parts). These sectors were called "key sectors" by Marvin Zelen (*Humanist*, Jan./Feb. 1976). The Mars effect was first observed by us and was then clearly replicated by the Comité Para of Belgium.

In order to test the Mars effect on U.S. athletes, Kurtz, Zelen, and Abell selected a sample of 408 sportsmen. The necessary celestial calculations were computed by Dennis Rawlins. In their report of the results of this test, Kurtz, Zelen, and Abell write: "Our analysis of American sports champions shows no evidence of the Mars effect"; and Rawlins concludes, "Our experiment clearly does not support Gauquelin." But our study of the Kurtz-Zelen-Abell experiment leads us to the opposite conclusion: The data on the "star U.S. sportsmen" (Rawlins *dixit*) strongly display the Mars effect.

Characteristics of the U.S. Sample

A scientific fact demands precise conditions of observation; when these conditions are not respected, the effect does not appear. In our scientific publications, we pointed out that the planetary effect on professionals only appears when the following conditions are observed: (1) the births are natural; and (2) the professionals are well-known people. We devoted an entire book to the demonstration that the intensity of the Mars effect is strongly related to the degree of fame and achievement of the champions (*Les Hommes et les Astres*, 1960). During a meeting in July of 1977, in Buffalo, with Professors Kurtz, Zelen, and Abell, M.G. therefore insisted, for reasons explained below, on the necessity that they not retain births after 1950 in their sample and that they select only names of great U.S. sports figures. Unfortunately, they encountered difficulties and could not fully respect these conditions.

1. *The births of the selected sports figures should be natural ones.* In the Kurtz-Zelen-Abell sample, most of the births were relatively recent (70 percent after 1930 and 10 percent after 1950). There is a presumption of medical intervention in recent births. However, the nycthemeral curve of the sample shows a majority of morning births over afternoon births. This indicates that a reasonable proportion of the births were natural ones; only the most recent ones, after 1950, remain dubious. Therefore, the lack of Mars effect underlined by Kurtz, Zelen, and Abell in their sample does not seem to result from an excess of medically induced births.

2. *The selected sports people should be the greatest names in the history of American sports.* This second condition is not respected; there are few "all-time great" names in the sample. For instance, *The World*

Almanac and Book of Facts 1978 lists 93 champions who were elected members of the Pro-Football Hall of Fame, but only 5 of them appear in the Kurtz-Zelen-Abell sample; 163 champions were elected to the National Baseball Hall of Fame, but only 3 of them appear in the sample; etc. The percentage of "star U.S. sportsmen" in the sample is thus low. However, a fundamental question can be investigated: Do the real sports stars of this sample display the Mars effect? The answer is, yes, they do, as we shall now demonstrate.

The First Selection Process

Let us give a brief account of how the Kurtz-Zelen-Abell experiment was actually conducted. There were two different stages. At first, they tried to follow my recommendations. During my visit to Buffalo on March 21, 1978, Paul Kurtz gave me a photocopied document indicating the references on which the first inquiry was based. I quote:

First selection process of American sports champions:

Lincoln Library of Sports Champions, 1974—Selected all American sports champions listed.

Who's Who in Football, 1974, and *Who's Who in Basketball*, 1973—Selected only champions that were chosen for All-Star team.

The *Lincoln Library of Sports Champions* contains only well-known names, and the All-Star team seems also a good criterion. So we would have few objections to the first selection process, except that:

- the choice of athletes remains rather broad, since, according to Paul Kurtz, 605 athletes correspond to one of these criteria;
- I recommended that basketball players not be included, for they have given the most disappointing results in the European sample (actually, in the U.S. sample, the basketball players display the lowest Mars effect of all subgroups); and
- more disconcerting, when we carefully checked the above-named volumes of *Who's Who*, we found that the criterion of "All-Star team" had not been seriously followed. Paul Kurtz and his collaborators chose the most renowned champions from *Who's Who*, without following any definite criteria.¹

Despite these points, the first selection process is very favorable to our hypothesis. The U.S. sports champions *born before 1950* display the Mars effect (20.3 percent are born with Mars in key sectors) like the European champions (21.6 percent). The effect is strongest for the few champions

TABLE I
The Mars Effect: Kurtz-Zelen-Abell's First
Selection Versus Whole Sample

U.S. athletes of the first selection. born:	Observed number of key sector births	Expected number of key sector births*	Difference	Standard deviation	Prob- ability†
Before and after 1950	25	17.25	= 7.75	3.86	0.05
Before 1950	24	15.91	= 8.09	3.71	0.04

* Calculated from the proportion of Mars positions in key sectors in the whole sample of 408 births.

†Significance level (two-sided test).

born before 1930 (27.3 percent), and weakest for the champions born after 1950, as we predicted. (In Appendix I, we give a list of the 128 names of this first selection process, with their Mars position in the 12 sectors.)

Following the statistical analysis used by Kurtz, Zelen, and Abell for judging the results of the Zelen test in their article "Is There a Mars Effect?" (*Humanist*, Nov./Dec. 1977), we can demonstrate that the athletes of the first selection display the Mars effect significantly more than the total sample of 408 cases and that the Mars effect increases, as predicted, if we remove the champions born after 1950 (see Table I).

Figure 1 (upper curve) shows, for the athletes of the first selection, a distribution in the 12 Mars sectors that is very different from the distribution we would expect from chance. The Mars frequencies are above average not only after the rising and the culmination of the planet (sectors 1 and 4), but also after its setting and its lower culmination (sectors 7 and 10). Since our first researches, these four zones very often showed peaks, although the setting and the lower culmination were less regularly significant than the rising and culminating sectors (Gauquelin, *Les Hommes et les Astres*, 1960).

This replication, which is mentioned only briefly in Kurtz, Zelen, and Abell's paper, seems to support the Mars effect. But the sample is somewhat small—128 cases—because only 18 states were willing to provide the requested information and many records were not available for the hour of birth. Kurtz, Zelen and Abell rightly judged that the sample had to be enlarged. There were several ways to do this: by trying to persuade other states to deliver the birth information for other champions

of the first selection; if this was impossible, by gathering other top athletes in Europe, as Marvin Zelen had suggested in 1977.

But they retained another solution.

The Second Selection Process

Here is a quotation from the document that was given to us by Paul Kurtz in March 1978:

Second selection process focused only on states that responded to first listing.
Resource material used:

Who's Who in Football, 1974; Who's Who in Basketball, 1973—Selected remainder of champions not chosen in first sample.

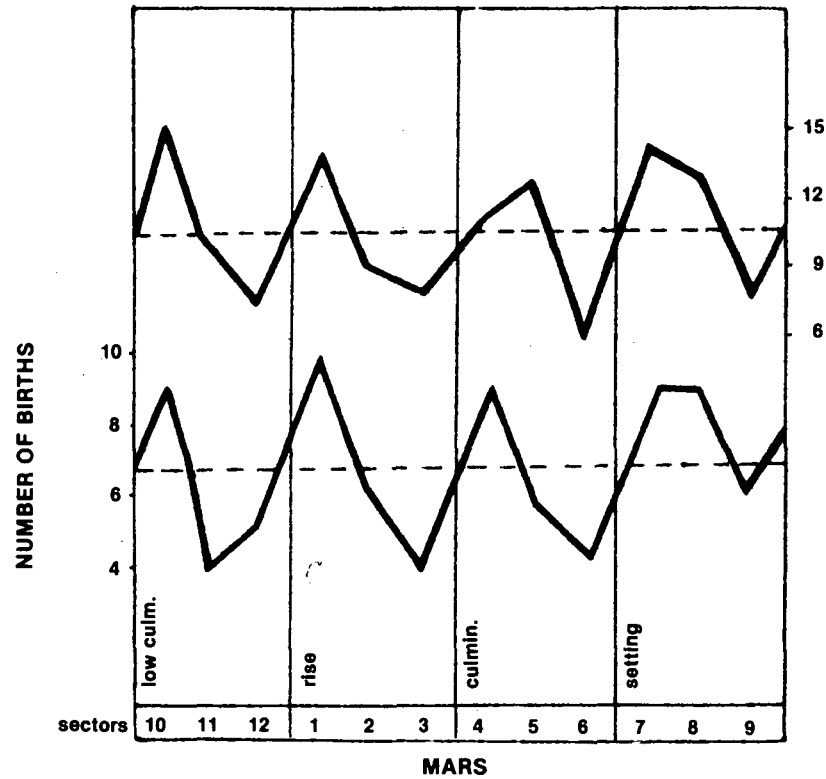


FIGURE 1: Mars and the births of U.S. Sports Champions. Diurnal distribution of Mars in twelve sectors. Upper curve: Kurtz, Zelen, and Abell's first selection sample, lower curve: "Star U.S. sportsmen" born before 1950, according to "The World Almanac 1978" and "The Lincoln Library." (Birth data from Kurtz and Mars calculations from Rawlins.)

Who's Who in Track and Field, 1973; *Who's Who in Boxing*, 1974—Selected all American-born sports champions.

This second selection seems unsatisfactory, except for the last two books chosen, *Who's Who in Track and Field* and *Who's Who in Boxing*, which represent worldwide selections of athletes not previously used. It is not surprising to us that the athletes of these books also display the Mars effect: 20.3 percent of them were born with Mars in key sectors; compared to the 13.5 percent of the whole sample, the difference is significant. But only 64 out of 280 names of the second sample come from these two books.

The largest part of the second selection, coming from *Who's Who in Football* and *Who's Who in Basketball*, has serious defects:

- As we demonstrated, to be listed in a national *Who's Who* does not offer a sufficient standard for observing the Mars effect: In *Les Hommes et les Astres* (1960) we showed that 599 footballers, who were in the first division of the Italian Football League but who had not achieved international status, did not show the Mars effect either. The U.S. *Who's Who in Football* lists more than 1,000 contemporary players, surely too many to represent the top athletes. Moreover, as the great names had already been chosen for the first selection, this second selection appears to be in reality more of an “anti-selection.”
- The present paper of Kurtz, Zelen, and Abell contradicts the document given to us by Paul Kurtz in March 1978. The authors now claim that the list of the second selection process “includes many All-Star and All-Pro players in basketball and football not included in the first sample,” when Kurtz’s first document affirmed that the All-Stars had been included in the first selection.
- Other inconsistencies appear: (1) several athletes called “All-Star” in the Kurtz-Zelen-Abell Appendix are not listed as “All-Star” in the reference books; (2) some coaches, who were never champions, were erroneously included in the sample; (3) some athletes listed in *Who's Who* are not included in the sample, in spite of the fact that they were born in the states willing to provide birth data and although they were born during the years in which the hour of birth is actually recorded (a list of such cases has been sent to Kurtz et al.).

Therefore we cannot expect any significant Mars effect with the dubious second selection drawn from these two *Who's Who* volumes. Its interest lies rather in the comparison of the results obtained from athletes of minor importance with those obtained from top athletes. These results confirm our opposition to the selection; meanwhile the 192 top athletes from the first sample and from the *Who's Who in Track and Field* and

Who's Who in Boxing display a Mars effect of 20 percent, the 216 minor athletes of the second selection from the *Who's Who in Football* and *Who's Who in Basketball* only produce 8 percent. The difference is strikingly significant.

Star U.S. Sportsmen

We obtain thus a confirmation that the better the selection, the stronger the Mars effect. In this respect, we can point to more rigorous criteria of achievement than Kurtz-Zelen-Abell's first sample. Among the 408 names they gathered, would the Mars effect increase with athletes who reached the pinnacle of success?

A criterion for selecting champions of the highest eminence that is strictly objective and easy to verify is inclusion in the *World Almanac and Book of Facts*, a widely known publication. Let us take its 1978 edition. On pages 860-862, there is a list headed "Notable Sports Personalities." It gives the names of the most famous figures in the world history of sports. Thirty-one of them, whose names are known by all Americans, are listed in the sample; out of these 31, 8 were born with Mars in key sectors, i.e., 25.8 percent (see Appendix II).

On pages 818-827 of the same Almanac is a list of champions who received Olympic Gold Medals. We find 20 of these U.S. Olympic champions in the sample, of whom 7 were born with Mars in key sectors, i.e., 35 percent. Those who achieve the highest Olympic honors seem also to display the highest Mars effect (see Appendix II).²

Let us also consider the *Lincoln Library of Sports Champions*. It is the first document used by Kurtz, Zelen, and Abell and gives a comprehensive survey of U.S. sports specialties. Among the 408 births of the sample, 73 athletes come from this series (see Appendix II).

The samples drawn from the *World Almanac* and the *Lincoln Library* are small. Eliminating the inevitable duplicates between the samples, we can add them. We obtain in this way a group of 88 really prominent U.S. athletes; 19 of them were born with Mars in key sectors, i.e., 21.6 percent; and if we remove from this prominent group the 7 athletes born after 1950, the Mars effect increases to 23.5 percent. For comparison, the percentage of Mars positions in key sectors in the whole sample is 13.5 percent.

The statistical analysis adopted by Kurtz, Zelen, and Abell in the *Humanist* (Nov./Dec. 1977) will serve again to test the Mars effect in this highly selected sample. Table 2 shows that the Mars effect is significantly higher with these "star U.S. sportsmen" than in the total sample of 408 athletes.

Figure 1 (lower curve) gives the Mars distribution in 12 sectors for the

Table 2

The Mars Effect: Star U.S. Sportsmen
Lincoln Library + Notable Sports Personalities + Olympic
Champions (duplicates withdrawn) versus whole sample

Star U.S. sportsmen born:	Observed number of key sector births	Expected number of key sector births*	Difference	Standard deviation	Prob- ability†
Before and after 1950	19	11.86	+ 7.14	3.20	0.03
Before 1950	19	10.92	+ 8.08	3.07	0.01

*Calculated from the proportion of Mars in key sectors in the whole sample of 408 births.

†Significance level (two-sided test).

sports stars born before 1950. Actually, with its four maxima in sectors 1, 4, 7, 10 (i.e., rise, culmination, setting, and lower culmination), the curve looks remarkably like the curve we published in 1973 as representative of the sports champions' typical personality (M. and F. Gauquelin, *The Mars Temperament and Sports Champions*, 1973). The tendency already noted in the first sample (Figure 1, upper curve) is stronger in this new selection. We could not expect anything better, considering the smallness of the group.

Conclusion

The conclusion is clear: the Mars effect is linked to the degree of celebrity and achievement of the athletes. It is significantly higher for the 88 U.S. sports stars than for the remaining 320 individuals of the sample. This needs a comment.

Let us first stress that the 320 minor athletes were born in the same states and in the same years as the 88 world-famous champions. They form thus an ideal control group. The small proportion of Mars in key sectors in this control group demonstrates that the Mars effect cannot be considered as a consequence of an astronomical or demographic artifact.

Let us also remark that the athletes in this kind of control group are not "unsuccessful." Generally, they followed an honorable career in their

specialty—otherwise their names would not be listed in a *Who's Who*. What makes them different from the famous champions is their incapacity to pull themselves up to the top rank in very important competitions. Our investigations of the personality of athletes offer an explanation of this phenomenon: the relationship between Mars and success in sports is weaker than the correlation between Mars and the temperament. Highly successful champions very often possess what we describe as the "Mars temperament." Such temperament is not absent in less renowned athletes, but it is less marked and not more frequent than in nonathletic people. But it remains surprising that the less successful athletes of the Kurtz-Zelen-Abell sample display a Mars effect that is *below* the average of 16.7 percent and that it is regularly decreasing from the first "screening," for which the Mars effect reaches nearly 20 percent, to the third "screening," in which it falls to the significantly small value of 7 percent! I leave the solution of this mystery to future investigations.

New Famous European Athletes Display the Mars Effect

Kurtz, Zelen, and Abell's experiment confirms, from our point of view, the existence of a Mars effect with highly successful U.S. sports champions. The observed effect (21.6 percent) is comparable to the effect observed by the Belgian Comité Para (22.2 percent) and by us (21.4 percent).

The statistical basis of the American sample is unfortunately too limited to be conclusive, in consequence of the difficulties encountered in the United States in obtaining the hours of birth. What can be done? A new sample is obviously needed. It is easy to obtain in Europe, where a new generation of athletes can be gathered, as was suggested by Marvin Zelen in the July 1977 meeting. I offered my help for this task, under the entire control of the Committee, Dennis Rawlins being entrusted with the astronomical calculations (letter of November 10, 1978, to Professors Kurtz, Zelen, and Abell, and to Rawlins). I received no answer. During a visit to the United States in April 1979, I repeated my proposal, offering the necessary bibliographical documents that we had brought with us. But the Committee did not seem desirous to undertake this experiment. We therefore decided to carry out the new experiment by ourselves, remaining, of course, ready to submit all the documents for scientific controls.

The pertinent information on this experiment can be found in the latest volume published by our laboratory: *The Mars Effect and the Sports Champions: A New Replication on 432 Famous Europeans, with Publication of Their Birth and Mars Data* (1979). The subjects were mostly born between 1940 and 1950. The birth data were gathered using objective sources of information from seven countries. The Mars positions were

calculated from the birth times of these famous athletes by Astro Computing Services (San Diego) and by us. Then the actual frequencies were compared to the expected frequencies based on a sample of nonathletes. Mars was observed 106 times in key sectors at the time of birth of the sports champions (instead of the expected 74.2), i.e., in 24 percent of the cases. The result is significant at the 0.001 level. The effect is observed whatever the nationality of the athletes. On the other hand, in a control group of sportsmen belonging to the same generation as the famous champions but not reaching the same degree of achievement, it could not be detected.

The results obtained with U.S. star sportsmen and with new famous European athletes are remarkably coherent. It seems obvious that the Mars effect with renowned athletes is an indisputable fact that should now be explained.

Acknowledgments: We were able to analyze the U.S. sample thanks to the courtesy of Paul Kurtz, who sent us the basic documents.

We must acknowledge also Neil Michelsen, director of the Astro Computing Services, in San Diego, who checked the celestial calculations of Rawlins. The agreement between the computations of Rawlins and Astro Computing Services is excellent, and the few divergences have no influence on the Mars distribution in sectors, nor on the conclusions. In order to avoid discussions on this matter, the calculations of Rawlins were adopted throughout the present study.

Notes

1. In the U.S. sample, the 9 female champions have been retained. Why then does Kurtz et al. insist that the 9 French female champions had to be eliminated in the Zelen test?

2. The Mars effect with U.S. Olympic champions is *stronger* than the Mars effect observed with famous Parisian athletes, contradicting Abell, Kurtz, and Zelen's assertion that the Mars effect is significant only in Paris!

Appendix I

First Selection Sample of Kurtz-Zelen-Abell

For each state are given the names of champions and the corresponding Mars position at birth in 12 sectors (sources: P. Kurtz and D. Rawlins)

Alabama		Kansas		North Carolina		Oregon	
Aaron	7	Kilmer	5	Eller	8	Fosbury	4
McCovey	2	Ryun	6	Gabriel	8	Lolich	7
Counsilman	1	Sayers	11	Jurgensen	2	Mahan	1
Peoples	2	Ward	9	Patterson	8	Wilcox	4
Davenport	11	Hadl	8	Petty	10		
Mays	5	Zook	4	Schollander	1	South Carolina	
Starr	4	Armstrong	3	Wilhelm	7	Blanchard	4
Williams, B.	9			Hanburger	8	Frazier	8
Wynn	11	Kentucky		Hudson	12	Gibson	1
Baughan	1	Clay	4	Bellamy	9	Lemon	2
Phillips	10	Hornung	12			Allen	12
		Unsel	7	Ohio		Yarborough	4
		Cowens	10	Brown, R.S.	7	Gilliam	5
		Combs	6	Owen, N	7	Scott	1
		Smith, A.	2	Steinkraus	5	Jeter	7
California				Mack	5	Webster	3
Budge	1			Csonka	12		
Pollard	4	Massachusetts		Dawson	5	Utah	
Casper	1	Morin	8	Houston	11	Mann	6
Chadwick	7	Sweeney	5	Havlicek	1	Olsen	10
Williams, T.	1			Lucas	9		
Cronin	10	Minnesota		Nicklaus	8	Virginia	
Davis, G	10	Gagne	10	Cassady	12	Ashe	6
Rigby	5	Maris	5	Griffin	1	Tarkenton	7
Lee	10	Bertelsen	3	Vogel	9	Willard	8
Young	10			Page	9	Dandridge	7
Vukovich	1	Montana		Saimes	4	Brown, R.L.	6
Wills	8	Kramer, G.	5	Rose	10	Dale	11
Spitz	11			Staubach	8	Jordan	10
Walton	7	Nevada		Gordon	1	Lanier	12
Warmerdam	9	Kramer, J.	11	Battles	7		
Cunningham	9			Warfield	3	Wisconsin	
Curtis	12	New Jersey		Abramowicz	3	Dempsey	10
LeBaron	5	Barry	2	Fortunato	5	Kojis	8
		Button	3	LeBeau	10	Hirsch	8
		DeMarco	3	Tyrer	10	Otto	6
		Robinson	11	Volk	10	Ameche	4
		Mitchell	11	Wright	11	Bakken	1
Colorado		Heinsohn	5	Embry	7	Gillingham	2
Werner	7	Taylor	3			Thurston	4
White	2	Verga	2				

22 were born before 1930 (6 have Mars in key sectors, i.e., 27.3%): Hirsch, Kramer J., Gagne, Button, Wilhelm, Steinkraus, Battles, White, Counsilman, Wynn, Blanchard, Gibson, Ward, Budge, Pollard, Chadwick, Williams T., Cronin, Davis G., Lee, Wills, Warmerdam.

10 were born after 1950 (1 has Mars in key sectors, i.e., 10%): Bertelsen, Taylor, Griffin, Allen, Rigby, Young, Spitz, Walton, Cunningham, Curtis.

11 were drawn from the *Who's Who in Basketball* (1 has Mars in key sectors, i.e., 9%): Kojis, Heinsohn, Taylor, Verga, Combs, Smith A., Dandridge, Hudson, Bellamy, Embry, Pollard.

Appendix II

88 Star U.S. Sportsmen

Listed in: The World Almanac and Book of Facts 1978 (Olympic champions = OC; Notable Sports Personalities = NSP) and Lincoln Library of Sports Champions (= LL). Birthdata sources from P. Kurtz; Mars calculations from D. Rawlins.

