

National Capital Area

SKEPTICAL EYE

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Hyman Psyches Out Skeptical Audience—and CBS News Crew



CBS News crew records Hyman's NCAS lecture.

By Stephen R. Dujack

Ray Hyman—the University of Oregon psychology professor, CSICOP fellow, and head of the U.S. government research team that declared paranormal phenomena unproven—worked his way through college by performing magic tricks. He started his career with a mix of prestidigitation and palmistry. The tricks were well received by his audiences, but the palm readings produced an unusual result. Not only did he get amazed reactions from his subjects when he used standard interpretations of the hand, but he got equally positive responses when he said the exact opposite of what he saw in the lines.

He was witnessing a paranormal phenomenon of sorts. If subjects accepted his readings no matter what he said, clearly there was a predisposition on the part of the public to believe whatever a supposed seer said. Some powerful psychological force was clearly at work, and the young student decided to study minds rather than read them.

Hyman exploited his knowledge of the magical and mental realms in an hour-long talk to an overflow crowd of NCAS members and the public on January 7 at the Tysons Pimmit Regional Library in Falls Church. As a film crew from the CBS News program *48 Hours* looked on (see related story), Hyman presented a mixed bag of mind-boggling tricks and explanations of “Why Are We Fooled?” the topic of his talk.

He started his program with an illusion, holding the ends of a black tape on which three colored scarves were tied. When a member of the audience called out “blue,” the blue scarf mysteriously untied itself and slipped off the tape. When the listener said “orange,” that scarf fell off. The difference between a

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Since claims will vary greatly, specific rules will be formulated for each individual claimant and be agreed upon by both parties in advance of the test. For practical reasons, claimants will normally live or work in the Washington, D.C., area. NCAS will not be responsible for any expenses incurred by the claimant.

If you are interested in being tested, send a self-addressed, stamped envelope for further details to:

National Capital Area Skeptics
Attn: Challenge
8006 Valley Street
Silver Spring, MD 20910

We look forward to hearing from all serious applicants. □

National Capital Area Skeptics

Statement of Purpose

NCAS encourages the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view, and disseminates factual information about the results of such inquiries to the scientific community and the public.

NCAS does not reject claims on *a priori* grounds, antecedent to inquiry, but rather examines them objectively and carefully.

Signed articles represent the opinions of their authors and do not necessarily reflect the views of NCAS. Unsigned articles are the responsibility of the NCAS Newsletter Committee. Only articles clearly marked as such represent positions of the NCAS Board of Directors.

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Opening a Channel to Critical Thinking

By Chip Denman

I knew that my college course in critical thinking was working when, after several weeks of exposure to all sorts of frauds, fallacies, and fantasies, an unprompted student challenged a self-proclaimed channeler: "Can you prove that you're not just a clever actress brought in to challenge the class?"

Every day we encounter remarkable claims, from the properties of black holes to the existence of ESP to sightings of Elvis. Modern science has been responsible for many seeming miracles, resulting sometimes in a blurred distinction between the proven, the sought after, and the imagined. Newspapers, magazines, and TV often report sensational, mind-grabbing stories as if they were scientifically established fact. As consumers of this information, how can we sort out the useful from the bogus?

This seminar will explore some of the features that distinguish scientific methodology from pseudoscience. Through a variety of readings we will look back at the history of spiritualism and at modern parapsychological research, at ancient cosmologies and at the 'New Age,' at controversial healing practices old and new, and at other extraordinary claims that class members may wish to examine. We will address mechanisms of belief, perception, and deception, to better appreciate why intelligent people sometimes make colossal errors of judgment. Through all of the discussions we will focus not on giving pat explanations for alleged events, but rather on developing an understanding of what constitutes scientific proof, rigor, and evidence.

So reads the official description of "Science vs. Pseudoscience: An Investigative Approach," the course I designed and taught last fall for the interdepartmental honors program of the University of Maryland at College Park. Courses in the honors program are designed to encourage critical thinking skills. Classes are small—usually restricted to 15—and represent a spectrum of subjects from archaeoastronomy to contemporary literature. Students in the program come from all backgrounds and represent all majors. By design, my course was restricted to