Star U.S. Sportsmen	Mars sector	OC	NSP	LL
AARON	7		x	x
ALLEN	12			x
ASHE	6		x	x
BARNES	4	x		
BARRY	2		x	x
BIFFLE	4	x		
BLANCHARD	4			x
BRAGG	12	x		
BROWN R.S.	7			x
BUDGE	1		x	x
BUTTON	3	x	x	x
CAMPBELL	4	x		
CARPENTER	4	x		
CASPER	1		x	x
CHADWICK	7			x
CLAY	4		x	x
COUNSILMAN	1			x
COURTNEY	8	x		
COWENS	10		x	x
CRONIN	10			x
CSONKA	12			x
DAVENPORT	11	x		x
DAVIS G.	10			x
DAVIS O.	3	x		
DAWSON	5			x
DEMPSEY	10			x
DILLARD	1	x		
ELLER	8			x
FOSBURY	4	x	x	x
FRAZIER	8		x	x
GABRIEL	8			x
GAGNE	10			x
GIBSON	1		x	x
GROZA L.	12			x
HAVLICEK	1		x	x
HIRSCH	8			x
HORNUNG	12		x	x
JOHNSON C.	2	x		
JURGENSEN	2		x	x
KILMER	5			x
KING	3	x		
KRAMER G.	5			x
KRAMER J.	11		x	x
LEE	10	x		x
LEMON	2			x
LOLICH	7			x
LUCAS	9			x
MAHAN	1			x
MANN	6			x
MARIS	5		x	x

Star U.S. Sportsmen	Mars sector	OC	NSP	LL
MAYS	5		x	x
McADOO	8		x	
McCOVEY	2			x
NICKLAUS	8		x	x
OLSEN	10			x
OTTO	6			x
OWEN	7			x
PAGE	9		x	x
PATTERSON	8		x	x
PATTON	12	x		
PETTY	10		x	x
RIGBY	5			x
ROSE	10		x	x
RYUN	6		x	x
SAYERS	11		x	x
SCHOLLANDER	1	x		x
SCHUL	9	x		
SPITZ	11	x	x	x
STARR	4		x	x
STAUBACH	8		x	x
STEINKRAUS	5			x
TARKENTON	7		x	x
UNSELD	7			x
VUKOVICH	1			x
WALTON	7			x
WARD	9			x
WARFIELD	3			x
WARMERDAM	9			x
WERNER	7			x
WHITE	2			x
WILHELM	7			x
WILLIAMS B.	9			x
WILLIAMS R.	11	x		
WILLIAMS T.	1		x	x
WILLS	8		x	x
WOTTLE	2	x		
WYNN	11			x
YARBOROUGH	4			x

Born after 1950: ALLEN, McADOO, RIGBY, SPITZ, WALTON, WILLIAMS R., WOTTLE.

Response to the Gauquelins

Paul Kurtz, Marvin Zelen, and George Abell

I.

We are skeptical of the Gauquelins' surprising claim that U.S. sports champions "strongly display the Mars effect." The Gauquelins have questioned the compilation of our sample. They maintain that the planetary effect on professionals appears (1) when the births have been "natural" and (2) when the sportsmen are "renowned" individuals with a high degree of fame and achievement. We shall address both of these points.

1. The Gauquelins agree that the lack of a "Mars effect" in our sample "does not seem to result from an excess of medically induced births." Indeed, only 35 of the 408 were born after 1950 (8.6 percent), and 373 in or before 1950 (91.4 percent). The overall proportion of births occurring when Mars appeared in key sectors was 13.5 percent. If we drop the names of the 35 born after 1950, the overall proportion is still only 14.5 percent: (See Table I.) No decade shows a preponderance of the Mars effect. The

TABLE I			
Decade of Birth			
408 Sports Champions in U.S. Test			
Decade	Total Number	Number Born with Mars in Key Sector	Proportion Born with Mars in Key Sector
Before 1920	57	8	14.9%
1920-29	67	10	14.9%
1930-39	123	18	14.6%
1940-49	126	18	14.3%
After 1950	35	1	2.9%
Total	408	55	13.5%
Before 1930	124	18	14.5%
After 1930	284	37	13.0%
Before 1940	247	36	14.6%
After 1940	161	19	11.8%
Before 1950	373	54	14.5%

1950s show the smallest, but they contain too few champions to be significant. Note especially that there is no significant difference between the figures for those born before 1930 (14.5 percent), when births would have been almost invariably "natural," and those for champions born after 1930 (13.0 percent), when doctors began to induce births, engaged more frequently in Caesarean procedures, and used instruments to hasten the arrival of infants.

2. The Gauquelins maintain that the sportsmen selected should be "the greatest names in the history of American sports" and that we did not respect this condition. We are surprised at this claim, for the sportsmen chosen were selected from five well-known sports directories. Indeed, in our original conference with M. Gauquelin, it was agreed that we would select football and basketball stars from the *Who's Who* directories and also use the *Lincoln Library of Sports Champions* as the basis of our sample.

Football is almost an American religion. Millions of men have played football, either on Little League, high school, or college teams, or at the very top level as members of professional football teams. *Who's Who in Football* contains over 1,400 players of the past century, from the game's inception in 1869 through 1974. These are the greatest of the thousands of football champions active during this period. Similarly, basketball is a very popular sport in the United States. *Who's Who in Basketball* contains the names of over 900 players from 1891 to 1973. These include All-Stars, All-Americans, and those in the Hall of Fame. Both football and basketball are extremely aggressive sports, requiring the highest degree of perseverance and audacity to succeed.

M. Gauquelin says that he recommended that we delete basketball players from our sample because they do not show the Mars effect. We do not understand the rationale for doing this. The elimination of basketball players because they do not exhibit the Mars effect clearly shows the problems faced by the Gauquelins in establishing their thesis. In the Gauquelins' European study, sportsmen from diverse fields were chosen, including aviators, fencers, bicyclists, football (soccer) players, and basketball players. There were 131 basketball players (including 7 coaches) in our sample. Nevertheless, if we delete them entirely from the study, 277 names remain, with 44 (15.9 percent) born when Mars appeared in the first or fourth sector; thus the sample, even without basketball players, does not show the Mars effect.

In our first canvass, data on only 120 sportsmen were initially received from the registry bureaus. Others came in later, increasing the number to 128. These 128 champions included 44 who were listed as either All-Star or

TABLE 2

Distribution of Births by Mars Sector
128 Sports Champions in First Canvass of U.S. Test

Sector	Total Sample	Total with Post-1950 Births Deleted
1	14	13
2	9	9
3	8	6
4	11	11
5	*13	*12
6	6	6
7	*14	*13
8	*13	*13
9	8	7
10	*15	*14
11	10	9
12	7	5

*Indicates that frequency is higher than for either sector 1 or sector 4.

All-Pro football players in the *Who's Whos* and 72 sportsmen taken from the *Lincoln Library*. The Gauquelins maintain that the data for these 128 sportsmen are favorable to their hypothesis. It is interesting to note that in this sample the number born when Mars appeared in sector 10 was greater than the number for "key sector" 1. (See Table 2.) Sector 7 has the same number as "key sector" 1, and 4 is exceeded by sectors 5, 7, 8, and 10. In any case, we considered the sample much too small to conclude anything (as Gauquelin himself agrees) and thought it necessary to enlarge our sample.

TABLE 3

Second and Third Canvasses of U.S. Test
All-Stars vs. Non-All-Stars*

Football Players	Total	Number Born with Mars in Key Sector	Proportion Born with Mars in Key Sector
All-Stars (in- cludes All-Pro)	80	10	12.5%
Non All-Stars	92	11	12.0%
Total	172	21	(12.2± 4.9)%
Basketball Players			
All-Stars	20	3	15.0%
Non-All-Stars	104	7	6.7%
Total	124	10	(8.1±4.8)%

*Does not include 3 football and 7 basketball coaches (with one born with Mars in a key sector).

The subsequent selections, however, were in no sense "minor" athletes, as the Gauquelins maintain. In our second and third canvasses there were almost as many All-Stars and All-Pros in football and basketball as in the first selection. The total for each sport is shown in Table 3. Note that neither the total football All-Stars nor the total basketball All-Stars shows the Mars effect.

The Gauquelins consider the *Lincoln Library of Sports Champions* to contain an acceptable list of "renowned" athletes; but among the sportsmen gathered from this source, we find the number of births with Mars in a key sector also to be within the range of chance. (See Table 4.)

TABLE 4

Champions Chosen from *Lincoln Library of Sports Champions*

Total Sample	Number Births with Mars in Key Sectors	Proportion of Births with Mars in Key Sectors	95% Confidence Limits
73	14	19.2%	(9.0, 19.2)%

TABLE 5

Champions Chosen from *Who's Who in Boxing*

Total Sample	Number Births with Mars in Key Sectors	Proportion of Births with Mars in Key Sectors	95% Confidence Limits
15	3	20.0%	(4.3, 48.1)%

In our second canvass, we added sportsmen from *Who's Who in Boxing* and *Who's Who in Track and Field*.¹ The *Boxing* volume contains a list of more than 400 boxers who have achieved recognition, of whom 105 were Americans (dates of birth were listed for only 92). We were able to obtain data on 15 of these, 3 of whom had been included in the earlier canvass from the *Lincoln Library*. (See Table 5.) The sample is extremely small, but it does not show a Mars effect.

Who's Who in Track and Field also contains over 400 names, of which 113 were of Americans (birthdates of some were not given). We obtained data on 51, of whom 10 (19.6 percent) were born with Mars in a key sector, again within the range of chance deviation. Of the 51, four had been included in the earlier canvass from the *Lincoln Library*.

We reiterate that we do not regard our second and third canvasses to have included "minor" athletes as the Gauquelins suggest. Indeed, virtually all of these sportsmen were distinguished in one or more ways: as members of All-Star, All-Pro, All-League, or All-American teams; as first draft choices for the year; as winners of famous sports trophies; as members of Halls of Fame; or as Olympic gold medalists, boxing champions, or all-time-record holders.

The Gauquelins raise a number of further points about our selection process that need clarification: First, we did not say that the first selection included *all* of the All-Stars and All-Pro players listed in *Who's Who* directories but that those selected from these volumes were predominantly

TABLE 6

Champions Chosen from *Who's Who in Track and Field*

Total Sample	Number Births with Mars in Key Sectors	Proportion of Births with Mars in Key Sectors	95% Confidence Limits
51	10	19.6%	(10, 34)%

All-Star or All-Pro players. In the second and third canvasses all the rest of the All-Star and All-Pro players, and all other champions for whom data were available were included.

Second, the Gauquelins claim to find inconsistencies:

(1) Several athletes called All-Star, they say, "are not listed as All-Star in the reference books." The category "All-Star" refers to the leading players selected each year from each major league to play a game between the two leagues. This category included those listed as "All-Pro" and those who played at the Pro Bowl and those who are designated as "All League," "All AFC," "All NFC," etc.

(2) The Gauquelins object that coaches were included in the sample of basketball and football players. There were 7 coaches selected from basketball (K. Anderson, J. Benington, C. Driesell, W. Dye, W. Lucas, D. Motta, R. Skinner) and 3 from football (C. Noll, R. Peters, S. Watts). Mars appeared in a key sector at the birth of only one of the 10. The coaches were not deleted from the sample because we did not wish to exclude anyone listed in the directories for whom data were available. Outstanding coaches would seem to display the so-called "Mars temperament" as much as anyone. The Gauquelins certainly have not taken strenuous physical activity as a necessary criterion for being included, for they included a large number of aviators in their original European sample. However, we can understand the rationale for deleting coaches from the sample. If we did so, it would not significantly alter the overall results.

(3) The Gauquelins ask why all "athletes listed in *Who's Who* directories were not included in the U.S. sample in spite of the fact that they were born in states willing to provide data." The answer is that, although some states responded to our earlier requests, they did not respond to our later ones; or if they did, information on the athletes was not available, and we sent for data on everyone listed in the volumes for whom it was accessible. We reported in our results all of the relevant data returned by the registry offices.

II.

Now that the study has been completed, the Gauquelins have proposed a further selection from the list of 408 names. They have culled from our sample a list of "star U.S. sportsmen"—namely, those whom they consider to be the "greatest of the greats." (We consider all of the 408 sports champions in our sample to be renowned—certainly as renowned as those in Gauquelin's original sample of 2,088 European champions.) We are concerned with the Gauquelins' admission that they were unable to find the

Mars effect in athletes listed in various *Who's Whos* of European athletes and that only by selecting from the list, using criteria of their choice, could they demonstrate the Mars effect. They state, "To be listed in a *Who's Who* does not represent a sufficient standard for observing a planetary effect." But then on what basis was the selection from these volumes made? On the basis of such a post hoc selection, they maintain that the Mars effect has been manifested. We question the validity of selecting a subsample from a list of athletes whose "Mars sectors" are already known; it is too easy to delude oneself with rationalizations for omitting certain categories.

In particular, the Gauquelins have selected Olympic gold medalists (20) and also added names they found in the *World Almanac's* "Notable Sports Personalities" (31). Of the latter 31 "Notable Sports Personalities," all but one (Bob McAdoo) were listed in the *Lincoln Library*. Moreover, the Gauquelins inadvertently omitted 6 Olympic champions. They should have noted 26 gold medalists, not 20. These 6 include 3 persons who won gold medals as members of relay teams (T. Baker, C. Bourland, and H. Faggs) and 3 boxers (C. Clay, J. Frazier, and F. Patterson). All should be included in the list. This selection is shown in Table 7. It should be noted that 17 of the 26 Olympic champions were not in our first selection but came from later canvasses of so-called "minor" figures.

The Gauquelins then combined this list with the remaining athletes from the *Lincoln Library*, leaving out overlaps, to obtain a sample of 88 names, with Mars in a key sector at the time of birth of 19 (21.6 percent). The 95 percent confidence limits are 13 to 30 percent. This is clearly too small a sample, as the confidence limits are quite wide.

But the broader question to be asked is, On what basis does one make a selection so that bias does not intervene? How does one decide who is a "renowned champion"? One can ask whether even the Olympic gold

TABLE 7			
Olympic Gold Medalists and Champions Selected from the <i>World Almanac</i>			
Total Sample	Number Births with Mars in Key Sectors	Proportion of Births with Mars in Key Sectors	95% Confidence Limits
26 Gold Medalists	8	30.8%	(14, 52)%
31 <i>World Almanac</i> "Noted Sports Personalities"	8	25.8%	(12, 44)%

Table 8

Additional Renowned Athletes Chosen from *World Almanac*
and *Hammond Almanac* (Duplicate listings are omitted)

	Name of Champion	Born with Mars in Key Sector
Baseball Hall of Fame:	Joseph Cronin	
	Theodore Williams	x
	Early Wynn (Willie Mays added later)	
Most Valuable Players of the Year:	Hank Aaron	
	Roger Maris	
	Willy McCovey	
	Willie Mays	
	Pete Rose	
All-Time Home Run Leaders:	Billy Williams	
Basketball Hall of Fame:	Angel (Hank) Luisetti	
	James Pollard	x
	John Thompson	
All-Time National Basketball Association Leaders:		
Top Scorers	Rick Barry	
	Walt Bellamy	
	John Havlicek	x
	Lou Hudson	
Highest scoring average	Bob McAdoo	
Highest field goal percentage	Paul Westphal	
	Wes Unseld	
Most rebounds	Jerry Lucas	
Football Hall of Fame:	Cliff Battles	
	Louis Groza	
	Arnold Herber	
	Elroy Hirsch	
	Gale Sayers	
	Bart Starr	x

National Football League

Stars by Years:

Passers	John Hadl Edward LeBaron Norman Snead Roger Staubach	
Rushers	Alan Ameche Byron White	x
Receivers	Richard Gordon Daniel Abramowicz Lydell Mitchell Marv Bateman	x

National Football League

All-Time-Record Holders:

Most points	Paul Hornung	
Highest average gain rushing, season	Bobby Douglass	
Most passes completed lifetime	Fran Tarkenton	
Most Passes completed season	Sonny Jurgensen	
Receptions, most touchdowns, season	Bill Groman	
Most field goals, game	James Bakken	x
Longest field goals	Tom Dempsey	

World Boxing Champions (title holders):

Guisseppi Berardinelli (J. Maxim) James Carter Cassius Clay Jimmy Ellis Joe Frazier Gene Fulmer Freddie Miller Floyd Patterson Wallace Smith	x
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Grand Total	53	8 (15.1%)
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medalists are the "greatest of the great." Usually they are young, and many do not go on to a career in professional sports.

We also combed the *World Almanac* and the listings in the well-known *Hammond Almanac* (Signet), and compiled the lists in Table 8. We submit that with the same rationale these champions should be added to the Gauquelins' list, for they are as distinguished as the Olympic gold medalists or "Notable Sports Personalities." Table 8 includes members of the Halls of Fame, Most Valuable Players of the Year, all-time home run hitters, all-time National Basketball Association leaders, National Football League stars, all-time-record holders, and World Boxing Champions. Among these, the overall percentage of births with Mars in key sectors is only 15.1 percent.

TABLE 9

Selected Sports Champions
(See Appendix for complete list of 181 names)

Lincoln Library	73
Olympic gold medalists	17
World Almanac "Notable Sports Personalities"	1
Additional renowned champions from	
World Almanac and Hammond Almanac	25
All-Star, All-Pro players	65
Total	181

Total Champions	Number Births with Mars in Key Sector	Proportion of Births with Mars in Key Sector	95% Confidence Limits
181	30	16.6%	(5.4, 16.6)%

Of the 53 names in the lists in Table 8, 25 are not duplicated in the lists of the *Lincoln Library*, "Notable Sports Personalities," or Olympic gold medalists.

Now the Gauquelins concede that the All-Stars and All-Pro players are distinguished, since they comprise selections of the very best players of that year to compete in final matches. Consequently, we include them (65 names, avoiding overlapping), and end up with the selected tabulation of 181 champions given in Table 9. The percentage born with Mars in key sectors is 16.6, or close to chance expectations.²

In view of the Gauquelins new claims regarding sample selection, it is perhaps necessary to review their original study of 2,088 European sports

champions. In that study sportsmen were selected from five countries. There were 1,083 from France, among whom were 116 aviators, 132 boxers, 126 cyclists, 164 soccer players, and 207 rugby players. Given the fact that the United States has four times the population of France, one wonders if France produces more distinguished athletes than does the United States. Also, their sample includes 215 soccer players, 96 cyclists, 41 boxers, and 268 aviators from Italy. Tiny Belgium gave them 198 cyclists and 66 soccer players. (Incidentally, there were only 33 basketball players in the sample from France and none from anywhere else in Europe!) Are these all "star" sportsmen, equivalent to or superior to those in the American sample? What was the principle of selection the Gauquelins used in compiling their original European sample? Are they not now contradicting themselves in criticizing the U.S. sample?

Some comment must also be made about the Gauquelins' graph (their Figure 1 on p. 35), which they say "looks remarkably like the curve that we published in 1973." The graph differs in significant ways from data based on their original sample of 1,553 sports champions (reported in the *Humanist*, Jan./Feb. 1976) and from data published by the Comité Para based on a sample of 535 (reprinted in M. Gauquelin's letter in the *SKEPTICAL INQUIRER*, Winter 1978, p. 70). See Tables 10 and 11.

In the sample of 535 selected by the Comité Para and the Gauquelins, although sector 1 has a higher frequency than expected, sectors 9 and 10 were higher than 4, and 8 was considerably higher than expectation. Dennis Rawlins pointed out in a response to M. Gauquelin's *SKEPTICAL INQUIRER* letter (Winter 1978) that "Gauquelin's favored sector 4 is in fifth place if compared with expected calculated frequency," from which he concludes that "the specified hypothesis (of G.) was *not* confirmed by the Comité Para test."

If we inspect our Table 2 on page 24, we see that in the total U.S. sample of 408 sports champions Mars appears at the time of champions' births in sectors 2, 3, 5, 7, 8, 10, 11, and 12 more often than in sector 1 or 4.

Even if the 7 born after 1950 are deleted from the Gauquelins' sample of 88 "star sportsmen," Mars appears as often in sectors 7, 8, and 10 as in sector 4. (See Table 12.) In the total sample of 88 "star sportsmen" Mars appears in sectors 7 and 8 more often than in sector 4 and as often in sector 10 as in sector 4. In the list of 128 champions (see Table 2, p. 46), Mars appears in sector 10 more often than in sector 1 and more often in sectors, 5, 7, 8, and 10 than in sector 4, with or without the post-1950 births deleted. How do the Gauquelins explain an excess of Mars in other sectors? Even for their selectively chosen subset, it is questionable that a full "replication" has been made of the Mars effect.

Finally, the Gauquelins are puzzled by the fact that the "less

TABLE 10

Distribution of Births by Mars Sector
Gauquelins' Sample of 1,553 European Sports Champions

Sectors	Actual Frequency	Expected Frequency
1	172*	138
2	126	135
3	128	133
4	160*	128
5	117	126
6	104	124
7	126	122
8	125	122
9	132	127
10	112	130
11	118	134
12	133	134

* Indicates sectors with highest frequency of Mars appearance.

TABLE 11

Distribution of Births by Mars Sector
Comité Para Sample of 535 Sports Champions

Sectors	Actual Frequency	Expected Frequency
1	68	47.7
2	47	46.9
3	36	45.3
4	51	44.0
5	36	43.2
6	30	42.7
7	36	41.6
8	50	42.2
9	53*	43.7
10	54*	45.2
11	40	46.2
12	34	46.4

*Indicates that sectors are higher for Mars appearance than sector 4.

successful" athletes in the U.S. test display the "Mars effect" below the average of 16.7 percent. "Such a temperament is not absent in less renowned athletes," they say, but it is less marked and not more frequent than in nonathletes." If even top sports professionals do not display the Mars effect, what are we to say? An obvious conclusion one can draw is that this provides evidence against the hypothesis that there is a genuine Mars effect.

The Mars effect, even if it exists, is at best weak. According to the Gauquelins, 22 percent of the renowned sports champions display it, but then 78 percent do not (versus 17 percent and 83 percent, respectively, in the general population). According to the Gauquelins, it is not enough for one to be a sports champion, or even a famous one, but one must be an *exceptionally* famous one—as determined by the Gauquelins' standards.

Summary and Conclusions

We have compiled a list of 408 sports champions from *Who's Whos* and other directories of outstanding athletes in the United States for whom we were able to obtain enough data to compute the sky sector in which the planet Mars appeared at the time of birth. Of these 408, 55 were born with Mars in what the Gauquelins regard to be "key sectors." This number is not significantly different from what would be expected by chance. Thus this study of 408 American athletes does not confirm the Gauquelins' Mars effect.

The Gauquelins have suggested that our sample is contaminated with a large number of athletes of "minor" importance, for whom their studies show the Mars effect should not be present. They further argue that the Mars effect is present in several small subsets of athletes from our sample and that these subsets are made up of athletes of unquestioned excellence and renown. That this is the case is questionable.

We do not consider it proper, in particular, to select small samples from a list of athletes for whom the Mars sectors at birth are already known. Indeed, by using the same procedures we have shown that alternate subsets of equally outstanding athletes do not show the Mars effect. Moreover, we question whether even our entire sample contains, on the average, athletes less notable than those in the Gauquelins' original sample that first suggested the "Mars effect" to them.

We acknowledge that it is very difficult to prove a negative result solely using statistical procedures. Our sample size, however, is large enough that a deviation of more than 5 percent from the expected value of 17.2 percent is extremely unlikely. Thus while the data reported here cannot be claimed to rule out unequivocally the Gauquelins' Mars effect,

Table 12

Distribution of Births by Mars Sector

Gauquelins' Sample of 88 Star Sportsmen

Sector	Total Sample	Total with Post-1950 Births Deleted
1	10	10
2	7	6
3	4	4
4	9	9
5	7	6
6	4	4
7	*10	*9
8	*10	*9
9	6	6
10	*9	*9
11	6	4
12	6	5

*Indicates that frequency is equal to or higher than for either sector 1 or sector 4.

neither do they provide evidence in support of it and prima facie appear to disconfirm the hypothesis.

Note added in proof:

After we completed our "Response to the Gauquelins," the Gauquelins submitted a revised version of their original paper with an entirely new section entitled "New Famous European Athletes Display the Mars Effect." M. Gauquelin claims to have "replicated" the Mars effect in a new study of 432 European sports champions.

Although we knew from prior communication that Michel Gauquelin was working on such a study, we did not receive a copy of it until this paper was in press and have not had an opportunity to examine the data thoroughly. Inasmuch as our papers concern the U.S. test, we will only briefly comment on the new European study, reserving any considered analysis for now.

A first reading of the study suggests that serious questions again emerge about the principles of selection of famous sports champions used by Gauquelin.

First, M. Gauquelin says that in many cases they had difficulty obtaining data (as we did in the U.S.). "Half the German registry offices, invoking the law, refused to give us the requested information; half of the Spanish registry offices did not bother to answer our request, although we wrote two times."

Second, it is interesting to note that in this new sample of 432 sports champions, 21 were born beyond 1950 and are *not* excluded by Gauquelin from his study.

Third, Gauquelin has excluded a considerable number of athletes even though they were listed in the sports directories he used. He includes athletes in his sample only if "their reputation had gone over the frontiers of their own country and . . . their performances had been remarkable in international competitions." This seems to be extremely narrow. (If applied to the U.S. sample, for example, it might exclude almost all baseball and football players.)

Fourth, in regard to the French portion of his sample, Gauquelin now says, "We retained the French names of all those who had won a medal (of gold, *silver, or bronze*) at the Olympic games, at the world championships, or at the European championships." (*Italics added.*) This is an important modification of his stated views on the U.S. study—he is now going *beyond* the criteria of using Olympic *gold* medalists only. Indeed, an examination of the U.S. sample shows that there are 11 additional silver or bronze Olympic medalists (W. Collett, B. Eastman, K. Hammond, M. Liquori, R. Mann, K. Schmidt, J. Ryun, J. Silvester, D. Sime, D. Stones, J. Thomas), with only one born with Mars in a key sector. In addition, there are 7 winners of gold, silver, or bronze medals in the Pan American games, which are equivalent to European competitions (J. Grelle, R. Laird, P. Johnson, W. Santee, E. Shelton, J. Smith, K. Swenson). Two of these were born when Mars was in a key sector. This is a total of 18 sports champions, with 3 born with Mars in a key sector (16.7 percent). Incidentally, all of these names except one came from our second canvass. They should perhaps be added to the list of 181 in the Selected Tabulation of Sports Champions (Table 9).

Gauquelin also adds other criteria for selection. He includes, for example, alpinists and cyclists in this new study, saying, "There is no medal for alpinists, so we retained the names of those who reached for the first time the peak of a mountain (5 cases); for cycling we also retained the athletes who were the yearly winners of the Championnat de France sur route (6 cases)." This would correspond to the criteria for our list of "Selected Champions" (Table 9). He continues: "For the other team sports, basketball, handball, rugby union, rugby league, we adopted a more severe criterion for selecting the best champions whose data and place of birth were given in the *Dictionnaire des Sports*, 1973: more than 10 selections in the French National Team." This seems an extremely narrow criterion.

Interestingly, in the Gauquelins' new study the names of 423 famous sports champions who appear in the *Who's Who*s and dictionaries of sports are explicitly excluded as being "less renowned." Their "control group," they say, does not show the Mars effect. We wonder, however, whether the criteria for selection of the 432 "greats" and the 423 "lesser" athletes were established before or after the Mars sectors were calculated.

In view of these latest comments by Gauquelin, we submit that the entire original European study of 2,088 sports champions should be reexamined, particularly in regard to the highly restrictive criteria of selection that he now employs. Whether the earlier study was indeed based upon similarly rigorous "objective" principles of selection needs to be analyzed. Indeed, whether the Gauquelins' alleged Mars effect is a function of the principles that they have laid down post hoc also needs to be raised.

Notes

1. The Gauquelins are mistaken in their calculations of the sample from these volumes. Fifty-nine athletes were derived from *Who's Who in Boxing* and *Who's Who in Track and Field* in the second and third canvasses. Mars appeared in a key sector at the time of birth of 11 (18.6 percent) of these. Three boxers and 4 track and field stars who were included in the first selection, since they were listed in the *Lincoln Library*, were also listed in these volumes. This brings the total from these two sources to 66, of whom 13 were born when Mars was in a key sector. The percentage of "key sector" births is thus 19.7 and not 20.3 as the Gauquelins indicate.

2. Even if we remove all of the post-1950 champions (14, including one born with Mars in a key sector) the percentage is still only 17.37.

Appendix

Name	Birth Date	State	Mars Born	Sector	S.C.*	Name	Birth Date	State	Mars Born	Sector	S.C.*
Aaron, H.	2/5/34	AL	7	1		Chambers, B.	12/13/30	VA	8		
Abell, E.	5/29/92	WI	5			Charles, J.	5/9/44	NJ	12		
Abramowicz, D.	7/13/45	OH	3	2		Chenier, P.	10/30/50	CA	10		
Adamle, M.	10/10/49	OH	12			Cheyunski, J.	12/29/45	MA	4		
Adams, G.	5/15/49	NC	8			Clay, C.	1/17/42	KY	4	33	
Adams, Pete	5/4/51	CA	12			Collett, W.	10/20/49	CA	9		
Allen, E.	11/24/50	SC	12	3		Combs, G.	10/30/46	KY	6	34	
Ameche, A.	6/1/33	WI	4	4		Concannon, J.	2/25/43	MA	2		
Anderson, K.	1/16/33	WI	10			Cook, G.	11/20/46	OH	11		
Anderson, W.	7/16/36	NC	10	5		Cooper, J.	2/6/12	KY	2		
Anet, C.	8/11/17	OR	6			Corbus, W.	10/5/11	CA	1		
Armstrong, W.	8/29/46	KS	3	6		Counsilman, J.	12/28/20	AL	1	35	
Ashe, A.	7/10/43	VA	6	7		Counts, M.	10/16/41	OR	4		
Baer, J.	6/11/15	CO	7			Courtney, T.	8/17/33	NJ	8	36	
Baker, T.	5/5/41	MN	6			Cowens, D.	10/28/48	KY	10	37	
Baker, T.	10/4/31	KS	10	8		Cox, J.	11/1/36	KY	1		
Bakken, J.	11/2/40	WI	1	9		Crandall,	9/26/25	OR	10		
Barksdale, D.	3/31/23	CA	3			Cronin, J.	10/12/06	CA	10	38	
Barnes, L.	7/16/06	UT	4	10		Csonka, L.	12/25/46	OH	12	39	
Barry, R.	3/28/44	NJ	2	11		Cunningham, S.	8/15/50	CA	9		
Bateman, M.	4/5/50	UT	8	12		Curtis, I.	10/20/50	CA	12	40	
Battles, C.	5/1/10	OH	7	13		Dale, C.	4/24/38	VA	11	41	
Baughan, M.	8/3/38	AL	1	14		Dallmar, H.	5/24/22	CA	11		
Beals, A.	4/27/21	CA	11			Dandridge, B.	11/15/47	VA	7		
Beard, R.	12/1/27	KY	11	15		Darrow, B.	9/25/37	OH	12		
Beck, L.	4/9/22	OR	8			Davenport, W.	6/8/43	AL	11	42	
Bellamy, W.	7/24/39	NC	9	16		Davis, G.	12/26/24	CA	10	43	
Benington, J.	12/31/21	OH	6			Davis, H.	1/5/21	CA	9		
Berardinelli, G.	3/28/22	OH	12	17		Davis, K.	9/12/48	KY	7		
Bertelsen, J.	2/26/50	MN	3	18		Davis, O.	7/12/32	AL	3	44	
Bibby, H.	11/24/49	NC	8			Dawson, L.	6/20/35	OH	5	45	
Biffle, J.	3/20/28	CO	4	19		DeMarco, R.	9/16/38	NJ	3	46	
Bird, R.	7/2/42	KY	12			Dempsey, T.	1/12/47	WI	10	47	
Blanchard, F.	12/11/24	SC	4	20		Dillard, H.	7/8/23	OH	1	48	
Blozis, A.	1/5/19	NJ	7			Doll, R.	8/10/19	CO	10		
Born, B.	6/6/32	KS	4			Donoher, D.	1/21/32	OH	9		
Borries, F.	12/31/11	KY	3			Douglass, B.	6/22/47	KS	2	49	
Bottari, V.	12/21/16	CA	2			Driesell, C.	12/25/31	VA	4		
Bourland, C.	1/1/21	CA	5	21		Duffield, M.	8/5/10	UT	5		
Bradds, G.	7/26/42	OH	10			Duncan, J.	8/3/46	SC	10		
Bragg, D.	5/15/35	NJ	12	22		Dye, W.	4/1/15	OH	9		
Brennan, T.	6/11/28	WI	3			Eastman, B.	7/9/11	CA	10		
Brown, B.	8/4/49	CA	6			Ebert, P.	8/11/32	OH	4		
Brown, R.	12/8/41	OH	7	23		Ebling, R.	1/28/15	KS	6		
Brown, R.L.	5/1/37	VA	6	24		Eller, C.	2/25/42	NC	8	50	
Buchanon, W.	11/4/50	CA	11			Ellis, J.	2/24/40	KY	6	51	
Budd, F.	7/20/39	NJ	7			Embry, W.	3/26/37	OH	7	52	
Budge, J.	6/13/15	CA	1	25		Englund, G.	10/21/17	WI	10		
Burleson, T.	2/24/52	NC	10			Ernest, V.	1/29/42	NJ	10		
Button, R.	7/18/29	NJ	3	26		Evans, B.	9/13/32	KY	12		
Campbell, M.	12/9/33	NJ	4	27		Evans, R.	9/22/22	KS	7		
Carpenter, K.	4/19/13	CA	4	28		Faggs, H.	4/10/32	NJ	6	53	
Carrier, J.	10/26/40	KY	11	29		Faison, E.	1/31/39	VA	7	54	
Carter, J.	12/15/23	SC	11	30		Feerick, B.	1/2/20	CA	11		
Casper, W.	6/24/31	CA	1	31		Ferguson, R.	8/29/39	OH	12		
Cassady, H.	3/2/34	OH	12			Ferrin, A.	7/29/25	UT	3		
Chadwick, F.	11/9/18	CA	7	32		Finkel, H.	4/20/42	NJ	8		

* Selected Champions.

Name	Birth Date	State Born	Mars Sector	S.C.*
Floyd, D.	5/11/32	NC	7	
Fonville, C.	4/27/27	AL	2	
Fortunato, J.	3/28/31	OH	5	55
Fosbury, R.	3/6/47	OR	4	56
Francis, C.	9/4/32	OH	9	
Frazier, J.	1/17/44	SC	8	57
Fujii, P.	7/6/40	HI	3	
Fullmer, D.	2/21/39	UT	1	
Fullmer, G.	7/21/31	UT	3	58
Gabriel, R.	8/5/40	NC	8	59
Gagne, V.	2/26/26	MN	10	60
Gain, R.	6/21/29	OH	9	61
Gambée, D.	2/16/37	OR	6	
Gianelli, J.	6/10/50	CA	12	
Gibson, A.	8/25/27	SC	1	62
Giel, P.	9/29/32	MN	8	
Gilliam, J.	8/7/45	SC	5	63
Gillingham, G.	2/3/44	WI	2	64
Gilmer, H.	4/14/26	AL	10	
Glover, R.	2/6/50	NJ	7	
Gordon, R.	1/1/44	OH	1	65
Gradishar, R.	3/3/52	OH	12	
Grayson, R.	12/8/13	OR	5	
Green, J.	12/8/33	OH	9	
Grelle, J.	9/30/36	OR	2	
Griffin, A.	8/21/54	OH	1	
Groman, W.	7/17/36	OH	2	66
Groza, A.	10/7/26	OH	1	67
Groza, L.	1/25/24	OH	12	68
Hackbart, D.	7/21/38	WI	2	
Hadl, J.	2/15/40	KS	8	69
Hairston, H.	5/31/42	NC	7	
Hall, D.	6/21/24	KS	10	
Hammond, K.	11/2/51	CA	3	
Hanburger, C.	8/13/41	NC	8	70
Hannum, A.	7/19/23	CA	8	
Harder, M.	5/6/22	WI	5	
Harman, R.	3/30/28	KS	10	
Harris, A.	7/3/18	VA	8	
Haskins, C.	8/11/43	KY	8	
Hatton, V.	1/13/36	KY	12	
Havlicek, J.	4/8/40	OH	1	71
Hawkins, B.	3/22/44	NJ	5	
Heinsohn, T.	8/26/34	NJ	5	72
Hemric, D.	8/29/33	NC	1	
Herber, A.	4/2/10	WI	8	73
Hickman, B.	10/5/11	KY	3	
Hill, H.	5/4/32	AL	1	
Hirsch, E.	6/17/23	WI	8	74
Hitchcock, J.	6/28/11	AL	5	
Holbrook, E.	8/21/39	NC	10	
Holland, T.	4/2/42	NC	5	
Hornung, P.	12/23/35	KY	12	75
Hosket, B.	12/20/46	OH	12	
Hougland, B.	6/20/30	KS	2	
Houston, J.	11/3/37	OH	11	76
Huber, L.	2/16/19	KY	10	

Name	Birth Date	State Born	Mars Sector	S.C.*
Hudson, L.	7/11/44	NC	12	77
Hunter, A.	4/24/33	OH	3	78
Ireland, G.	7/26/13	WI	1	
Jackson, P.	9/17/45	MT	8	
James, R.	5/22/34	OR	3	
Jennings, J.	8/16/52	MA	11	
Jeter, R.	5/9/37	SC	7	79
Joe, W.	10/14/40	SC	10	80
Johnson, C.	8/21/13	CA	2	81
Johnson, K.	2/22/52	CA	7	
Johnson, P.	4/15/50	CA	10	
Jones, C.	5/24/45	OH	9	
Jones, L.	9/22/42	OH	9	
Jordan, H.	1/26/35	VA	10	82
Jordan, P.	3/19/17	CA	11	
Jurgenson, C.	8/23/34	NC	2	83
Justice, C.	5/18/24	NC	5	
Kassulke, K.	3/20/41	WI	2	
Kean, T.	9/7/26	OH	9	84
Keller, J.	11/10/28	KS	8	
Kelley, L.	5/30/15	OH	2	
Kelly, D.	9/23/31	KS	11	
Kelly, M.	1/14/48	NC	8	
Kenney, B.	6/23/31	KS	10	
Kern, R.	5/28/49	OH	12	
Keyes, L.	2/18/47	VA	3	
Kiick, J.	8/9/46	NJ	3	85
Kilmer, W.	9/5/39	KS	5	86
Kimball, T.	9/7/42	MA	11	
King, R.	6/20/06	CA	3	87
King, R.	7/11/51	KY	2	
Kinner, B.	6/13/14	UT	6	
Klemmer, G.	3/16/21	CA	6	
Kluch, D.	1/6/26	ND	12	
Knostman, D.	8/9/31	KS	12	
Koffenberger, E.	7/4/26	DE	11	
Kojis, D.	7/15/39	WI	8	88
Kotz, J.	3/27/19	WI	7	
Kramer, G.	1/23/36	MT	5	89
Kramer, J.	8/1/21	NV	11	90
Kramer, R.	6/24/35	KS	6	91
Kuss, R.	4/24/31	WI	7	
Laird, R.	5/31/38	KY	1	
Lamar, D.	4/7/51	OH	11	
Lanier, W.	8/21/45	VA	12	92
Larsen, G.	3/13/40	ND	3	93
Layton, D.	12/24/48	NJ	9	
LeBaron, E.	1/7/30	CA	5	94
LeBeau, C.	9/9/37	OH	10	95
Lee, R.	1/27/50	MA	7	
Lee, S.	8/1/20	CA	10	96
Lemon, M.	4/25/33	SC	2	97
Lewis, S.	6/29/42	KY	2	
Liquori, M.	9/11/49	NJ	7	
Lolich, M.	9/12/40	OR	7	98
Love, S.	9/22/49	CA	8	
Lucas, J.	3/30/40	OH	9	99

Name	Birth Date	State Born	Mars Sector	S.C.*
Lucas, W.	11/23/09	OH	3	
Luisetti, A.	6/16/16	CA	11	100
Lynch, J.	9/28/45	OH	5	101
Mack, T.	11/1/43	OH	5	102
Madden, J.	4/10/36	MN	12	
Maham, L.	11/21/43	OR	1	103
Mandic, J.	10/3/19	CA	12	
Mandich, J.	7/30/48	OH	5	
Mann, R.	8/16/49	CA	3	
Mann, R.	6/13/34	UT	6	104
Maris, R.	9/10/34	MN	5	105
Marshall, J.	12/30/37	KY	11	106
Matuszak, J.	10/25/50	WI	7	
Mays, W.	5/6/31	AL	5	107
McAdoo, R.	9/25/51	NC	8	108
McCabe, F.	6/30/27	MN	11	
McCaffrey	12/24/38	AZ	8	
McCouey, W.	1/10/38	AL	2	109
McDaniels, J.	4/2/48	KY	7	
McKinney, H.	1/1/19	NC	12	110
McNeil, C.	5/25/39	AL	7	111
McPhee, F.	3/19/31	OH	9	
Mencel, C.	4/21/33	WI	2	
Merx, C.	4/17/28	NJ	5	
Miller, C.	9/26/22	OH	7	
Miller, F.	4/3/11	OH	12	112
Mitchell, L.	5/30/49	NJ	11	113
Morin, M.	10/15/42	MA	8	114
Motta, D.	9/3/31	UT	5	
Moyer, D.	8/8/39	OR	9	
Murro, M.	6/4/49	NJ	1	
Nash, C.	7/24/42	NJ	1	
Nelson, A.	10/27/43	OH	5	
Nicklaus, J.	1/21/40	OH	8	115
Noll, C.	1/5/32	OH	10	
Norlander, J.	3/5/21	MN	7	
Nova, L.	3/16/15	CA	1	
O'Brien, J.	12/11/30	NJ	9	
Olsen, M.	9/15/40	UT	10	116
Orr, J.	10/4/35	SC	8	117
Otis, J.	4/29/48	OH	11	
Otto, J.	1/5/38	WI	6	118
Owen, N.	5/2/43	OH	7	119
Page, A.	8/7/45	OH	9	120
Pallazzi, T.	8/8/32	NJ	2	
Parr, J.	3/13/36	KY	2	
Patterson, F.	1/4/35	NC	8	121
Patton, M.	11/16/24	CA	12	122
Pellington, W.	9/25/27	NJ	9	
Peoples, W.	8/16/43	AL	2	123
Peters, R.	4/10/20	KS	7	
Petty, R.	7/2/37	NC	10	124
Phillips, J.	2/5/36	AL	10	125
Plum, M.	1/20/35	NJ	3	
Pollard, J.	7/4/22	CA	4	126
Prefontaine, S.	1/25/51	OR	12	
Ramsey, F.	7/13/31	KY	11	

Name	Birth Date	State Born	Mars Sector	S.C.*
Ratterman, G.	11/12/36	OH	3	
Redman, R.	3/7/43	OR	6	127
Regner, T.	4/19/44	WI	1	
Reinhard, R.	10/17/20	CA	11	
Retalaff, J.	8/21/31	ND	9	
Richey, J.	3/30/31	AZ	5	
Rigby, C.	12/12/52	CA	5	128
Rinka, J.	10/4/48	WI	2	
Robinson, R.	5/3/41	NJ	1	129
Rocha, E.	9/18/23	HI	2	130
Rollins, P.	1/19/34	KY	9	
Romig, J.	4/11/41	UT	11	
Romney, E.	5/28/11	UT	2	131
Rose, P.	4/14/42	OH	10	132
Ryun, J.	4/29/47	KS	6	
Saimes, G.	9/1/41	OH	4	133
Sale, F.	6/25/11	KY	6	
Sample, J.	6/15/36	VA	2	134
Santee, T.	3/25/32	KS	4	
Sayers, G.	5/20/43	KS	11	135
Schmidt, K.	12/29/53	CA	5	
Schollander, D.	4/30/46	NC	1	136
Schreiner, D.	3/5/21	WI	10	
Schull, B.	9/28/37	OH	9	137
Schultz, H.	7/3/22	MN	10	
Scott, J.	7/20/45	SC	1	138
Sears, V.	3/4/18	OR	2	139
Sefton, W.	1/21/15	CA	11	
Seidel, G.	7/27/14	MN	10	
Seltz, R.	1/25/24	MN	9	
Selvy, F.	11/9/32	KY	3	
Shaver, G.	8/14/10	CA	2	
Shaulik, R.	12/4/33	CO	11	
Shelton, E.	9/28/32	KS	8	
Silliman, M.	5/5/44	KY	12	
Silvester, J.	8/27/37	UT	10	
Sime, D.	7/25/36	NJ	4	
Sington, F.	2/24/10	AL	2	
Skinner, R.	4/17/30	KY	11	
Skoog, M.	11/2/26	MN	10	
Smith, A.	10/5/36	KY	2	140
Smith, B.	2/8/20	MN	1	
Smith, G.	1/28/47	KY	12	
Smith, J.	8/5/50	CA	12	
Smith, S.	11/24/51	CA	2	
Smith, W.	4/2/29	OH	5	141
Snead, N.	7/31/79	VA	9	142
Speight, B.	10/7/30	NC	3	
Spessard, R.	12/11/15	VA	1	
Spitz, M.	2/10/50	CA	11	143
Starr, B.	1/9/34	AL	4	144
Staubach, R.	2/5/42	OH	8	145
Steers, L.	6/16/17	CA	3	
Steinkraus, W.	10/12/25	OH	5	146
Steinmark, F.	1/27/49	CO	3	
Stephenson, D.	7/10/35	AL	8	
Steuber, R.	10/25/21	NJ	6	

Name	Birth Date	State Born	Mars Sector	S.C.*
Stillwagon, J.	2/11/49	OH	10	
Stones, D.	12/6/53	CA	6	
Svare, H.	11/25/30	MN	7	
Swartz, D.	12/23/31	KY	11	147
Sweeney, W.	4/18/41	MA	5	148
Swenson, K.	4/18/48	KS	3	
Syzmanski, R.	11/7/32	OH	3	
Talbloom, E.	5/5/21	OH	4	
Tarkenton, F.	2/3/40	VA	7	149
Tarr, J.	8/27/39	KS	8	
Tatum, J.	11/18/48	NC	7	150
Taylor, B.	6/9/51	NJ	3	
Taylor, B.	5/28/48	NJ	8	151
Thacker, T.	11/2/39	KY	6	
Theismann, J.	9/19/49	NJ	2	
Thomas, J.	3/3/41	MA	10	
Thompson, J.	2/10/06	UT	5	152
Thurston, F.	12/29/35	WI	4	153
Tibbs, T.	7/23/34	OH	2	
Timberlake, R.	10/18/43	OH	4	
Tonnemaker, F.	6/8/28	MN	10	154
Tripucka, F.	12/8/27	NJ	1	
Tyra, C.	8/6/35	KY	9	
Tyrer, J.	2/25/39	OH	10	155
Unsel, W.	3/14/46	KY	7	156
VanBikolff, B.	10/28/22	NJ	7	
Vanderkelen, R.	11/6/39	WI	4	
Verga, R.	9/7/45	NJ	2	157
Villipiano, P.	2/26/49	NJ	12	
Vogel, R.	9/23/41	OH	9	158
Volk, R.	3/5/45	OH	10	159
Von Every, H.	2/10/18	MN	2	
Vukovich, W.	3/29/44	CA	1	160

Name	Birth Date	State Born	Mars Sector	S.C.*
Walton, W.	11/5/52	CA	7	161
Warburton, I.	10/8/11	CA	7	
Ward, R.	1/10/21	KS	9	162
Warfield, P.	11/28/42	OH	3	163
Warmerdam, C.	6/22/15	CA	9	164
Watts, S.	8/30/11	UT	7	
Webster, A.	4/19/31	NJ	2	
Webster, G.	11/25/45	SC	3	165
Werkman, N.	7/17/42	NJ	10	
Werner, W.	2/26/36	CO	7	166
Westphal, P.	10/30/50	CA	10	167
White, B.	6/9/17	CO	2	168
White, L.R.	8/22/38	OH	2	
White, S.	10/6/49	NH	3	
Wicks, S.	9/19/49	CA	3	
Wilcox, D.	9/29/42	OR	4	169
Wilhelm, J.	7/26/22	NC	7	170
Willard, K.	7/14/43	VA	8	171
Williams, B.	6/15/38	AL	9	172
Williams, R.	8/23/53	CA	11	173
Williams, T.	8/30/18	CA	1	174
Willingham, L.	12/22/48	AL	10	
Willis, F.	12/9/47	MA	12	
Wills, H.	10/6/05	CA	8	175
Wintermute, U.	7/19/17	OR	5	
Wottle, D.	8/7/50	OH	2	176
Wright, E.	11/6/39	OH	11	177
Wynn, E.	1/6/20	AL	11	178
Yarborough, C.	3/27/39	SC	4	179
Young, C.	2/5/51	CA	10	180
Yowarsky, W.	5/10/28	OH	8	
Zabel, S.	1/15/48	MN	5	
Zook, J.	9/24/47	KS	4	181

How I Was Debunked

Piet Hein Hoebens

One day last April, I suddenly fell under the suspicion of being psychic. The suspicion was voiced by a computer hidden in the basement of the psychology faculty at Utrecht University in the Netherlands. A few weeks earlier I had participated in a sophisticated PK experiment devised by Richard Broughton, a parapsychologist working in Holland.

Of hundreds of subjects trying their hand at the experiment, only one seemed to produce results that were truly extraordinary—me. Not that my scores were particularly high, but the “variance effects” I produced were, well, just about the last thing you’d expect from chance alone.

My performance was remarkable for yet another reason: I happen to be a card-carrying skeptic. A native-born Dutchman, I belong to that visionary race that gave the world Hurkos and Croiset, but personally I prefer to question the existence of all paranormal phenomena, from poltergeists to pyramid powers.

As we all know, skepticism inhibits psi. This was clearly proved by Croiset, who early in 1977 predicted a major disaster in the Bermuda Triangle nine months hence. He did so at a public session that unbelievers were allowed to attend. At the appointed time, nothing whatsoever happened in that murderous part of the Atlantic. Since Croiset normally can read the future as you and I read a city map, this case of ESP-missing strikingly demonstrates the disturbing influence exuding from the skeptical presence.

For a while, however, my accomplishment at Utrecht University seemed to refute this cherished assumption. I didn’t believe in PK, and yet I

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performed a neat mind-over-matter feat! Most embarrassing for believers and skeptics alike.

Fortunately for both parties, Richard Broughton is a cautious scientist. He works at the Parapsychology Laboratory of Professor Martin U. Johnson, whose name is anathema to the local occultists. (In a recent interview for *De Telegraaf*, Johnson told me ESP was not an established fact, and he expressed eagerness for close cooperation with professional magicians in his battle against "parapornography.") Johnson and his collaborator, Sybo Schouten, hate jumping to conclusions, and so does Broughton. His experiment *really* was sophisticated: it was self-debunking.

The experiment was called "The Head of Jut," after a popular game where one is meant to hit a lever with a heavy mallet, sending a weight up a wire to ring a bell at the top.

Broughton's Head of Jut (to give a short description that does scant justice to the refinement of the design) consisted of a column of 32 small lamps mounted in an aluminium frame. Controlling it was a device that interpreted signals from the computer program that ran the experiment. The number of lamps that would actually be lit was decided by a random-event generator coupled to the computer. The subject was asked to try to influence this random process psychokinetically, "willing" as many lamps as possible to light up in the column. High scores were rewarded with the sound of a bell. The gamelike arrangement was meant to be motivating, and hence psi-conducive. Well, I certainly felt motivated.

Yet I was exposed by the very contraption that almost proved my supernatural abilities. For Richard Broughton, distrusting the kind of evidence so often hailed as "conclusive" by the true believers, had used the so-called Edinburgh Split for analyzing the results. Basically, the Edinburgh Split is a computer-conducted separation of the data, allowing the first part of the result to be called the "pilot" and the second part the "confirmation." To quote Broughton's report, which was presented at the recent SPR conference in Edinburgh, and published in the *European Journal of Parapsychology*, "The pilot part can be analyzed with all the freedom the experimenter wishes. Based upon his findings in the pilot part, the experimenter then formulates specific hypotheses regarding the effects which he believes to be in the data and then rigorously tests for these in the confirmatory part." Failure to confirm must be accepted as a conclusive refutation, and may under no pretext be explained away. Of course the confirmatory data remain hidden from the experimenter until he has formulated his predictions.

Well, the Edinburgh Split ended my short career as a psychic. Having scored significantly in the pilot part (see the tables in the *EJP*), my

remarkable variance pattern was not replicated to any degree in the second part. My psychokinetic feat had been entirely spurious. Chance does odd things once in a while.

Richard Broughton thinks his Head of Jut should serve as a warning to other psi-researchers. With the increased use of mini-computers, game-like PK tests will become routine. He fears spurious effects, parading as psi evidence, will soon abound if parapsychologists do not guard against statistical boobytraps. He strongly recommends the use of the Edinburgh Split as a mine-detector.

I find Broughton's determination not to be fooled by his own experiments entirely admirable. It should assure him of sympathetic attention from the skeptics if he ever comes up with positive findings.

A true believer would never have allowed the confirmation part to spoil those promising pilot results. An expert in "astral bodies and hidden knowledge" with whom I discussed the Head of Jut was angry with Broughton for having surrendered so easily. Of course I had real PK powers! It was very simple. My skepticism had initially forgotten to exercise its inhibiting influence. It had reasserted itself just in time, and that's why Richard Broughton had to conclude his report with the anticlimactical sentence: "Accordingly this experiment was judged to have failed to demonstrate PK effects." ●

Intensity of Conviction

Though faulty hypotheses are excusable on the ground that they will be superseded in due course by acceptable ones, they can do grave harm to those who hold them because scientists who fall deeply in love with their hypotheses are proportionately unwilling to take no as an experimental answer. Sometimes instead of exposing a hypothesis to a cruelly critical test, they caper around it, testing only subsidiary implications, or else follow up sidelines that have an indirect bearing on the hypothesis without exposing it to possible refutation.

I cannot give any scientist of any age better advice than this: The intensity of the conviction that a hypothesis is true has no bearing on whether it is true. The importance of the strength of our conviction is only to provide a proportionately strong incentive to find out if the hypothesis will stand up to critical evaluation.

Poets and musicians may easily think this sadly cautionary advice and characteristic of the spiritless fact-finding they suppose scientific inquiry to be. For them, I guess, what is done in a blaze of inspiration has a special authenticity. I guess also that this is only true where there is talent bordering upon genius.

—P. B. Medawar, in *Advice to a Young Scientist*,
Harper & Row, 1979.

The Extraordinary Mental Bending of Professor Taylor

Martin Gardner

No one can say that John G. Taylor, professor of mathematics at Kings College, University of London, is not a brilliant and colorful personality. He was born in 1931 at Hayes, Kent, the son of an organic chemist. After getting his doctorate at Cambridge University, he taught mathematics and physics at a number of colleges in England and the United States, including a stint as professor of physics at Rutgers University. His technical papers (more than a hundred) display a wide range of interests that include pure mathematics, particle physics, cosmology, and brain research.

There is another side to Professor Taylor that I can best characterize as that of a ham actor who thrives on crowd adulation and personal publicity. When in the United States, he studied acting at the Berghof Herbert Studio, in Manhattan, and for a while was "sex counselor" for *Forum* magazine. In England, his constant appearances on radio and television shows made him such a celebrity that in 1975, when the respected British magazine *New Scientist* conducted a poll of readers to determine the world's top twenty scientists, Taylor made the list. The magazine's cover ran his picture alongside Archimedes, Darwin, Einstein, Galileo, Newton, and Pasteur!

Taylor also enjoys writing popular books about science, of which his best known was the international best-seller *Black Holes* (1973). It is not a bad introduction to black-hole theory, but toward the end of the book Taylor indulges in lots of freaky conjectures. He thinks it quite possible, for example, that Earth was visited in the distant past by extraterrestrials, who may have come in spaceships driven by "black-hole power genera-

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tors.” Saturn, he tells us, is the most likely planet that “high-gravity aliens” could have used as a way-station in their explorations of our solar system.

In his last chapter, Taylor considers the possibility that we have souls that are structured forms of energy capable of moving from one body to another. The universe, he reminds us, has two possible destinies. It may expand forever to die the familiar thermodynamic “heat death,” or it may go into a contracting phase and eventually be crushed out of existence by a black hole. In either case, no matter will be left “which could realistically be said to be worth having a soul.” However, the universe may bounce back from the big crunch. “The only chance of immortality then is in an oscillating universe. Even in that, everlasting life will not be of the usual form but one in which there may be no relation at all between one cycle and the next due to the enormous re-scrambling of matter in the collapsed phase. It could well be that souls will have to cast lots as to which of the variety of bodies they will inhabit in subsequent lives. That is, of course, unless the hand of God intervenes, his wonders to perform.”

There is one other possibility of immortality. If one fell into a black hole, says Taylor, he might emerge in a parallel universe. This, however, has a big shortcoming. If two “close friends” fell into different holes, they could find themselves in separate universes with no possibility of reunion. “So there is always the chance that the immortality gained by falling through a rotating black hole may be a very lonely one.”

In view of such quirky speculation, it was not surprising that in 1973, when Taylor appeared on a BBC television show with Uri Geller, he was so stunned by Geller’s magic that he became an instant convert to the reality of ESP and PK. Geller did his familiar trick of duplicating a drawing in a sealed envelope. “No methods known to science can explain his revelation of that drawing,” wrote Taylor with his usual dogmatism. The professor’s jaw dropped even lower when Geller broke a fork by stroking it. “This bending of metal is demonstrably reproducible,” Taylor later declared, “happening almost wherever Geller wills. Furthermore, it can apparently be transmitted to other places—even hundreds of miles away.”

“I felt,” said Taylor in his most often quoted statement, “as if the whole framework with which I viewed the world had suddenly been destroyed. I seemed very naked and vulnerable, surrounded by a hostile and incomprehensible universe. It was many days before I was able to come to terms with this sensation.”

Although Taylor was supremely ignorant of conjuring methods, and made not the slightest effort to enlighten himself, he at once set to work testing young children who had developed a talent for metal bending after seeing Geller on television. Taylor’s controls were unbelievably inadequate. Children, for example, would put paper clips in their pocket and



John G. Taylor, *Superminds*

One of the youngsters that Taylor, in *Superminds*, claimed could bend metal.

later take one out twisted. Nevertheless Taylor was persuaded that hundreds of youngsters in England had the mind power to deform metal objects. Curiously, Taylor never actually *saw* anything bend. One minute a spoon would be straight, later it would be found twisted. Taylor named this the “shyness effect.” Metal rods were put inside sealed plastic tubes and children were allowed to take them home. They came back with the tubes still sealed and the rods bent. One boy startled Taylor by materializing an English five-pound note inside a tube.

So certain was Taylor that his high I.Q., combined with his knowledge of physics, gave him the ability to detect any kind of fraud that he rushed into print a big book called *Superminds* (published here by Viking in 1975). It will surely go down in the literature of pseudoscience as one of the funniest, most gullible books ever to be written by a reputable scientist. It is even funnier than Professor Johann Zöllner’s *Transcendental Physics*, inspired by the psychic conjuring of the American medium Henry Slade. Taylor’s book is crammed with photographs of grinning children holding up cutlery they have supposedly bent by PK, tables and persons floating in the air during old Spiritualist seances, glowing ectoplasmic ghosts, psychic surgeons operating in the Philippines, Rosemary Brown displaying a musical composition dictated to her by the spirit of Frederic Chopin, and numerous other wonders.

Not the least peculiar aspect of Taylor’s volume was his argument that all paranormal feats, including religious miracles, are explainable by electromagnetism. “The Geller effect is a case in point. Will it ever turn out

that the miracles of Jesus Christ also dissolve in scientific speculation. . . . This book has presented the case that for one modern 'miracle,' the Geller effect, there is a rational, scientific explanation. This explanation is also claimed to allow us to understand other apparently miraculous phenomena—ghosts, poltergeists, mediumship, and psychic healing. What, then, of other miracles? Can they too be explained by these newly discovered powers of the human body and mind, and the properties of matter broadly described in the book?"

After writing *Superminds*, of which let us hope he is now super-ashamed, Taylor slowly began to learn a few kindergarten principles of deception. When the Amazing Randi visited England in 1975, Taylor refused to see him; but Randi managed to call on him anyway, disguised as a photographer-reporter. You'll find a hilarious account of this in Chapter 10 of Randi's Ballantine paperback, *The Magic of Uri Geller*. Taylor proved to be easier to flimflam than a small child, and his "sealed" tubes turned out to be so crudely sealed that Randi had no trouble uncorking one and corking it again while Taylor wasn't looking. Randi even managed to bend an aluminum bar when Taylor's attention was distracted, scratch on it "Bent by Randi," and replace it among Taylor's psychic artifacts without Taylor noticing.

Another crushing blow to Taylor's naive faith in Geller was a test of the "shyness effect" by two scientists at Bath University. They allowed six metal-bending children to do their thing in a room with an observer who was told to relax vigilance after a short time. All sorts of bending at once took place. None was observed by the observer, but the action was secretly being videotaped through a one-way mirror. The film showed, as the disappointed researchers wrote it up for *Nature* (vol. 257, Sept. 4, 1975, p. 8): "*A* put the rod under her foot to bend it; *B*, *E* and *F* used two hands to bend the spoon . . . while *D* tried to hide his hands under a table to bend a spoon."

Slowly, as more evidence piled up that Geller was a charlatan and that the "Geller effect" never occurs under controlled conditions, Taylor began to have nagging doubts. After several years of silence, he suddenly announced his backsliding. Of course he didn't call it that. Instead, he and a colleague at Kings College wrote a technical article for *Nature*, "Can Electromagnetism Account for Extrasensory Phenomena?" (vol. 276, Nov. 2, 1978, pp. 64-67; also SKEPTICAL INQUIRER, Spring 1979, p. 3.)

In *Superminds*, after considering all possible ways to explain psi phenomena by known laws, Taylor concluded that only electromagnetism offered a viable possibility. The *Nature* paper reinforces this view. Electromagnetism, the authors decide, "is the only known force that could conceivably be involved." They then report on a series of carefully controlled

tests of ESP and PK using talented subjects. No psi phenomena occurred. When controls were eased, the phenomena did take place but the experimenters could not detect a whiff of electromagnetic radiation. Their conclusion is that all the phenomena they investigated, metal bending in particular, have normal explanations.

More was to come. In *Nature* (vol. 279, June 14, 1979) the same authors published a sequel to their first paper. In this sequel, titled "Is There Any Scientific Explanation of the Paranormal?" they again stress the fact that "on theoretical ground the only scientific explanation [for psi forces] could be electromagnetism." Their conclusion is that neither electromagnetism "nor any other scientific theory," including quantum mechanics, can explain dowsing, clairvoyance, or telepathy. "In particular there is no reason to support the common claim that there still may be some scientific explanation which has as yet been undiscovered. The successful reductionist approach of science rules out such a possibility except by utilization of energies impossible to be available to the human body by a factor of billions. We can only conclude that the existence of any of the psychic phenomena we have considered is very doubtful."

Now it is pleasant for skeptics like me, who also regard psi phenomena as possible but "very doubtful," to welcome Taylor back to our ranks. But surely his reasons are as shaky as those that converted him to the paranormal six years ago. The history of science swarms with observed phenomena that were genuine but had to wait for centuries until a good theory explained them. A lodestone's magnetism was sheer magic until the modern theory of magnetism was formulated, and even today no physicist knows why the acceleration of electrical charges inside atoms causes magnetic effects. It is not even known why electricity comes in units of positive and negative charge, or whether magnetic monopoles exist as theory seems to demand.

Kepler correctly decided, on the basis of confirmable correlations, that the moon causes tides; but in the absence of a theory, even the great Galileo refused to believe it. One could add hundreds of other instances in which a phenomenon was authenticated long before a theory "explained" it. On this I find myself in full agreement with J. B. Rhine and other parapsychologists who regard the lack of a physical theory as no obstacle whatever to the acceptance of psi.

Science cannot absolutely rule out the possibility of anything, but it can assign low degrees of probability to extraordinary claims. In my view, which is the view of most psychologists, the classic psi experiments are more simply and plausibly explained in terms of unconscious experimenter bias, unconscious sensory cuing, fraud on the part of subjects eager to prove their psychic powers, and, on rare occasions (such as those recently

disclosed about S. G. Soal), deliberate fraud on the part of respected investigators.

The central point is this. When science assigns a low degree of credibility to an extraordinary claim, it does so by evaluating the empirical evidence. Geller and the spoon-bending children are indeed frauds, but the reasons for thinking this have nothing to do with the fact that the supposed "Geller effect" is unsupported by an adequate physical theory. It is because the conjuring techniques for fraudulently bending metal are now well known, and because the metal invariably refuses to twist whenever the controls are commensurate with the wildness of the claim. •



Sidney Harris in *American Scientist*.
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Science, Intuition, and ESP

Gary Bauslaugh

The power of rationality, as evidenced by the scientific revolution, has led us to a confused and dichotomous view of life. On one hand, we are reluctant to believe that anything is real unless its objective nature can be specified; on the other hand, we recognize important aspects of life that cannot be precisely defined and measured—for example, truth, beauty, and wisdom. Surely these things are real: civilized life would be untenable if they were not. But what is their place, what is their reality, in a world in which objectivity so dominates?

The omnipotence of reason in our society has long bothered many artists and intellectuals. They argue that judgments of an intuitive or aesthetic nature must be different from, and not merely an extension of, logical analysis. And there is some physiological evidence that the intellect does work in two fundamentally different ways—that there are two separate and distinguishable modes of human thought, a “rational” mode and an “intuitive” mode.¹ The rational mode is considered to be that which functions in a linear, objective, scientific sense; the intuitive, in a holistic, aesthetic, visionary sense. The rational mode is needed to deal sensibly with the objective world; the intuitive is required to function intelligently in the abstract world.

The idea of two modes of thought, whether or not it is physiologically supportable, is indeed attractive; for it allows for some kind of resolution, or at least mutual accommodation, of the often antagonistic notions of rationality and intuition. If they are both regarded as being legitimate, but different, ways of thinking, then they can be used in a mutually supportive

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manner. The scientist ought not to scorn intuitive judgment; he uses it himself in virtually every response he makes to his environment. The artist ought not to denigrate rationality, for rationality must be a significant component of his approach to life. Mutual understanding, however, is not prevalent. Scientists, many of them at least, seem intent on proving that, to use Einstein's phrase, "God does not play dice with the universe." Artists, and others, are convinced that there is a ghost in the machine, but their approach is often unnecessarily and unfortunately hostile to rationality. Many, however, sense that each approach has validity, and they search for ways of accommodating both.

Proponents of belief in extrasensory perception (ESP) claim a unique affinity to both ways of thinking. They supposedly incorporate rationality into their view of reality (in the experiments of the parapsychologists), yet they also make considerable claims to a world beyond rationality, a world of mystical, unexplainable forces, a world in which normal, mundane concerns, such as mechanism and cause and effect, are superfluous. They believe that they have discovered a physical reality that extends beyond current scientific understanding, one which perhaps is inherently not amenable to standard scientific analysis. This view has considerable appeal to those who are disturbed by their conflicting feelings in regard to intuition and rationality, because it seems to offer a plausible reconciliation of the two. Science, through parapsychological experiments, is seen to be in the service of revealing a higher truth—a world beyond the strictures of traditional science. Both the perceived need for compatibility with rationality and the intuitive need for something beyond can be seen to be satisfied. The fact that many scientists denounce the psychic movement is regarded as further confirmation of the reluctance of the scientific establishment to accept any reality beyond the narrow confines of objective analysis.

There is a human need to find an alternative to the mechanistic vision of life that is presented by science. But in presenting a spurious synthesis of science and a paranormal world beyond science, psychic proponents offer a superficially attractive but counterfeit fulfillment of this need.

* * * * *

Believers in paranormality frequently draw an analogy between ESP skeptics and Galileo's inquisitors. In the classic story of rigid and single-minded belief, the inquisitors refused to look through Galileo's telescope, where they could have seen objective evidence for some of his astronomical claims; in the most famous incident, he wanted to show them the moons of Jupiter. Many modern scientists, it is claimed, are like the inquisitors in

their refusal to consider openly and willingly the evidence for ESP. But psychic proponents are, in fact, much more like the inquisitors, and the skeptics like Galileo. I think it is predilection to belief (or predetermined belief) that characterizes psychic proponents, just as it did the inquisitors; and it is skepticism, an unwillingness to accept rigid and unsubstantiated belief, that characterizes ESP skeptics, just as it did Galileo. Intelligent skepticism has always been a prerequisite for the overthrow of entrenched belief.

And one more word about the inquisitors. I do not wish to do them too great an injustice by comparing them to psychic proponents. The inquisitors' position was not a foolish one and it was not trivial. They were not simple people or narrow-minded bigots. They had a legitimate concern, a concern that Plato had when he brought reason and rationality and philosophic thinking to Western thought; a concern that we, on the whole, seem to be unaware of. Plato had warned about capitulation to empiricism, which he understood would destroy the mythic, moral vision of the world that was attainable only through pure thought. He had warned against replacing the mythic world with simple facts about nature, obtained merely by experiment. Empiricism is soulless and amoral and therefore limited. Our complete acceptance of rational objectivity as a mode of thought makes it difficult for us to understand Plato's and the inquisitors' legitimate concerns about empiricism. They were trying to protect a beautiful and morally superior and long-standing mythic vision of the world; the same cannot be said, I think, about psychics and parapsychologists.

What I am saying in regard to ESP is this: ESP is defended on scientific grounds, but, as I shall try to show, the attempt is misguided. Alternatively, ESP is defended on mythic grounds; the attempt there is similarly misguided. One can agree, of course, that, as Hamlet said, "there are more things in Heaven and Earth than are dreamt of in your philosophy," and no one can deny that there are vast areas of metaphysics that no one knows anything about. But the vision of the universe presented by parapsychology is limited, sterile, amoral, and has none of the beauty and ethical value of a true mythic-poetic vision. In other words, parapsychology makes bad science and it makes bad poetry, and by claiming an affinity to both science and poetry it does damage to both.

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In regard to the question of scientific validation of ESP, I cannot, of course, review such a topic in any detail in this paper. Excellent reviews have been presented and are constantly being written.² I should like,

instead, to concentrate briefly on one point of relevance: that of the tenuous nature of scientific validation in general. Scientists are reluctant to make the claim of absolute validation, because, contrary to popular understanding, the nature of their enterprise does not often lead to the revelation of absolute truth. Scientists are fallible people, and nature often acts as though it were capricious. It is difficult to establish truth or reality through even the best scientific research. Science does not constantly dispense truths; rather, it grinds slowly toward better and better approximations of truth. And it does not go directly toward the truth; it discovers many false and misleading pathways. A flurry of work in parapsychology, for example, and numerous scientific reports of its existence, do not prove, as it is frequently claimed, the reality of its existence.³ Such reports exist independently of the reality of psychic phenomena; they exist and would exist in any case. Proof requires far more substantial and conclusive evidence.

Those unfamiliar with science often ascribe unwarranted validity to the results of scientific research. An excellent example of the elusiveness of truth in science was recently provided by those engaged in research on a substance called polywater.⁴ This substance, described first by a Russian chemist in 1961, was thought to be a new and potentially important form of water. The implications of this discovery were enormous; and hundreds of scientists worked intensively on it, using the most sophisticated equipment available, until it was discovered in 1973 that polywater was really only ordinary water containing silicon impurities from the glass containers that held it. It took 12 years to establish that this substance, which existed in measurable quantities right before the scientists' eyes, was not a new form of one of the simplest substances on earth.

One must be particularly skeptical about conclusions drawn from research in the behavioral sciences. If the complexity of nature is such that chemical analyses of even the most basic and simple substances on earth can be fraught with misdirection and error, how much more difficult to establish the truth when dealing with the most complex organisms on earth. Furthermore, it is difficult to avoid having predetermined belief when dealing with human problems, and evidence has a curious way of supporting belief. Because of the very real problem of self-deception (as well as intentional deception of others), one should always seriously question the reliability of those who busy themselves finding evidence that confirms strongly held beliefs.

Perhaps the most striking example of the improper use of scientific research in the behavioral sciences was provided by Sir Cyril Burt, the eminent British psychologist, who died in 1971.⁵ Burt won many honors and awards for his work and continued to be held in high regard after his death, until the disclosure that his most important work—I.Q. tests of

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identical twins that supposedly established the objective reality of the hereditary basis for intelligence—was completely invalid and possibly fraudulent. It was discovered that Burt's collaborators in the work were fictitious, and there is reason to believe that some of the twins reported on did not even exist. The results, upon close examination, show unmistakable evidence that they were altered to give the desired results. Even Burt's strongest supporters now admit that this is so.⁶

Whether or not Burt was intentionally fraudulent will never be known. It is felt by many that he simply committed one of the fundamental mistakes of scientific research: he let his private beliefs pervade the realm of objectivity. Burt believed in inherited intelligence; he believed in it long before he reported on the experiments with twins. When one knows the truth of what one is trying to prove, then proof becomes an annoying inconvenience. When things do not work out quite as expected, one begins to influence the results, ever so slightly at first, or to ignore certain results, just to get it all over with. Then, of course, the objective value of such work is completely lost.⁷

The problem with much parapsychological research is similar to that which probably affected Burt's work: many parapsychologists strongly believe in the reality of what they are trying to prove. In some instances, adequate controls are simply abandoned; in other cases, results are influenced in very subtle ways. Because simple experiments seem not to work, for example, very complex experiments are devised. The complex ones merely allow more scope for spurious nonpsychic influences upon the results (and for fraud).

The debate will probably go on indefinitely, because no one can ever prove that ESP does not exist. New experiments will always be devised—complex and sophisticated experiments—and the eager enthusiasts of the psychic world will proclaim that the ultimate and final proof is at hand. What is one to do, then, when faced with this barrage of new and supposedly conclusive experiments? I suppose one must look through the telescope. But is there really a Galileo among all of these parapsychologists? Personally, I am inclined to adopt the view of Hume (from his essay *Of Miracles*):

Fools are industrious in propagating imposture; while the wise and learned are in general content to deride its absurdity without informing themselves of the particular facts by which it may be distinctly refuted.

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If it is true that there are two fundamental modes of human thought—the rational-objective-scientific mode and the intuitive-mythic-poetic

mode—then our tendency to consider rationality as the only legitimate mode is indeed limiting. Of the two forms of human thought, the intuitive must be the fuller, richer form: it offers the only true potential for human wisdom. Wisdom cannot consist simply of logical virtuosity. Intuitive thought encompasses all experience; it can include rational knowledge, but it also incorporates the nonrational aspects of human nature, such as human feeling and aesthetic sensibility. If there is, in fact, such a thing as human wisdom, then our intuitive sense must constitute the essence of it. And it is the intuitive-aesthetic-visionary sense of the world that becomes dissatisfied, I think, by an excessive dependence upon rationality. It is this intuitive sense that suggests there must be more to existence than the enormous storehouse of factual information that we have accumulated by rational, objective inquiry. It is our intuition that says there must be more; that, as Plato and Galileo's inquisitors feared, rational empiricism allows no higher vision of the reason for existence, no unifying, mythic vision of experience. It is our intuition that demands a mythic vision of life.

The scientific revolution has left us without mythic vision. It has left us with a metaphysical void that, I think, science and rationality can never fill. We see in our society many ways in which an attempt is made to fill the void, or to come to terms with it. Some of these involve simply denying rationality and ultimately become indistinguishable from madness.⁸ Others attempt to do what I think must be done, to develop a mythic vision of life that somehow accommodates rationality or allows a concomitant rational approach to the objective aspect of life. In most instances, however, I think that a critical mistake is made. The mistake is to compromise mythic vision by imposing rationality upon it. It does not work, because myth is fundamentally different from rationality and it is hostile to the imposition of rationality. Some churches, for example, in their abandonment of traditional ritual and myth, are removing the essence of religious spiritual experience. They are agreeing with the rationalists that their vision must be more objective, relevant, and rational. But they are left with soulless social agencies.

One reason—at least what I take to be a reason—for widespread belief in the paranormal and the accompanying growth of pseudoscience is that psychic investigation represents another attempt to arrive at a mythic vision that somehow incorporates rationality. The metaphysical void can be found more acceptable if there are forces beyond our comprehension that act upon our lives, and psychic phenomena suggest such forces. But if they are not merely irrational forces, but are empirically verified forces, then they can coexist in harmony with rationality. That is why people wish to believe and why they so desperately seek objective validation. But they have limited what they can see, and feel, and sense, by the limitations

imposed by rational inquiry. Parapsychology ultimately presents a sterile vision of merely unexplained paranormal forces, which become evident only through statistical manipulations or in uncontrolled circumstances. The psychic movement has compromised its vision by seeking objective validation and has employed corrupt objectivity in its eagerness to prove the vision. It has neither objectivity nor vision of mythic dimension.

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Those who believe in the paranormal do harm (I have suggested) to the concept of rationality, and they provide a confining intuitive vision of existence. A humanly satisfying intuitive vision does not arise from attempts to imitate rationalism, as the liberalized religions do, or to distort and corrupt rationality as pseudoscience does. None of these ultimately satisfies the human need for an intuitive-mythic vision of life that can coexist with rationality.

It is only, I think, through a deeper understanding of the central role of intuitive vision in human existence, and of its proper relationship to rationality, that we can begin to come to terms with the metaphysical void, if we can ever do that at all. Pseudoscience, particularly in the guise of parapsychology, detracts and distracts from the search for richer visions of experience. It substitutes titillating and shallow speculations, and spuriously rational ones, for intuitive vision. It is in poetry and aesthetics and in the complexities of human feelings and intellect that we ought to search for more satisfactory reasons for existence. We shall find little solace in our frantic preoccupation with rational inquiry, and less still in the frantic preoccupation that many have with the spurious forms of rational inquiry that characterize the world of psychics and parapsychology.

Notes

1. See, for example, R. Ornstein, "The Split and the Whole Brain," *Human Nature* 1 (5) (May 1978):76-83.

2. For example, *ESP: A Scientific Evaluation*, by C. E. M. Hansel. Also see Martin Gardner's many essays on the topic in the *New York Review* and the *SKEPTICAL INQUIRER*.

3. Arthur Koestler, for example, in *The Roots of Coincidence* (New York, Random House, 1972), states that parapsychology had received the "final seal of respectability" when the Parapsychological Association was accepted into affiliate status with the American Association for the Advancement of Science in 1969. He suggested that the field had progressed so far that, rather than being of questionable status, now it was at the point of being "laid open to the charge of scientific pedantry." Koestler's aggressive writing on this topic reminds me of Cyril Burt, whom I discuss later in this essay. Both Koestler and Burt are eloquent in their denunciation of those they perceive to be narrow-minded skeptics. Both write with the conviction of committed believers. The AAAS and the scientific world in general are, of course, far from accepting the validity of ESP. The "Science and the Citizen"

column in the April 1979 *Scientific American* and the Spring 1979 SKEPTICAL INQUIRER report on a current movement within the AAAS directed at critically reviewing the affiliation with the Parapsychological Association.

4. For a brief review of the polywater phenomenon, see Leland Allen in the *New Scientist* 59 (Aug. 16, 1973):376-380.

5. Burt provides a particularly interesting example for this essay, since he was a powerful defender of the psychic movement. He wrote many articles denouncing skeptics such as Hansel. In *Science and ESP* (J. R. Smythies, ed., Atlantic Highlands, N.J., Humanities Press, 1967), he states: "Professor Hansel's book is certainly the fullest statement to date of the case against parapsychology and, if this is the best the critics can do, parapsychology would seem to be in a fairly strong position." One can understand Burt's annoyance with Hansel. Hansel had quoted (p. 26) Burt's statement that experiments on the telepathic abilities of two Welsh schoolboys provided the final evidence for telepathy. In a detailed review of the conditions under which the experiments were conducted, Hansel shows how he had two Welsh schoolgirls duplicate the feats of the boys, using an Acme "silent" dog whistle to signal each other. Such whistles are commonly used to summon sheep dogs in the Welsh countryside. Children can hear the whistles clearly but adults cannot.

6. For a brief review of the flaws in Burt's work, see Nicholas Leland Allen in the *New Scientist* 59 (Aug. 16, 1973):376-380.

7. One of the strongest statements I have seen on the hazards of deception in scientific research was written by Cyril Burt himself, in *Science and ESP* (op. cit.). The irony speaks for itself. In discussing mediums, Burt said: "Far more frequent, however, and far more subtle, are the effects of unconscious self-deception—a proclivity which even trained investigators seem at times to underestimate. The tendency to heighten one's statements so as to make them more interesting or enhance one's own importance as the subject of some memorable experience, the desire to avoid qualification or reservations as indicative of an irresolute judgement, and above all perhaps the insistent need to adjust our observations and our recollections to fit our dominant hopes and wishes—these are all ingrained and natural tendencies of the human mind, as unconscious as they are automatic. It needs a long and arduous discipline to turn a man into an exact, objective and truly scientific reporter."

8. I am referring to the ways in which a nonrational vision of life is imposed upon the objective world. Nonrational visions constitute the greater part of poetic-aesthetic sensibilities; they are the essence of imagination; they contribute enormously to the richness of one's existence; they can lead to many complex insights into human behavior. But when these visions of experience are confused with rationality, when one's world becomes directed and dominated by nonrational vision, then madness, or something indistinguishable from madness, ensues. •

Book Reviews

Review Symposium

The UFO Handbook. By Allan Hendry. Doubleday/Dolphin Books, Garden City, N.Y., 1979. 297 pp. Paperback, \$8.95.

Reviewed by Philip J. Klass

The UFO Handbook is one of the most significant and useful books on the subject ever published. It is the result of Allan Hendry's relatively brief experience as the chief investigator for J. Allen Hynek's Center for UFO Studies (CUFOS), where Hendry personally investigated 1,307 UFO incidents during a 15-month period from mid-1976 to late 1977. The book is subtitled "A Guide to Investigating, Evaluating and Reporting UFO Sightings," and it fully lives up to this claim. But it also could be subtitled "The Disillusionment of a Would-Be UFO-Believer."

In the book's Foreword, Hynek says that Hendry "has arrived at some very striking and unexpected results, and has exploded or thrown into serious question some of the 'instinctive' conclusions of even very experienced UFO investigators, myself included." This is a remarkable admission from a man who has himself spent more than 30 years in investigating UFO cases, including more than two decades as a consultant to the U.S. Air Force.

Hynek admits that his long experience in the field had prompted him to "recognize the importance of finding out just to what extent misidentification, wishful thinking, emotions, and hallucination enter into the UFO problem, [but] I regretfully failed to make such a study. Allan Hendry is the first to attempt such an important evaluation." It would have been more accurate if Hynek had qualified his statement to read: "Allan Hendry is the first *UFO-proponent* to attempt such an important evaluation."

Hendry writes that he first became interested in UFOs in 1972, after meeting

Philip J. Klass, chairman of CSICOP's UFO Subcommittee, has written two books on the subject of UFOs, the most recent being UFOs Explained (Random House/Vintage).

Hynek, and that he subsequently wrote "materials on UFOs for Dr. Hynek," later submitting a prototype of a UFO newsletter that he suggested CUFOS publish. In 1976, Hynek hired Hendry to publish such a newsletter and to serve as CUFOS chief investigator. The first issue of the newsletter, *International UFO Reporter*, was published in November 1976, and it soon established itself as the most respected UFO periodical in the United States, if not in the entire world of UFOlogy. Hendry abandoned his career as a commercial artist to accept the assignment. He had had some scientific training, having minored in astronomy at the University of Michigan.

Prior to joining CUFOS, Hendry admits, his knowledge of the UFO mystery was based entirely on secondhand and thirdhand accounts in books and periodicals, which, as I too learned from experience, sound much more credible in print than when the cases are rigorously investigated. Hendry acknowledges that he was intrigued at the prospect of being able to learn more about the UFO mystery through firsthand investigations. And learn he did, as so many other UFOlogists do not.

Of the 1,307 UFO cases that Hendry investigated, he concludes that only 8.6 percent of the incidents defied his efforts to find prosaic explanations and therefore qualify as "genuine" or "true UFOs." Those for which prosaic/earthly explanations were found are referred to as Identified Flying Objects, or IFOs. Even dedicated UFO proponents acknowledge that 80 to 90 percent of all UFO reports turn out to be IFOs, and probably would be willing to settle for Hendry's 8.6 percent figure. After all, even if only 0.01 percent of the 100,000 UFO reports *really* defy prosaic explanation after the most rigorous skeptical investigation, this would confirm the long-standing claims of UFO proponents.

But what will shake the UFO movement is Hendry's candid admission that he is "discouraged about the ability of any investigator to draw the line between all IFO and UFO sightings." Specific cases cited by Hendry demonstrate that gross errors of description are found in eyewitness reports, because the public has been so brainwashed on the subject—he uses the term "emotional climate." And he admits that a number of seemingly mysterious UFO reports were found to be IFOs through "sheer luck" rather than rigorous effort. (Having spent more than 13 years in investigating challenging UFO cases, I fully agree.) This prompts Hendry to pose the crucial question that will bring down the wrath of UFOlogists: "How can I be sure, if my remaining 'UFOs' aren't simply IFOs misperceived (sincerely) to the point of fantasy?"

This has been the basic premise—stated more positively—of those who have been critics of most UFO reports. If Hendry had entered the field as a skeptic, or if he now admitted that he had become a skeptic as a result of his CUFOS experience, his conclusions and book could more easily be dismissed by the UFO proponents. But on the last page of the book, Hendry admits: "Personally, I *want* there to be anomalistic UFOs that defy the laws of physics for the simple reason that it would usher in a new scientific revolution."

That Hendry was able to find prosaic explanations for all but 8.6 percent of the 1,307 cases he investigated, despite this personal bias, is a tribute to his hard work and good sense. But a key question is whether he was able to devote sufficient effort to the seemingly inexplicable UFO reports, considering the large number of reports received—these were encouraged by Hynek's frequent public appeals. Ignoring the time that Hendry spent each month in writing and publishing *International UFO Reporter (IUR)* and assuming he spent *seven days a week*, eight hours a day, in his

investigations, without a single day off in 15 months, Hendry could afford to spend *an average of less than three hours on each case*. My own experience shows that some of the more difficult cases require hundreds of hours of investigatory effort to turn up and demonstrate a prosaic explanation. True, Hendry was able to enlist the aid of other UFOlogists, principally members of the Mutual UFO Network (MUFON). But my experience with MUFON suggests that many of its investigators have an overwhelming desire to find unexplainable cases, a desire that dulls investigative rigor.

Nor is there any indication that Hendry's busy schedule allowed him to go back to re-investigate older incidents in the light of new insights, which might have resulted in converting older UFOs into IFOs. Recognizing that Hendry had no prior UFO investigating experience before joining CUFOS, it is hardly surprising that with increased experience his percentage of "genuine UFOs" declined. For example, the average for 1977 was 9 percent. But for the first eight months of 1978 (the only figures for 1978 published so far), the UFO percentage dropped to only 5 percent. The USAF's experience paralleled that of Hendry as it gained investigative insights.

UFO-movement critics, I predict, will charge that Hendry's book is mistitled and ought to be called "The IFO Handbook," because it is devoted largely to discussing UFO cases that proved to be IFOs. But this is what makes it so valuable a handbook for would-be UFO investigators, especially with its excellent photos, which demonstrate how a high-altitude weather balloon, a meteor fireball, or a hot-air balloon, seen in darkness, can generate mysterious-sounding UFO reports. Hendry recognizes that his findings may prompt criticism that he has become a skeptic, or originally was a skeptic posing as a would-be believer. So the author explains that the UFO movement's traditional *modus operandi* of trying to amass large, impressive numbers of UFO cases, most of which are really IFOs, does not really serve the cause. The large IFO content in the already unmanageable inventory of many tens of thousands of *UFO reports* simply diverts attention from the genuine UFO cases—if any such exist.

Hendry's findings, after his brief tenure as a UFO investigator, seem to have had an impact on Hynek's long-held views. A decade ago, after 20 years of experience in support of the Air Force, Hynek testified during a Congressional hearing: "I did not—and still do not—concern myself with reports which arise from obvious misidentifications by witnesses who are not aware of the many things in the sky today which have a simple, natural explanation. These have little scientific value, except perhaps to a sociologist or an ophthalmologist."

Now, in the Foreword to Hendry's book, Hynek admits that it is "abundantly clear to one seriously engaged in UFO studies that IFOs are a major stumbling block to progress . . . unless we alter our methodology and use to the full extent what we learn from close attention to the manner in which IFOs are allowed to masquerade as UFOs because of the desire of the untutored and the wishful thinkers to transform IFOs into UFOs, we shall make little progress. There is little point of continuing the uncritical reporting and recording of IFOs and UFOs." (Only two years earlier, in an Epilogue written for a book based on the script for the movie *Close Encounters of the Third Kind*, Hynek had written of "a catalog of some 1,100 cases in which a UFO occupant has been reported," without attempting to assess whether any of these were genuine.

In Chapter 9 of Hendry's book, he discusses the 113 UFO reports that defied prosaic explanation and categorizes them according to their "unexplainability"

(my terminology). One of these categories is called "Near IFOs" and involves cases "that just miss being ascribable to an IFO cause by virtue of one or two anomalistic features." A second category Hendry calls "Problematic UFOs," involving reports "with fundamental difficulties not serious enough to demote them to the exception class (i.e., unreliable), but enough to raise questions about their strength as 'data.'" A third category is "Good UFOs," involving reports that are "still hampered by the possibility of an IFO explanation." Finally, there is the "Best UFOs" category, involving "strong reports with only a minimal chance of a prosaic explanation."

Out of the 113 "UFO" cases, only 20 qualify as "Best" cases, with "only a minimal chance of prosaic explanation," corresponding to only 1.5 percent of the total 1,307 incidents investigated. And 14 of the 20 are "nocturnal lights"—lights in the night sky. Hendry's investigations indicated that at least 93 percent of all nocturnal-light reports submitted to CUFOS had prosaic explanations, and the bulk (70 percent) of the "Best" of the unexplainable cases were of this type. Another 20 percent of the "Best" cases were of the "daylight disc" type, but at least 80 percent of all daylight disc reports submitted to CUFOS during this period turned out to have prosaic explanations.

The remainder of the "Best" cases—two incidents—were "close encounters of the first kind," where the witness estimates the UFO is no more than 500 feet away. But nearly 80 percent of all such CE-I encounters, as they are called, submitted to CUFOS turned out to have prosaic explanations in Hendry's judgment. During the period covered in Hendry's book, CUFOS received only five "close encounters of the *third* kind," in which the principal reports seeing strange-looking creatures associated with a UFO. But Hendry's investigation into these five CE-III reports prompts him to rate them as "problematic"—i.e., of questionable reliability and not deserving of the "Good" or "Best" categorization.

Since Hendry's book suggests that he is a no-nonsense investigator, should the two seemingly unexplainable CE-I "Best" reports be taken at face value as reasonable proof that there is at the root of the UFO mystery an exotic phenomenon that truly defies prosaic explanation? Hendry is not without his blind spots, probably because, as he admits, "*I want there to be anomalistic UFOs [his italics].*" On page 13, Hendry writes: "As UFOs get *close*, however, the chances for simple misidentifications become reduced [*his italics*]." Yet on page 85, he described a "CE-III incident" in which a mature woman reported seeing a UFO at a sufficiently close distance that she said she could see the silver-colored faces and round heads of the UFO occupants on several successive nights. The woman's husband described the UFO quite differently, as resembling a star. After Hendry's investigation he concluded that the woman had been watching the planet Venus—an explanation she refused to accept.

Hendry's book devotes two chapters to the potential use, and misuse, of radar to try to confirm reports of visual UFO sightings. He cites a case where six witnesses observed a bright light in the night sky through a telescope and called a nearby Naval Air Station to ask if it had an unidentified object on its radar. The radar operator looked and found an unidentified, but weak, "blip." Hendry's investigation prompted him to conclude that the weak blip was due to anomalous radar propagation conditions and that the bright light in the sky was a star. Based on this and similar cases, Hendry cautions readers against jumping to the conclusion that an unidentified radar blip automatically confirms a visual sighting. (In my book *UFOs Explained*, published in 1974, this was stated as "UFOfological Principle #9: Whenever a light is sighted in the night skies that is believed to be a UFO and

this is reported to a radar operator, who is asked to search his scope for an unknown target, almost invariably an 'unknown' target will be found.")

Yet in the spring of 1978, Hendry investigated a "radar-visual" UFO incident that had occurred at a navy facility near Ocala, Florida, and was later featured as a "UFO of High Merit" in the June issue of *IUR*. Hendry acknowledged that the bright planets Venus and Jupiter might have played a role in the incident and that the case had "the same major drawbacks" that weakened other "radar-visual" cases.

Subsequently, Robert Sheaffer (vice-chairman of CSICOP's UFO Subcommittee) investigated the same case and asked for my assistance on the radar aspects, as I have often asked him for aid on astronomical matters. On February 4, 1979, I talked with the navy radar operator, Timothy Collins, tape-recorded our interview for accuracy, and gave Sheaffer a verbatim transcript of key portions. Sheaffer wrote an article, published in the April 1979 issue of *Second Look*, which indicated that the starlike object seen over a tower being used to calibrate a Navy radar was the planet Jupiter and that Hendry's account of the incident contained some errors in terms of what had, or had not, been reported by radar operator Collins.

Hendry responded with an article published in the May *Second Look* in which he sharply criticized both Sheaffer and me, implying that I had not accurately reported to Sheaffer what I had been told by radar operator Collins. Hendry wrote: "If Collins had told me the same story that Klass indicates he told *him*, I would never have run this case as a true anomaly." I promptly wrote to Hendry, on May 12, proposing that this important issue could be easily resolved if he and I were to exchange copies of our tape-recorded interviews with radar operator Collins. I offered to supply him "with a complete, unexpurgated copy of my tape-recorded interview on February 4, 1979, with Collins, providing you agree to supply me with copies of your tape-recorded interviews with Collins." Hendry declined to accept my proposal.

Hendry did send a copy of his tape-recorded interview to *Second Look*, with a letter saying that he would not send me a copy because I would "resort now to the same propagandist twists which he [Klass] applied to his own conversation with Collins." I replied on May 19, asking: "How can you honestly charge me with 'propaganda twists' of my conversation with Collins when you yourself have not even heard what Collins told me, and you reject the opportunity to hear for yourself." Hendry has never replied.

At the end of *The UFO Handbook*, Hendry lists a bibliography of UFO books and published papers, presumably a list of recommended reading. The list includes *Beyond Earth: Man's Contact with UFOs*, by Ralph and Judy Blum. The book, published in the spring of 1974, includes a prediction by the authors that "by 1975 the government will release definite proof that extraterrestrials are watching us." The list includes the book *The Humanoids*, by Charles Bowen, devoted entirely to reports of encounters with strange-looking creatures that allegedly fly in UFOs. But Hendry's bibliography has no mention of any of the three books written by the late Donald H. Menzel, world-famous astronomer and UFO skeptic. Nor did Hendry list either of my two UFO books, also expressing a skeptical viewpoint. One possible explanation for this "oversight" is that Hendry would rather that his readers not know how many of his own findings had earlier been published by these "Ogres of UFOlogy."

Hendry may believe that his UFOlogical education is complete, but I predict that the most illuminating phase will occur when he reads the reactions of UFO-

movement leaders to *The UFO Handbook*. Hendry concludes his book with a warning: "Unless we develop *drastically* [his italics] new ideas and methodologies for the study of baffling UFO cases and the human context in which they occur, we will watch the next thirty years of UFO report-gathering simply mirror the futility and frustration of the last thirty years."

Will the leaders of the UFO movement, Hynek included, accept Hendry's sage advice? Will they adopt more rigorous investigative techniques and a far less credulous attitude toward tall tales? Will the leopard change its spots?

Reviewed by Ronald Story

If I were to choose a fitting quotation to appear at the front of Hendry's book, I would quote the famous dictum attributed to the Greek philosopher Protagoras (c. 480-410 B.C.): "Man is the measure of all things," the UFO phenomenon probably being the best case in point.

The UFO Handbook should, I think, be considered a publishing milestone in the annals of UFOlogy and should certainly be regarded by most reasonable persons as the most worthwhile book to read on the subject since the famous (or infamous) "Condon Report" (published as the *Scientific Study of Unidentified Flying Objects*, edited by Daniel S. Gillmor and Edward U. Condon, E. P. Dutton, New York, 1969).

Although written in a pleasant style—free from ridicule and blatant sarcasm—the book will not be bought by readers primarily for its entertainment value but rather as a rational guide (probably *too* rational for most UFOlogists) to a subject that has suffered at the hands of irrational (or intentionally dishonest) writers for far too long.

Allan Hendry is the chief investigator for the Center for UFO Studies—founded by astronomer and former Project Blue Book consultant J. Allen Hynek—and managing editor of the *International UFO Reporter*, both based in Evanston, Illinois. Hendry received his B.A. degree in astronomy and illustration from the University of Michigan in 1972.

The book is based on a study of some 1,300 UFO reports received by the center during a period of a little over one year (from August 15, 1976, through November 31, 1977). Primarily through inquiries by a telephone WATS line, Hendry was able to identify 90 percent of the reported "objects," leaving a "residue" of 113 "genuine UFO reports, meaning the well-examined 'unknowns.'" But, during the investigative process, some rather startling findings emerged.

I say "startling" because, even though many investigators have long realized the many pitfalls of eyewitness testimony, this sorry state of affairs has never been documented so clearly and concisely—relative to UFO matters—as in Hendry's study. The CUFOS investigator did not *himself* expect that the vast majority of UFO "witnesses" would be *so subjective and so unreliable*.

The book is divided into two major sections: UFOs versus IFOs (identified flying objects); and "tools" of the investigator, such as hypnosis, lie detection, optical aids, photography, radar, and so forth. Hynek's classification system is

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used throughout to group the 1,300 reports into manageable categories. Within all of these categories, Hendry found an inordinate number of mundane objects being reported on the Center's UFO "hot line." Witnesses could not tell the difference, for example, between advertising planes and "flying saucers" (20 out of 33 so-called "close encounters of the first kind" IFOs) or, as in one case, between Venus and a dislike craft containing occupants with "silvery-colored faces"—i.e., a "close encounter of the third kind."

Since the entire UFO phenomenon ultimately rests on human testimony alone, the implications for the future of UFOlogy as a truth-seeking concern seem dark indeed. Hendry also uncovered a striking trend in the data (always suspected by some, but never substantiated by detailed statistics) that indicated "a powerful UFO mythology" (i.e., an apparently unconscious desire on the part of many "average, ordinary, everyday" people to see particular kinds of objects with certain performance characteristics *among what turned out to be IFOs*), seemingly absorbed from the culture at large, "affecting the objectivity of UFO witnesses, even in groups."

The reader should be cautioned, however, not to regard Allan Hendry as a total, all-out UFO "debunker." Although he maintains a questioning attitude and is far more discriminating than most other UFOlogists, Hendry's real message in this book is a call to UFOlogists everywhere to vastly improve their methodology in the hope that real progress can someday be made. At the conclusion of his book, he states: "I can only assert that it is my *feeling* that some UFO reports represent truly remarkable events." And in his "Position Statement" for the forthcoming *Encyclopedia of UFOs* (to be published by Doubleday in May 1980) Hendry wrote:

I have seen a full social spectrum of witnesses treat partially-resolved advertising planes, stars and meteors as UFO "Rohrschach blots," reading into them a pre-anticipated UFO "model" that is frighteningly consistent from report to report. Experience with the "domed disc" descriptions and unearthly speeds and powers over the environment that so many people afford to common sources is quite sobering, as are the strong emotional reactions elicited by these IFOs.

As the last thirty years of UFO research have been a scientific frustration, my ongoing hope has been to exploit any effective systems or techniques which would bolster the value of human testimony in this regard. Current tools like radar, photographic analysis, hypnotic regression, polygraph tests, statistical experiments, physical trace analysis and such, however, have led at best to ambiguity. If UFO researchers are ever to plumb the scientific potential posed by such UFOs as the radar-visuals and the physical trace cases, or the physical basis (if any) of humanoid claims, it will be necessary to devise new procedures to support the tales of UFO claimants. Otherwise, we will be faced with another thirty years of promise and frustration drawing the distinction between alleged UFO stimuli and the pervasive UFO mythology. •

Betty Through the Looking-Glass

The Andreasson Affair. By Raymond E. Fowler. Prentice-Hall, Englewood Cliffs, N.J., 1979, \$8.95.

Reviewed by Ernest H. Taves

Why, it's turning into a sort of mist now, I declare! And certainly the glass was beginning to melt away... In another moment Alice was through the glass, and had jumped lightly down into the Looking-glass room.

Through the Looking-Glass, 1872

And we are coming to some kind of a glass—mirror, or glass. And they are going through it! We are going through it—through that mirror!

The Andreasson Affair, 1979

Walking through glass was far from the strangest thing that happened to Betty Andreasson the night of January 25, 1967. This episode was but a minor fragment of a rich and varied narrative we shall return to shortly. First, however, a brief account of our protagonist.

Mrs. Andreasson was a housewife and homemaker living in South Ashburnham, Massachusetts. Ordinarily she lived there with her husband and their seven children. However, events had altered that arrangement. Betty's husband, James, had been seriously injured in an auto accident the preceding December 23 and was still hospitalized. To help run the household in James's absence, Betty's parents were living in the house.

Betty was a deeply religious fundamentalist Christian. She spent much time with the Bible, and there had been a history of "odd events" occurring in the family prior to 1967. What had allegedly happened on that January evening in 1967 was the abduction of Betty aboard an alien spacecraft, whereupon began a nightmarish odyssey. This abduction was (years after the event) subjected to a year-long scrutiny by a team of investigators. Raymond Fowler describes the abduction as "probably the best-documented case of its kind to date." Accordingly it behooves us to examine his account of this incident.

At about 6:30 P.M. on January 25 there was a power failure at the Andreasson house. Betty, her parents, and the seven children were there. Some of the children had been watching television. Betty had been finishing up in the kitchen. Shortly after the lights went out, a pulsating pink light appeared outside the kitchen window. A number of alien creatures entered the house. And there the matter rested until 1974, when Betty submitted an account of the experience to the *National Enquirer* in response to that publication's solicitation of firsthand UFO accounts. (That tabloid awards an annual prize of up to \$20,000 for the best UFO-incident report, and a prize of \$1 million for "positive proof" that earth has

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been visited by extraterrestrial spacecraft.) The *Enquirer* expressed no interest. In 1975 Betty learned of J. Allen Hynek's Center for UFO Studies, and she wrote to him of her experience. Hynek shelved the letter for a time before sending it on to the Humanoid Study Group of MUFON—the Mutual UFO Network. MUFON mounted an investigation, into which Fowler was later drawn.

The principal activity of the investigation consisted of 14 sessions during which Betty was hypnotized. On these occasions Betty was taken, in hypnotic state, back to the events of the night of January 25. Each hypnotic session was followed by a debriefing period, during which the investigators discussed the elicited material with Betty.

It will be remembered that at the beginning of the investigation, ten years after the event, Betty's memory of the occasion consisted of a power failure, a pulsating pink light, and the entry into her house of a number of alien creatures. The elaborate narrative that follows was elicited during hypnotic sessions conducted April through July, 1977.

Four large-headed humanoid entities entered the house, by walking or gliding through the unopened kitchen door, which was made of wood. Their heads were shaped like inverted pears. They wore shiny, dark-blue uniforms, with bird emblems on their left sleeves. Their hands, which bore three digits, were gloved. One of the entities, apparently their leader, was somewhat taller than the others. He identified himself as Quazgaa. It occurred to Betty that the uninvited visitors might be angels, and she offered them food. After some confusion she gave Quazgaa a Bible. He gave her a small, thin blue book in exchange. Quazgaa waved his hand over the Bible, causing other copies to appear, which he gave to his companions. Betty looked briefly into the thin blue book; the first three pages were white and luminous. Further on in the book she saw strange designs she couldn't understand. Quazgaa then asked if Betty would follow them. After some turmoil she did.

(It should be interpolated at this point that, when the investigation began, none of the six younger children had any memory of the alien intrusion and that Betty's mother would have nothing to do with the inquiry. Betty's father said he had seen strange characters outside the kitchen window. Betty's oldest daughter, Becky, who also underwent hypnosis, to a degree confirmed parts of Betty's memory of the early part of the evening. From this point on no family member shared in Betty's adventures.)

They leave the house, passing through the closed kitchen door. Betty is astonished to see a strange oval-shaped object settled in her backyard. Quazgaa makes it partly transparent, and Betty sees things in the craft that she had seen pictured in the blue book. They float or glide a few inches above the ground toward the strange vessel.

Now they board the craft, and Betty is taken through different parts of it, including a cleansing station, where she is engulfed in brilliant light, and a changing room, where she removes her clothes and dons a white examination garment. This leads, naturally, to being taken to an examining room. Here a needlelike probe is thrust up her nose. "I heard something break like a membrane or a veil or something—like a piece of tissue or something they broke through." When the probe is withdrawn Betty notes that it now contains upon its end a small round BB-like object with tiny points on it.

A similar probe is thrust through her umbilicus. She must be measured, she is told, for "procreation." The nasal and navel probes are both decidedly unpleasant.



Betty Andreasson.



Humanoid entities entering the Andreasson house through the unopened kitchen door.

"I don't want any more tests! Get this thing out of me!" Finally it is done, and Betty returns to the changing room to dress in her familiar clothes.

But the odyssey has just begun. Now Betty, accompanied by two gnomelike creatures, leaves the spacecraft by floating along and through a long black tunnel. They emerge into a curious compartment containing eight glasslike chairs. She sits on one of these, is covered over with glass or plastic, and is immersed in a fluid. There are tubes, two nasal and one oral, for life support. There are soothing vibrations. Betty is told she is going to be given something to drink. She feels a thick syrup seeping into her mouth through the connecting tube.

"It is a—about a spoonful or so they are giving me through the tube, and it tastes sweet. Tastes good. Oh! This feels good! Oh, so relaxing. (Sigh) And it tastes good . . . it feels good on me."

Later the fluid drains from the chair. The two gnomes reappear, now hooded in black, and the three of them proceed into another long tunnel. They come to a glassy wall, or mirror. They pass through it and emerge into a region where almost everything is red. They see many lemurlike beings, scary creatures, crawling upon the surfaces of buildings. They continue and pass through a membrane into a region where everything is green. This is a welcome realm of beauty. Here Betty and her companions soar over a pyramid, which is crowned by a "feminine-male" head. They see, in the distance, a city of stark beauty, where bright light reflects from crystalline structures like giant prisms. Clearly, Betty has traveled a far piece from the backyard in South Ashburnham, Massachusetts.

Comes now an encounter that confounded the investigators when they heard of it, and in respect of which Fowler confesses persisting bafflement. Betty is taken through these crystal structures to confront an enormous bird. There is much light and heat, and Betty cries out for help and writhes in agony. In due course the temperature drops. Betty squints her eyes open. The bird is gone. A small remaining fire dwindles into embers and ashes, from which emerges a "big fat worm." She has witnessed an enactment, or a vision, or whatever, of one version of the phoenix legend.

A voice then speaks to Betty, and here she has a profound religious experience, for the voice is the voice of God. She did not see God, she said later, but she heard his voice. The consternation of the investigators was considerable as they faced what seemed to them an unlikely admixture of fundamentalist Christianity, on the one hand, and UFOs and the concept of extraterrestrial life, on the other.

Betty and the two creatures then retrace their earlier path, returning to the room with the glasslike chairs. The earlier experience is repeated. "Oh, that feels good... Oh, this is so good!"

Back to the ship, then, in the yard in South Ashburnham. In the spacecraft she says farewell to Quazgaa. He tells her that secrets have been locked into her mind, and that her race will not believe her for a long time. The beings have come to help man. They love the human race.

Quazgaa remains on the ship while two of the aliens escort Betty back to her house. It is now 10:40 P.M. She has been away 3 hours and 40 minutes. Betty asks about the blue book. She is told she may keep it for a time, that it contains formulas, riddles, poems, and writings, "for man to understand nature." Betty's parents and the children, who have been in a state resembling suspended animation, are restored to normal consciousness and everyone goes to bed.

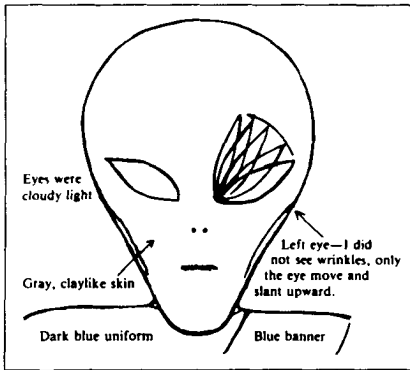
The basic narrative, as outlined above, was obtained during the first eleven hypnotic sessions. Three additional sessions followed. During the first of these Betty spoke for a time in an unintelligible tongue, interspersed with phrases like "Signal Base 32," and "Star Seeso." The entities communicated indirectly with the investigators through Betty and also directly with Betty: They are from a planet far, far away, not in our galaxy. They have been visiting Earth since the beginning of time. They can see the future. Many other humans have been taken aboard their craft, but only a few have "gone to the fullness." In the trip outside of the spacecraft Betty had not been taken to their home planet but to "the high place"—coordinates unspecified.

In another session the investigators tried to find out more about the thin blue book. Betty described what she saw in it: "One comma-dash like a curleque of some kind. A sweeping under in a circle, and then two lines close to each other... a zero with a dot and some kind of a line on an angle going through that with a little flag-type thing on the line."

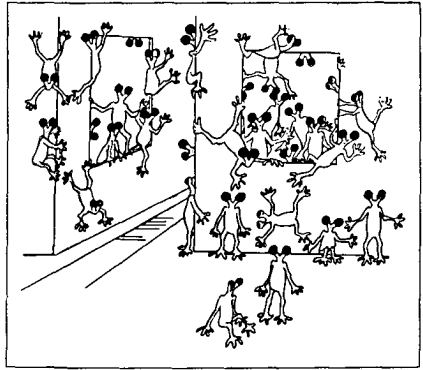
The sessions ended when Betty moved to Florida. Before then she and James had been divorced.

A further incident should be related: When Betty moved to Florida she met one Bob Luca, who had also had a UFO experience. (She and Bob were later married.) Bob was subsequently interviewed by MUFON investigators. On the evening of the day of the interview Bob telephoned Betty to tell her about it. Their conversation was interrupted by an angry male voice, speaking unintelligibly, with clickings and tones. Betty thought that the voice was that of a fallen or evil angel and that she was caught in a supernatural battle between the forces of good and evil. The next day two of Betty's sons were killed in an auto accident.

So much for the basic narrative. It provides a wealth of material for our consideration. What are we to make of it? We might begin with this: The aliens are capable of extragalactic flight. Exceeding the speed of light poses them no problem. They have crossed extragalactic space to observe us since the beginning of time. Our time, that is. They love the human race. They are here to help us. Granting this, we must be incredulous at their manifest inability to communicate meaningfully



Quazgaa, leader of the aliens.



Alien creatures seen by Betty Andreasson after passing through the mirror.

intelligence. Never, surely, in the history of space travel have aliens come so far for so long to communicate so little.

Let us invoke Occam's Razor.¹ This powerful directive suggests that we consider which is the simpler, more reasonable, more rational explanation of this exotic adventure: (1) Betty was taken aboard an extragalactic spacecraft by aliens who have been visiting Earth since the beginning of time but haven't been able to effect meaningful communication with man. (2) Betty recalled, or relived, in hypnosis, a dream or fantasy (or a number of them) that had meaning and utility in terms of her life history and her emotional needs.

With respect to hypnotic regression it must be emphasized that reports obtained from hypnotized subjects do not necessarily correspond to external, objective, verifiable reality. The hypnotist who worked with the Andreasson team, Dr. Harold Edelstein, is an experienced professional; both he and the investigators were convinced that Betty believed that what she brought forth in the hypnotic sessions was true. And there is no reason to challenge that. But whether the events reported correspond to any reality outside of Betty Andreasson is a different question altogether. Indeed, Dr. Edelstein said he could not say how much of Betty's story was "real" and how much was "imaginary." Similarly, Dr. Benjamin Simon, who conducted hypnotic sessions with Betty Hill, did not believe that that other Betty had been taken aboard an alien craft. "Absolutely not," he said. Hypnotic regression is a useful psychotherapeutic tool and the legitimate uses of hypnosis are many, but it is necessary to emphasize that the subjective realities thus elicited may or may not have any correspondence with objective reality.

A minor point, before proceeding to considerations of more importance: It will be recalled that within 24 hours of the interrupted telephone call between Betty and Bob Luca two of Betty's sons were killed in an automobile accident. Before this, shortly before Betty moved to Florida, her father died of cancer and complications. Before that one of the investigators died of a heart attack. There is no suggestion in Fowler's text that the deaths of either Betty's father or the investigator were in any way associated with the investigation. Regarding the death of the two sons in the accident, Fowler states that, though the investigation of that event is "confidential," a "logical reason" for the accident was found. Fowler notes ominously, however, that the auto accident "brought to four the death toll of people who had been associated with our investigation." Then, having just stated that they had found a logical reason for the auto accident, Fowler cannot resist temptation:

"The question still remained, though—was the accident a coincidence?"

How did the question remain? This is a cheap shot, yellow journalism, a tired attempt to inject mystery into a situation where there is none. The Curse of Tutankhamen lives on. Betty's narrative is rich enough without the addition of such tarnished trappings.

J. Allen Hynek, in an introduction, writes that even if the entire series of adventures was "the result of some complex psychological drama played in concert" this account would still be "a fine case study in abnormal psychology." Astronomer and UFOlogist Hynek errs in this psychological appraisal. I shall show how the investigation failed and shall suggest how such investigations in the future might be improved.

How, then, does *The Andreasson Affair* fail? Sex is as good a point as any at which to begin. It will be obvious to most readers that the narrative provides a wealth of sexual symbolism and imagery. Phallic symbols appear in Betty's drawings, and the aliens penetrate her orifices. There is displacement here, as might be expected, the umbilicus being implicated rather than the more convenient (medically speaking) and nearby vagina—and not for the first time in abductee literature. And there is much more, including, for example, and in more than one instance, the theme of return to innocence—to, if you will, the womb, as in the immersion in the fluid-filled chair. The feeding in this chair, which felt so good to Betty, is susceptible of multiple interpretation, including breast feeding and adult oral sex, but in the absence of a proper history we don't know what to make of it. Fowler's text is as free from references to sex as the most repressed Victorian novel. A psychosexual history is essential, however, to the scholar attempting to understand the significance of Betty's experience.²

Of many reasonable alternative hypotheses to that of the extragalactic spaceship let us set forth one: On the night of the power failure the weather was foggy and misty. With the house lights suddenly out, the headlights of a passing car illuminate the fog, producing the appearance of a light outside the kitchen window. The car bounces, and the light is seen to pulsate. Later the power comes back on and conditions in the house revert to normal. Betty goes to sleep and converts the stimulus of these events into a richly structured dream. For the most part the dream is forgotten, though there remains a vague memory of alien visitation. Later, in hypnosis, the dream is brought back. But the data that would help us understand the dream are not provided.

We must surmise, for example, that the Andreassons had an active sex life—seven children born between 1937 and 1963. We know that on the evening in question Betty had been deprived of her husband for more than a month because of his hospitalization. What was the effect of this upon Betty? What was her state of mind in late January? What was their relationship like? There is a fleeting reference to marital problems, and we know they were divorced between the night of the dream and the time of its recall; but we are told almost nothing else of their relationship. The investigation is seriously flawed, in Fowler's account, by the absence of any attempt to ask the obviously indicated questions.

We have also the business of the nasal probe entering an orifice and penetrating a membrane, a veil. Granted that long-distance psychoanalysis is hazardous, some things are relatively obvious; and the chances are that we should wonder here about loss of innocence or initiation into adulthood. Indeed, *veil* is a common enough lay term for hymen. But we can't say more about the meaning of this part of the tale because the indicated inquiry was not made—or at least not reported. The point of

this kind of inquiry is that the greater the extent to which the elicited material can be shown to make sense in terms of the history and psychodynamics of Betty Andreasson, the lesser the need to seek exotic explanations.

The same lack of inquiry arises in other areas as well. Consider theology. We have seen that religion was an important part of Betty's life. Three aspects of her narrative are of particular interest from a theological point of view: (1) During her trip she was from time to time comforted by the laying on of an alien hand. (2) In the later sessions she began to speak in an unintelligible tongue. (3) She received, from an entity she at first thought might be an angel, a book containing important messages for man but written in unintelligible symbols. Here are three striking parallels with the Mormon religion: The founding of that church was based upon the alleged finding, by Joseph Smith, of the "Golden Bible," a book of metallic plates, given by an angel; the plates were covered with incomprehensible writing that Joseph "translated" by means we needn't go into here. And the concepts of speaking in tongues and the laying on of hands have been important parts of Mormon doctrine from that church's beginning. Was Betty familiar with this history? We need to know the answer to this and other questions, but no information is provided.

Turning from theology to literature we find the same problem. Walking through a glass or mirror into a strange place is a concept Betty shares with Lewis Carroll. Had Betty read *Alice in Wonderland* or *Through the Looking-Glass*? These books have had an influence upon and have been well-remembered friends of generations of girls and women (and boys and men) of all ages. Was Betty familiar with them? Fowler's account leaves the question unanswered.

There is a similar paucity of information even in respect of the episode of the phoenix, which so unsettled the investigators. We gather from Fowler's account that Betty's sister consulted a reference work to look up the phoenix after the session in which Betty spoke of it, but the serious student wants to know if Betty was familiar with the phoenix legend before that session. What was the extent and nature of Betty's awareness and knowledge of the phoenix legend prior to confronting the big bird in the hypnotic session? The answers are not available.

And how about science fiction, and science-fiction movies? It can be deduced from internal evidence that Betty was familiar both with science fiction and with that genre of illustration. But apparently the investigative team did not consider this a matter worthy of inquiry. There is, in fact, in Fowler's account no evidence whatever that it ever occurred to the researchers at any point to look into Betty's life history for possible sources of the imagery they obtained under hypnosis, though they had a veritable gold mine of material to work with. It is as if they were all hypnotized in their own turn by the concept of the extragalactic spacecraft sitting in the backyard.

Thus the investigation is flawed throughout by a failure to ask obvious questions, answers to which would illumine the meaning of the body of data they collected. Clearly they had no interest in seeking or considering alternative hypotheses. As a serious investigation into an unusual happening *The Andreasson Affair* is a failure.

How to avoid such failure in future investigations? The most obvious suggestion is to use more knowledgeable investigators. To the extent that an investigative staff is comprised solely of participants in NICAP, CUFOS, MUFON, and the like, they might consider whether their collective expertise is equal to the job at hand, whether it might not be a good idea to bring in help from the outside, whether

more broadly based backgrounds might not be useful to them. Specifically, in any case similar to the present one the help of an experienced and impartial psychoanalyst is mandatory. Where literary allusions and parallels present themselves, they should be pursued not ignored. Alternative hypotheses, though perhaps eventually repudiated, should be considered.

Back to Occam's Razor. Are we to believe on the basis of Betty's vivid narrative that an alien spacecraft was present in her backyard that night? I suggest that it is more likely that *The Andreasson Affair* relates the history of a missed opportunity to conduct a moderately interesting study in not-so-abnormal psychology.

Notes

1. *Essentia non sunt multiplicanda praeter necessitatem*. The number of entities should not be increased unnecessarily.

2. In the course of the investigation Betty was given a psychiatric examination by a psychiatrist who chose to remain anonymous. The doctor said that Betty displayed no symptoms of active thought disorders or obvious psychiatric problems. This *pro forma* examination does not approach the kind of psychoanalytic inquiry the case required.

All illustrations from the book. By permission of publisher. ●

Articles of Note

Following is a sampling of recent articles that critique paranormal or fringe-science claims or report on them in a responsible way.

Bartusiak, Marcia F. "Will the Real Nessie Please Stand up?" *Science News*, 116 (Aug. 18, 1979): 122-123. Discussion of both the Power and Johnson paper (see below) and the proposal by engineer Waldemir H. Lehn (also see below), in *Science*, July 13, 1979, that some of the reported sightings of Loch Ness and other lake "monsters" may be due to peculiar optical effects.

Coleman, Kate. "Elisabeth Kübler-Ross in the Afterworld of Entities." *New West*, July 30, 1979, pp. 43-50. Lengthy report on Kübler-Ross and her association with mail-order minister Jay Barham and his Facet of Divinity Church. Chronicles the Barham church's sex-therapy sessions, which sometimes include sex with supposed "materialized" personal spirits known as "entities" (actually real persons, including Barham). Author says Kübler-Ross "is causing concern within the [death-and-dying] movement and is dismaying many of her former associates with behavior that smacks of the occult, or simply the bizarre."

Cowen, Robert C. "Evolution: Equal Time for God." *Technology Review*, June-July 1979, p. 10. This discussion of the creationist movement concludes with a call for biologists to give more attention to explaining their science to the public—not only the facts but the Darwinian "sense of grandeur" about life and evolution.

Hawkes, Nigel. "Tracing Burt's Descent to Scientific Fraud." *Science*, 205 (Aug. 17, 1979). Report on new book by L. S. Hearnshaw confirming how British

- psychologist Cyril Burt fabricated research data, invented nonexistent colleagues, and otherwise engaged in deliberate deception to support his theories about intelligence.
- Kelly, I. W. "Astrology and Science: A Critical Examination." *Psychological Reports*, 44 (1979): 1231-1240. Review of the empirical literature that has attempted to test the claims of popular astrology. "The majority of studies conducted do not confirm astrological claims, and the few studies that are positive need additional clarification."
- Kernan, Michael. "The Calamityville Horror." *Washington Post*, Sept. 16, 1979, pp. D1-D2. Report on all the suits and countersuits in the Amityville case and a review of some of the evidence casting doubt on the story.
- Lehn, W. H. "Atmospheric Refraction and Lake Monsters." *Science*, 205 (July 13, 1979): 183-185. Surveys reported sightings of lake monster phenomena and suggests that many of them may be attributable to atmospheric image distortion. Surface temperature inversions can cause strong atmospheric refraction that can cause familiar objects easily to take on unrecognizable form. Author says his goal is not to discredit the possibility of yet undiscovered animals but "to sharpen optical observation techniques and to provide one more stage of evaluation before accepting such observations as unequivocal evidence."
- Meeus, Jean. "Planets, Sunspots, and Earthquakes." *Mercury* (Astronomical Society of the Pacific), July-Aug. 1979, pp. 72-74. Belgian astronomer, updating his devastating critique in *Icarus* in 1975, explains the fallacies of the claimed "Jupiter effect" and emphasizes that the year 1982 should cause no more concern about earthquakes than any other year. Not only are the planets not "aligned" in 1982, but a review of the observational data shows no relation between planetary positions and sunspot activity, nor between sunspot activity and number of earthquakes.
- Oberg, James. "The Failure of the 'Science' of Ufology." *New Scientist* Oct. 11, 1979, pp. 102-105. Appraisal of the status of UFOlogy after 30 years. Finds the suspicion with which modern science views the UFO movement to be well based, a result of serious shortcomings in the approaches and arguments of UFOlogists. An award-winning essay (see News and Comment, p. 15).
- Power, Dennis, and Donald Johnson. "A Fresh Look at Nessie." *New Scientist*, Aug. 2, 1979, pp. 358-359. Remarks upon the close similarity between the famous 1934 photo of "Nessie" and a photo of a swimming elephant.
- "Reveille's Phantom Spaceship." *New Scientist*, Aug. 2, 1979, p. 380. (See J. Oberg article in News and Comment, p. 8.)
- Rockwell, Ted. "Parapsychology and the Integrity of Science." *Washington Post*, Aug. 26, 1979, p. D8. Makes some serious and misleading charges about critics of parapsychology and has other faults as well, but is included here because it raises an issue that engineer/parapsychology-advocate Rockwell has long wanted discussed: Do responsible scientific journals err toward conservatism in rejecting academic parapsychology research for publication?
- "Science, Nonsense and Responsibility." *Nature*, 280 (Aug. 23, 1979). Editorial pointing to responsibility of scientists to help guide laymen in distinguishing between real science and pseudoscience.
- Thomsen, Dietrick E. "Mystic Physics." *Science News*, 116 (Aug. 4, 1979): 95. Thoughtful and well-informed essay about recent efforts by a few West Coast physicists to relate modern physics to mysticism or religion. Sympathetic but urges restraint. "If the particular insights of physical (and biological) science

about the nature of reality can deepen or extend our spiritual life, that is all to the good. If they lead to occultism or cultism, better they were left alone."

Wheeler, John Archibald. "Parapsychology—A Correction" (letter to editor). *Science*, 205 (July 13, 1979):144. Retraction of an off-hand comment Wheeler made orally at AAAS session about experiments of Rhine and McDougall. Followed by a letter of response from J. B. Rhine.

—K.F.

Scientists and Unsound Belief

A scientist who wishes to keep his friends must not be forever scoffing and so earn a reputation for habitual disbelief; but he owes it to his profession not to acquiesce in or appear to condone folly, superstition, or demonstrably unsound belief. The recognition and castigation of folly will not win him friends, but it may gain him some respect. . . .

[One] way in which a scientist loses friends is to call attention to the tricks that selective memory can play upon judgment. "Three times, no less, I dreamed of Cousin Winifred and on the very next day she rang me up. If that doesn't prove that dreams can foretell the future, then I'm sure I don't know what does." But, the young scientist expostulates, on how many occasions did you dream of Cousin Winifred without a subsequent telephone call?—and is it not a fact that she rings up almost every day?

Superstitions are not so easy to cope with. Probably it is better not to try to reason with astrological predictions, but it may be worthwhile just once to call attention to the extreme a priori unlikelihood of their being true and to point to the lack of any convincing evidence that they are so. But perhaps after all it is best to let sleeping unicorns lie—I myself have for some time past abstained from discussing spoon bending or other manifestations of "psychokinesis."

—P. B. Medawar, in *Advice to a Young Scientist*, Harper & Row, 1979.

Basic Annotated Bibliography

This is the third section of a three-part basic annotated bibliography of books critical of occult beliefs. The first section appeared in our Summer 1979 issue; the second, in our Fall 1979 issue. It is a selected list and so necessarily leaves out some books that might have been included. Covering a span of years from the mid-nineteenth century to the mid-1970s, the bibliography was prepared for the *SKEPTICAL INQUIRER* by Robert R. Lockard of the University of Oregon Library, with the assistance of Ray Hyman, professor of psychology at the University of Oregon.

Rachleff Owen S. *The Occult Conceit: A New Look at Astrology, Witchcraft and Sorcery*. New York: Bell, 1971. One of the few books that takes on almost the entire field of the occult with the objective of debunking it. "By depending on common sense, and logic, this book denies and then debunks the usual allegations of the occult, both of the past and in the present." Unfortunately, the author has tried to cover so many fields that his debunking effort is inevitably superficial.

Randi, James (The Amazing Randi). *The Magic of Uri Geller*. New York: Ballantine, 1975. Bibliography. Witty and convincing exposé of the self-proclaimed psychic superstar by the well-known magician. After two years of close observation and careful analysis, Randi methodically reveals the secrets of Geller's seemingly remarkable "supernatural" powers—among them, key-bending by psychokinesis, teleportation, photographing through a lens cap, and reproduction of drawings within sealed envelopes. Included are numerous photographs and detailed accounts of Randi's exact duplication of Geller's stunts, which should shake the faith of even the staunchest of true believers.

Rawcliffe, D. H. *The Psychology of the Occult*. London: Ridgway, 1952. (Published in New York by Dover in 1959 under the title *Illusions and Delusions of the Supernatural and the Occult* and in 1971 under the title *Occult and Supernatural Phenomena*.) Rawcliffe takes a broad view of the field. His announced objective is to bring the groundbreaking critical studies of Podmore, Jastrow, and Tuckett, published forty years previously, up to date. In addition to pointing out cases of fraud, he also studies "the role played by various types of psychological anomaly in the creation and perpetuation of occult beliefs and practices."

Rinn, Joseph Francis. *Sixty Years of Psychical Research: Houdini and I Among the Spiritualists*. New York: The Truth Seeker, 1950. (Published in London by Rider in 1954 under the title *Searchlight on Psychical Research*.)

Rogo, D. Scott. *In Search of the Unknown: The Odyssey of a Psychical Investigator*. New York: Taplinger, 1976. An example of the curious kind of book that is

part believing and part nonbelieving. The author does a good job of exposing those areas he chooses, but he seems to believe in others.

Rose, Louis. *Faith-healing*. Ed. by Bryan Morgan. Santa Fe: Gannon, 1968. Penguin edition, 1971. A very good study of an area fraught with potential for deception and self-deception. The author, a doctor, spent 15 years searching for cases that would measure up to his criteria of confirmation. In the end he was able to study only 96 purported faith cures. Of these, he was able to examine only 16 personally. In the end, he found none of the type of "miracle cure" he was seeking.

Rostand, Jean. *Error and Deception in Science*. New York: Basic Books, 1960. Bibliography. Translated from the French. In this collection of essays, the first, with the same title as the book, is relevant to this bibliography. There Rostand attempts to "show in what ways scientific knowledge can be perverted by mystifiers and fanatics of every kind, and even, unwittingly, by the true scientists." Basically, it is the story of N-rays and their study by a professor of physics, Rene Blondlot. Many scientists studied this phenomenon and described its properties; yet it did not exist "outside their fertile imaginations."

Roszak, Theodore. *Unfinished Animal: The Aquarian Frontier and the Evolution of Consciousness*. New York: Harper, 1975. Only the first two chapters place this book in this bibliography. Here Roszak makes a brief, but thoughtful, excursus across what he calls the "Aquarian Frontier." Along the way he provides the reader with a good chart that classifies most of the occult and pseudosciences. However, after that he takes off on a "Reconnaissance of the Next Reality," with intimations that those on the Aquarian Frontier are onto something.

Russell, Eric. *Astrology and Prediction*. Secaucus, N.J.: Citadel Press, 1975. "Pretty sober and sane coverage, although he does waffle and succumb in part to the wiles of Nostradamus." —Ray Hyman.

Sagan, Carl, and Page, Thornton (eds.). *UFOs: A Scientific Debate*. Ithaca, N.Y.: Cornell University Press, 1972. Papers presented at the symposium on UFOs sponsored by the American Association for the Advancement of Science in 1969. An excellent collection of responsible reports by people on both sides of the debate.

Schaller, Warren E., and Carroll, Charles R. *Health, Quackery, and the Consumer*. Philadelphia: Saunders, 1976. A college textbook whose relevant chapters are "Quackery," "The Use and Abuse of Health Products," "Device Quackery," "Nutritional Quackery," "Arthritis Quackery," and "Cancer Quackery."

Silverberg, Robert. *Scientists and Scoundrels: A Book of Hoaxes*. New York: Crowell, 1965. "A baker's dozen of hoaxes." Beringer, Mesmer, Kock, Keely, Schliemann, Kammerer, and Piltdown, all treated in a light-hearted, non-technical way.

Sladek, John. *The New Apocrypha: A Guide to Strange Science and Occult Beliefs*. New York: Stein and Day, 1974. One of the most comprehensive of the recent skeptical surveys of pseudoscience. Very little is left out; principally, the author covers witchcraft, satanism, some religious and philosophical systems, and alchemy. In a way it updates Martin Gardner but is not as good.

Smith, Richard Furnald. *Prelude to Science: An Exploration of Magic and Divination*. New York: Scribner's, 1975. Written by a chemist at the

- University of California, Berkeley, this book is critical of astrology, Tarot cards, I Ching, and the Kabbalah. However, the text is quite short (109 pp.) and about 90 percent is straight description.
- Spraggett, Allen. *Arthur Ford: The Man Who Talked with the Dead*. New York: New American Library, 1973. The author basically believes in Ford's psychic powers. The reason for the book's inclusion is the chapter on the Bishop Pike affair, in which he tries to cope with the considerable evidence of fraud. In attempting to explain away that evidence, Spraggett unwittingly gives away how Ford managed to fool Bishop Pike during the famous television seance.
- Starkey, Marion Lena. *The Devil in Massachusetts*. New York: Knopf, 1950. Because of the social hysteria resulting from people seeing what they believed, the Salem witchcraft episode in 1692 is a fascinating case history for the rationalist. Solid research in this historical monograph.
- Stefansson, Vilhjalmur. *Adventure in Error*. Detroit: Gale Research Co., 1970. Light, but uneven, essays on error in popular belief. Some on school textbooks. Contains a chapter of the famous H. L. Mencken hoax about President Millard Fillmore installing the first bathtub in the White House. This is a reprint of the 1936 edition published by Robert M. McBride & Co., New York.
- Steiner, Lee R. *Where Do People Take Their Troubles?* Boston: Houghton Mifflin, 1945. Based on a study, made in Chicago and New York City, of all the many places, such as counselors, therapists, occultists, mostly charlatans, where people take their troubles.
- Swift, Jonathan. *Predictions for the Year 1708*. (By Isaac Bickerstaff, Esq.) In Jonathan Swift, *Prose Writings*, vol. 2. London, Oxford, 1940, pp. 139-150. The genius of English satire, using the name Isaac Bickerstaff, makes mincemeat of an astrologer of the time. A classic.
- Tanner, Amy E. *Studies in Spiritualism*. New York: Appleton, 1910. An early, critical study of the records of the English Psychological Research Society, which, according to the author, had served primarily as source material for true believers. Also a detailed case study of the spiritualist Mrs. Piper.
- Thiering, Barry, and Castle, Edgar (eds.). *Some Trust in Chariots*. New York, Popular Library, 1972. Sixteen views on Erich von Däniken's *Chariots of the Gods?*, in which the author asserts that in the earth's past the planet was visited by extraterrestrial beings who may have had a part in the origin of humanity. Each of the essays, all written by scholars, attacks the looseness of von Däniken's arguments and the flimsiness of his evidence. The consensus is that von Däniken is "a clever man who has been able to tap the deepest anxieties of technological man."
- Truesdall, John W. *The Bottom Facts Concerning the Science of Spiritualism: Derived from Careful Investigations Covering a Period of Twenty-five Years*. New York: G. W. Dillingham, 1892.
- Tuckett, Ivor Lloyd. *The Evidence for the Supernatural: A Critical Study Made with Uncommon Sense*. London: Kegan Paul, 1911. D. H. Rawcliffe (q.v.) compares this with the debunking works of Podmore and Jastrow.
- Vogt, Evon Z., and Hyman, Ray. *Waterwitching U.S.A.* Chicago: University of Chicago Press, 1959. Bibliography. Deals with the practice of "dowsing" or "water-divining"—the use of a forked stick, wire, or pendulum to locate underground water. The authors report on their extensive study, in which

county agricultural extension agents throughout the country were questioned about the extent to which dowsing is practiced in their regions. After examining the potent social and psychological reasons behind it, they conclude that it falls into the category of magical divination and operates basically on the principle of involuntary motor action.

Williams, Mrs. Gertrude Leavenworth (Marvin). *Priestess of the Occult. Madame Blavatsky*. New York: Knopf, 1946. A well-documented biography of the founder of the Theosophical Society. Required reading for the student of religious movements.

Yates, Dorothy Maud (Hazeltine). *Psychological Racketeers*. R. G. Badger, 1932. An early exposé of a market that is still thriving: the purveyors of courses in healing, character analysis, the development of willpower, etc.

Young, James Harvey. *The Medical Messiahs: A Social History of Health Quackery in Twentieth-Century America*. Princeton, N.J.: Princeton University Press, 1967. "Case examples of medical messiahs from various important areas are given—the mail-order male-weakness treatment, the alleged tuberculosis-curing liniment, the potent weight-reducer, the vitamin-and-iron tonic ballyhooed at gargantuan medicine shows, the complex array of nutritional products vended by an itinerant 'lecturer,' the diabetes and the cancer 'clinic.'" (Preface) A sequel to *The Toadstool Millionaires*.

———. *The Toadstool Millionaires: A Social History of Patent Medicines in America Before Federal Regulation*. Princeton, N.J.: Princeton University Press, 1961. "This book is a history of proprietary medicines in America, from the early 18th-century appearance of patented brands imported from the mother country to the early 20th-century enactment of national legislation intended in part to restrain abuses in the packaged medicine industry." (Preface) Because this is a scholarly study, it is valuable for locating other literature on medical quackery.

Zinner, Ernst. *The Stars Above Us, or the Conquest of Superstition*. London: George Allen, 1957. Although he was written basically a history of celestial observation, along the way Zinner offers criticisms of astrology. See especially the chapter "Astrologers Without Imagination."

—Robert R. Lockard

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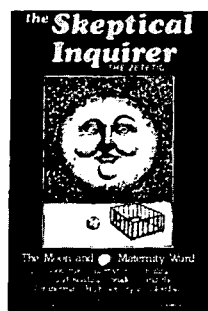
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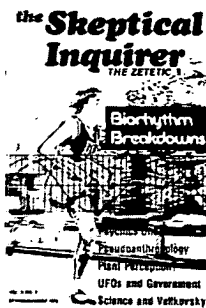


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From Our Readers

The letters column is a forum for views on matters raised in previous issues. Letters are welcome. Some may have to be condensed.

Ideal balance

You are providing an important service in revealing the weaknesses in the claims of astrologers, sorcerers, fraudulent psychics, and other purveyors of nonsense. I was especially impressed with your report, in the Summer 1979 issue, on Helmut Schmidt's research. The report was important for two reasons: first, it emphasized the difference between the claims of the cultists and the research of scientists (of whom, we may hope, Schmidt is one); second, it emphasized caution in evaluating experiments that have not been widely replicated. The comments of psychologist Ray Hyman, as quoted in your report, deserve special attention; Hyman's attitude seems to reflect the ideal balance between openness and skepticism that should characterize all scientists. Too many people think scientists are knee-jerk disbelievers and, consequently, feel "turned off" by science. The distinction between honest skepticism and dogmatic disbelief is crucial to public understanding of science.

Henry W. Pierce
Science Writer
Pittsburgh Post-Gazette
Pittsburg, Pa.

Shepard responds to review

I am very grateful for Ray Hyman's temperate and fair-minded review of my *Encyclopedia of Occultism and Parapsychology* (SI, Summer 1979). This was in sharp contrast to the rough handling by parapsychologist Rhea M. White (in the *Journal of the ASPR*, July 1979), who had clearly not studied the *Encyclopedia* as carefully as Dr. Hyman did. I should like to comment on a few of the points raised in your review.

First, the question of omission of additional relevant material. I agree that I should have mentioned Wood's paper on N-rays. Other works, on water witching, acupuncture, faith healing, Raudive voices, and Arthur Ford, came to hand too late to cite and discuss in the *Encyclopedia* but will be considered for a future supplement. One important but much neglected scientific analysis of dowsing and related phenomena is S. W. Tromp's monumental *Psychical Physics* (Elsevier, 1949).

The question of the horse "Clever Hans" is not settled by Pfungst's book. (Incidentally, I believe prior credit for the theory of unconscious signs goes to hypnotist Albert Moll.) The Elberfeld horses trained by Krall indicated correct answers to mathematical problems without the presence of a trainer or other individual when the questioner did not even know the answer. Professor Richet's discussion in *Thirty Years of Psychical Research* (1923) and Maeterlinck's firsthand account in *The*

Unknown Guest (1914; 1975) should be studied carefully.

With regard to Albert Abrams, he was certainly no charlatan. His original work on spinal nerve reflexes went into five editions and several translations and, was described by the *New York Medical Journal* as a "treatise of extraordinary interest and usefulness." A number of reputable physicians endorsed the Abrams methods of diagnosis and treatment, claiming successes (see *Abrams' Methods of Diagnosis and Treatment*, edited by Sir James Barr, London, 1925). However, John W. Keely was undoubtedly a charlatan, and I must reverently return the "Bent-Spoon Award" to Dr. Hyman for bending my final comment on Keely into an attempt to "salvage some genuineness"! My remark was a statement of fact. There *are* individuals who believe there was some genuine basis to Keely's work, but I don't agree with them.

With regard to water witching and fairies, I have to declare a certain bias as a member of the British Society of Dowsters and the Fairy Investigation Society. My own ability in dowsing is slight but more convincing than secondhand theories, and I have known honorable and talented dowsters as well as some cranks. I have never seen a fairy, but I have spoken with intelligent individuals who say that they have. I had a long interview with "Elsie," who in 1917 was one of the two girls responsible for the Cottingley photographs. I am more favorably impressed by her firsthand account than by James Randi's very secondhand speculations, although I cannot offer conclusive evidence either way.

The problem is that much claimed paranormal experience is of a spontaneous character, nonrepeatable and not accessible to strict scientific control or validation. In such cases, either an open mind or even an interim belief (pending further evidence for or against) seems to me quite a reasonable attitude. After all, it is normal scientific practice to postulate a theory and test it by later evidence. Many ordinary peo-

ple have so-called "psychic" experiences that cause them to reflect very seriously about problems of subjective and objective criteria. There are qualities of experience as well as qualities of objective evidence, and any personal experience is more meaningful than academic debates by "experts." Unless people develop discrimination and good judgment, they will always be at the mercy of self-styled experts or manipulators.

I have had firsthand experience of out-of-body travel (whatever it is) and must report that certain aspects of such experience have a significance far beyond the ingenious verbal debunking of psychologists who have *not* had such experiences. Again, much debunking is of a hostile character, rather like the way that some dogmatic parents bully their children by ridiculing their ideas, ideals, and insights. I think that skepticism is healthy, but hostile skepticism is just as psychopathological as crank beliefs and fanaticisms. I don't think that this traps me "into false beliefs." My own beliefs are working assumptions, subject to modification in the light of new data, experience, and insights. In trying to "accommodate all sides" in my writings, I hope I am encouraging other people to think for themselves rather than accept or reject paternalistic or dogmatic authority.

Leslie Shepard
Stillorgan, Blackrock
County Dublin, Ireland

Ray Hyman responds:

Leslie Shepard's response to my review of his Encyclopedia reinforces my characterization of his approach. So far as I can tell, he really does not disagree in any important sense with what I said but merely elaborates upon why he believes in certain phenomena in spite of the lack of scientific evidence. As Shepard indicates, he regards his own personal experiences as more meaningful than the results of objective testing. One's subjective experiences can be moving, com-

elling, and highly "meaningful." Such experiences form the basis of art, love, and other important human sentiments. But when one assigns supernatural origins or effects to such experiences, then it seems to me and most scientists that there is a responsibility to demonstrate that such psychic causes in fact do exist. The illusion of certainty that accompanies many subjective experiences rarely holds up when put to objective test. Shepard admits this. Where he and I disagree is in his willingness to put credence in subjective belief when it fails to check out by scientific standards.

Shepard states that "unless people develop discrimination and good judgment they will always be at the mercy of self-styled experts and manipulators"—a good statement, but, I fear, one that he and I would interpret differently. I guess he sees the academic and scientific community as the "self-styled experts and manipulators." He gives us no clue as to how "discrimination and good judgment" are to be applied with no scientific standards. The problem with this so-called alternative to science is that it leaves us with no protection against self-delusion and deception. Thus, Shepard says that Pfungst's book did not settle the question of Clever Hans. He refers to Richet, Maeterlinck, and others who endorsed the abilities of the Elberfeld horses. What Shepard ignores is that Pfungst made careful studies of Hans and his questioners over an extended period of time. Then, to check out all possible alternatives, Pfungst made a variety of extensive field and laboratory studies on horses, unconscious cues, and other factors. No other debunking study on any matter, so far as I can tell, was ever so thorough and conclusive.

The observations by Richet, Claparède, and Maeterlinck on the Elberfeld horses, as well as Rhine's observations on the horse "Lady" in the late 1920s, in no way even began to examine and establish control for the various factors that Pfungst took into consideration. Pfungst's book would not have settled matters if, indeed, the observers of Krall's horses and "Lady" had, in fact,

been meticulous and thorough in their examinations and still found that unconscious cues of all types had been eliminated. But even though Pfungst's work was available as a model, all of these observers were willing to dispense with Pfungst's scientific precautions and jump to far-reaching conclusions.

The most disturbing part of Shepard's letter is his expressed hope that he is "encouraging other people to think for themselves rather than accept or reject paternalistic or dogmatic authority." People can successfully think for themselves only if they have access to reliable data and know how to evaluate such data. Shepard's preachings to trust subjective experiences that fail to pass objective tests can only lead to more delusions and commitments to false beliefs.

Lunar lunacy

In the light of George Abell's review of Arnold Lieber's book on the moon and human behavior, *The Lunar Effect: Biological Tides and Human Emotions* (SI, Spring 1979), I would like to draw your attention to a review article in the *Psychological Bulletin* (September 1978).

The article, entitled "Lunacy and the Moon," is by David E. Campbell and John L. Beets, of the University of Kansas. It is a review of the empirical literature pertaining to the belief in a relationship between phases of the moon and human behavior. The authors conclude that lunar phase is not related to human behavior, and they provide explanations for the few cases where relationships seem to have been found. It is not often that one of the journals of the American Psychological Association presents a review of literature concerning "fringe" phenomena. I think the review will be of interest to many of your readers.

T. Gray
Psychology Department
Concordia University
Montreal, Quebec, Canada

Tools of analysis

I have been a SKEPTICAL INQUIRER subscriber since vol. 1, and am, as always, delighted with the latest issue.

I bought a book reviewed in a previous issue [Fall 1978], *True, False and In Between*, and found it, plus the article "The Teacher, the Student, and Reports of the Paranormal," in the Summer 1979 issue, very valuable. Rather than dealing with specific debunking of specific assertions, delusions, or tricks, they address themselves to the methodology of debunking, thinking coherently, and resisting falling for the wool that dangles so often before our eyes.

I would like to see more of this in the magazine. A one-on-one examination of every claim is impossible (there are so many). More emphasis on the tools, explained clearly and with examples, would find a wider audience than just the convinced skeptic or the enraged (or deluded) believer. You surely know that very little is taught in many schools about coherent scientific approaches. One of the reasons is that many teachers haven't been taught either.

Anne Hessey
Bronxville, N.Y.

Confronted with inconsistencies

The Spring/Summer 1978 issue of the SKEPTICAL INQUIRER reviewed *The Amityville Horror*, by Jay Anson.

In June 1979, the stars of the book, George and Kathy Lutz, came to Australia to promote the book and relate the "horrors" of the ghostly figures, giant pigs, green ooze, etc., that visited them at their house in Amityville, New York.

After your review was circulated to Melbourne's media, the Lutz couple were confronted with the inconsisten-

cies in the book. As a result, they received less than favorable coverage.

During the course of their interviews here, some interesting facts emerged which throw even more light on their story. They told one journalist that they were doing Transcendental Meditation when they first levitated. On a radio show they stated that a priest told them to stop meditating. When they did, the levitation stopped.

Several articles and books state that people involved with TM have had experiences similar to those related by the Lutz couple. (See *The Transcendental Explosion*, by Weldon and Levitt, Harvest House, 1979, pp. 195-202, or *Snapping*, by Siegelman and Conway, Lippincott, 1978, p. 174.) Thus the possibility exists that the Lutzes experienced certain hallucinations as a result of their practicing TM.

Also in Australia at the moment is an American "expert" on biorhythms, promoting his book on this "science." We badly need an Australian branch of your committee to counter the claims of all the paranormal "experts." I would be interested to hear from any other Australian readers who would like to establish a branch here.

Mark Plummer
P.O. Box 335
Eltham, Victoria 3187
Australia

Caution against labels

Two letters have appeared in recent issues of the SKEPTICAL INQUIRER that claim a connection between paranormal beliefs and mental illness. It is my hope that this letter will cause the readers of the journal to consider more carefully some of the implications of this premise.

Mental illness is by no means a universally accepted concept in the fields of psychology and psychiatry, for reasons of logic, history, and evidence.

It is a legacy of our linguistic background that we uncritically talk about minds as though they had the substance of tables and chairs, when in practice they are at best theoretical constructs and at worst synonyms for souls. In what sense did the authors of the letters feel that believers in the paranormal are "mentally ill"? Do these misguided creatures suffer from defective souls, defective brains, or are their beliefs merely offensive to the authors' own beliefs?

In the same Summer 1979 issue in which Speyrer's letter appears, Mario Bunge cautioned that we frequently ignore the "basic limiting principles," particularly the impossibility of disembodied minds; yet it is precisely in the muck of the disembodied mind that much of contemporary psychology and psychiatry finds itself mired. In this regard I would also like to see the study of "correlations between those who believe in paranormal events and their degree of emotional adjustment," not for the reasons that Speyrer espouses but because "emotional adjustment" is a vague, empirically barren phrase that more often than not reflects the prejudices of the one defining it, and I would be anxious to analyze the assumptions and methodology of the research.

I caution the readers of the SKEPTICAL INQUIRER not to be lured into a game of name-calling. To call those of different belief "mentally ill" is the rankest of cheap shots. If there are objections to ESP, UFOs, parapsychology, and the rest on evidential grounds, then fine, let's keep the debate on that level. But if the readers of this journal feel that they can elevate their position only by labeling the paranormalists with the pseudoscientific gibberish so endemic to modern-day mental-health professionals (who are self-proclaimed, it must be added), the fight against ignorance is indeed hopeless. We should no more accept uncritically the pronouncements of mental-health adherents than we do those of telepaths.

It is time for the CSICOP to examine many of the culturally sanctioned

beliefs of contemporary normal psychology and psychiatry with the same critical eye that it reserves for those that are patently bizarre. Those readers who are unfamiliar with the complex scientific, ethical, and philosophical issues to which I refer may wish to read *The Myth of Mental Illness* and *The Manufacture of Madness*, both by Thomas Szasz, as an introduction to the skeptical view of the mental-health industry.

Mark B. Finéman
Associate Professor
Department of Psychology
Southern Connecticut State
College
New Haven, Conn.

Preferential bias toward nonsense

Any journal that operates from a viewpoint, particularly a minority viewpoint, is almost inevitably going to look for its readership to those who already agree with it. Fortunately there are few comprehensive viewpoints that don't manage to be controversial within themselves, and it is within these margins of quarrel and quibble that there is hope for the dissemination of ideas.

From the standpoint of science and the rational mind the most likely in-house group that can, and I think should, be kicked around is the educators themselves. A second likely candidate, more of an outhouse nature, is the media. Both of these are brought to mind by the Spring 1979 SKEPTICAL INQUIRER.

"Asimov's Corollary" makes it abundantly clear that the standard, mass-educated mind is in no condition to discriminate between reasonable thought and balderdash—unless, indeed, it does discriminate very well and does perfer balderdash.

J. Richard Greenwell's letter defending the publisher's right as a commercial enterprise to publish what, and only what, sells best is so achingly famil-

iar. Like the high-school test definition of democracy as "the rule of the majority," it reveals the Establishment at its smuggest.

Having spent a dreary hunk of my life in contact with academia and another dreary quarter of a century in the publishing business, I am prepared to say flatly that neither the one nor the other has taken a sound, businesslike position that somehow operated to the prejudice of science and rationality. Their trouble—and they are in trouble—is simple stupidity.

The facts about publishing do not jibe with Greenwell's picture. After stipulating that just about everyone is doing whatever he is doing for what he can get out of it, we must acknowledge that at least in its public appearances publishing pretends to something finer. Publishers are supposedly literate, genteel, and dedicated to the most sophisticated branch of the arts. They also like to say they revere the constitutional guarantee of free speech. I have to say that in a quarter of a century of peering about I have not met one publisher whom I would think of describing in any of those terms.

It must be admitted that there have been dramatic changes in the publishing world during the past two decades. The ived, glamor-laden publishing house was first overrun by Wall Street types who vowed to bring sound business methods to the fuzzy-minded dreamers. They didn't do awfully well, and the next move was on the part of the conglomerates. Do not be surprised to find that your favorite publishing house is a subsidiary of a farm-tool manufacturer or a hamburger chain.

Aside from the interference that such takeovers inevitably introduce, the independent publishers that remain have themselves looked about desperately for absolute answers and have called in first the computers for advice and then the MBAs.

I remember when the president of our company got together with his good friend the president of a great computer company in an effort which, if success-

ful, would have eliminated editors. They attempted to program all identifiable and quantifiable characteristics of a book: subject matter, timeliness, hero, heroine, romance, sex, violent action, and upbeat ending, aiming their formula at salability. The story is that they punched their card and fed it in, and the machine meditated a split second and replied with a number, say 4,587; that they printed 5,000 copies and sold 4,900 of them. They were ecstatic; they had solved what for the businessman is the final riddle of the universe. Well, too bad. They programmed another book, the computer said something like 50,000, and the public bought more like 4,000.

Now the MBAs are in there with graphs and columns of figures. They insist that a book is a package—at least until it doesn't behave according to their charts, when it becomes an editorial responsibility.

Well, they have tried to eliminate the author, but they have not pulled it off yet. The most they have managed is a retrenchment of their enterprise so that they might effectively ignore any Shakespeares who happened around. "We don't," said one vice-president, "want anything different." He was not, I think, advocating plagiarism; what he really meant to say was that he wanted something as nearly like last year's great best-seller as the law would allow, and short of that he didn't want to stir up any flack he would have to be afraid of.

In the end, it boils down to the formulation of readily manageable conditions: publishers are most likely to publish familiar ideas, subjects that entertain them, and opinions they agree with.

I have waded into an endless subject, but perhaps by now the point is suggested that publishers by and large are not interested in literary matters or in ideas as such. It follows inevitably that they are unaware of any responsibility for freedom of speech—one is always free to go elsewhere. The net result is that the only ones free to speak are the publishers and those who more

or less agree with them. If the people they socialize with are big on UFOs, they are proud to be publishers in their behalf; if their friends are scoffing, they are embarrassed to publish the junk. Though they seem to take pride in their individuality, any twelve of them could pass for a box of eggs. Unfortunately, one is not likely to find a particle physicist around the publishing community, though a number may be found who consult their horoscopes.

And that lands us in the lap of education again. There will be hope when and only when our colleges stop turning out the functionally illiterate and the rationally maimed, and that means someone is going to have to educate the educators. Who is there to lead the blind?

Wailes Gray
Nyack, N.Y.

Déjà vu

I experienced an overwhelming sensation of déjà vu while reading the "Psychic Vibrations" section of my Summer 1979 issue. The item responsible dealt with Erich von Däniken's report to the *National Enquirer* of underground chambers in South America containing the "living dead" bodies of four ancient astronauts encased in translucent sarcophagi and awaiting the return of their fellow "gods."

Where had I read this story before? A bit of rummaging through my science-fiction library quickly provided the answer. A currently available science-fiction anthology, *Adventures in Time and Space*, published by Ballantine Books, contains a 1937 story by R. De Witt Miller entitled "Within the Pyramid." By a remarkable coincidence, the story involves the discovery of underground chambers in South America containing the "living dead" bodies of four ancient astronauts encased in translucent sarcophagi and awaiting the return of their fellow "gods."

Regarding von Däniken's announcement that he was going to lead an expedition to South America to bring back "proof": Why use a machete when Occam's razor will do?

Morris Hamerschlag
Bronx, N.Y.

Not-so-new wrinkle

For those who believe Mr. Pokatiloff has come up with a "new wrinkle" in explaining biblical occurrences ("Psychic Vibrations," Summer 1979), I would refer them to Michael Moorcock's wonderful 1966 science-fiction story, "Behold the Man," in which the central character uses a time machine to go back to the days of Christ and then impersonates him and is crucified.

As a resident of Los Angeles, I find the SKEPTICAL INQUIRER to be required reading for the maintenance of my sanity. Thank you.

Michael Dooley
Glendale, Calif.

Triple-duty good cause

Our local public library welcomes gifts of magazine subscriptions, so I asked whether they would like a subscription to the SKEPTICAL INQUIRER. The librarian borrowed a copy from me and on the following day telephoned to say that they would welcome a subscription. So I sent my check for \$15.

Note what I get for the \$15. First, I help a worthy cause, the CSICOP. Second, we make the magazine available to hundreds of local people. If we reduce the G.Q. (gullibility quotient) of a single citizen, the expenditure will be worthwhile. Finally, I get a federal and state income-tax deduction for the contribution.

Perhaps you should suggest to your readers that they consider making such gifts of subscriptions. The magazine should be of value to public librar-

ies, college libraries, and libraries in some of the better high schools. This will enable many more people to benefit from the good work that the CSICOP is doing.

Charles W. Nyquist
Los Altos, Calif.

Condon conclusions

I would like to point out a small error in the Basic Annotated Bibliography in your Summer 1979 issue (p. 68), concerning the Condon Report. The conclusion, "On the basis of present knowledge the least likely explanation of UFOs is the hypothesis of extraterrestrial visitations by intelligent beings," was not that of the University of Colorado UFO Project (1966-68), and such a statement does not appear in their Final (Condon) Report. It is the conclusion reached by a special panel appointed by the National Academy of Sciences (NAS) at the request of the Air Force (which financed the Colorado project), to review the report's scope, methodology, and conclusions. The panel, chaired by the late Gerald M. Clemence, a Yale astronomer, did not reveal how this determination was made.

For those interested in the principal conclusions contained in the Condon Report itself (written personally by Project Director Edward U. Condon), they are: (1) "Further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby (p. 1)." (2) "It is safe to assume that no ILE [intelligent life elsewhere] outside of the solar system has any possibility of visiting Earth in the next 10,000 years" (p. 28).

Concerning the second conclusion, some observers have quietly wondered whether Condon could have been in telepathic contact (or some other form of nonelectromagnetic communication) with alien beings. How else could he predict an extraterrestrial visitation with such accuracy?

As this problem has been around

for over 10 years, it would be interesting if any SKEPTICAL INQUIRER subscribers or Consultants (or even CSICOP members) could shed light on either the NAS conclusion or Condon's 10,000-year prediction.

J. Richard Greenwell
Research Coordinator
Office of Arid Lands Studies
University of Arizona
Tucson, Ariz.

Skylab blessing

In times of minor travail, my grandfather used to say that we must "thank God for small favors." The events of July 1979 proved to be small favors to the CSICOP.

Imagine, please, the wave of nonsense that would have been perpetrated in the name of science had Skylab fallen into the Bermuda Triangle. Worse yet, it could have dropped on the northerly portion of its trajectory, leading inexorably to the conclusion that it fell into the hole at the North Pole.

These are indeed small favors compared to the large favor that no injuries or loss of life resulted from the re-entry. Nonetheless, we should all be thankful for small favors.

John D. Finarelli
Arlington, Va.

Vote them out

Dr. John A. Wheeler does an excellent job of stating the case concerning the affiliation of parapsychological activities with the AAAS (*SI*, Spring 1979). Unless there were political or financial motives underlying the Council and Board decision to accept them in 1969, I do not believe they should "strain at a gnat" any longer.

The paucity, or even absence, of sound evidence indicates that the

parapsychologists do not deserve this kind of recognition. Let us vote them out.

Kerry E. Mills
Chief Chemist (retired)
American Oil Co. (Amoco)
Texas City, Texas

"Local" ESP effects

In the article "Schmidt's Airing at the APS" (News and Comment, Summer 1979), Dr. Hyman is quoted as saying that, as long as positive results can be obtained only from unique subjects and predictions made only locally and only for a specific experiment, orthodox science cannot deal with ESP.

Assuming Schmidt's, or others', experiments have no other flaws, I still must disagree with this view. As long as this view is held, science will not attempt to find what makes the unique experimenters unique, if they are truly that at all, or to find what makes an experiment seem local if perhaps it is not.

That said, it stuns me over and over that there must always be "holes" in promising positive ESP findings. In Schmidt's case you say the raw data are not available. Why not? And why is it so difficult to set up a physical randomizing process (à la Schmidt) and then let a crowd of only well-wishers and cheering believers observe the experiment and even help with the vibes? If negative influences are to be kept out, are you seriously saying that no automatic

device to record results and conduct the experiment is available so that Mr. Randi and other negative influences can be kept away and only believers kept close by? I find this difficult to believe. This, along with the constant hassling over the statistics (are there no neutral statisticians out there?), leads me to disbelieve the believers but also to admonish the skeptics.

Don't have dinner with the Schmidts and tell me how honest they are; set up a decent experiment or keep letting the world know the believers won't allow such a protocol.

Warren E. Buckner
Beverly Hills, Calif.

Dogon and the Dog Star

Perhaps I may offer a comment on the so-called Sirius Mystery ("Investigating the Sirius 'Mystery.'" by Ian Ridpath, in your Fall 1978 issue).

The possibilities of missionaries passing on astronomical information to the African Dogon tribe in the early part of the century are many, as indeed Ian Ridpath has suggested. Maybe it's just a linguistic coincidence but the obvious link: *Dogon* (at least in English transliteration) and *Dog Star* (Sirius) may have caught the attention of some religious English-speaking missionary and prompted that person to supply relevant information to the Africans.

Geraint Day
Lancaster, England

Scientific Consultants

These scientists and scholars are consultants to the CSICOP.

William Sims Bainbridge, professor of sociology, University of Washington, Seattle
Richard E. Berendzen, professor of astronomy, provost, American University
John R. Cole, research associate in anthropology, University of Massachusetts
J. Dath, professor of engineering, Ecole Royale Militaire, Brussels, Belgium
Sid Deutsch, professor of bioengineering, Rutgers Medical School
J. Dommange, astronomer, Royale Observatory, Brussels, Belgium
Naham J. Duker, assistant professor of pathology, Temple University
Frederick A. Friedel, philosopher, Hamburg, West Germany
Robert E. Funk, anthropologist, New York State Museum & Science Service
Laurie Godfrey, anthropologist, University of Massachusetts
Donald Goldsmith, astronomer; president, Interstellar Media
Henry Gordon, magician, Montreal
Stephen Jay Gould, professor, Harvard University
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Waclaw Szybalski, professor, McArdle Laboratory, University of Wisconsin-Madison
Ernest H. Taves, M.D., psychoanalyst, Cambridge, Massachusetts

The Committee for the Scientific Investigation of Claims of the Paranormal

The Committee for the Scientific Investigation of Claims of the Paranormal has the following objectives:

- *To establish a network of people interested in critically examining claims of the paranormal.
- *To prepare bibliographies of published materials that carefully examine such claims.
- *To encourage and commission research by objective and impartial inquirers in areas where it is needed.
- *To convene conferences and meetings.
- *To publish articles, monographs, and books that examine claims of the paranormal.
- *Not to reject such claims on a priori grounds, antecedent to inquiry, but rather to examine them objectively and carefully.

THE SKEPTICAL INQUIRER (formerly THE ZETETIC) is the official journal of the Committee.

Paul Kurtz, Chairman; Philosopher, State University of New York at Buffalo.

Lee Nisbet, Executive Director; Philosopher, Medaille College.

Kendrick Frazier, Science Writer; Editor, THE SKEPTICAL INQUIRER.

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Affiliations given for identification only.

Committee sections have been established in Belgium, Canada, Ecuador, France, Germany, Great Britain, Holland, Mexico, and New Zealand. The Committee has UFO and Education subcommittees.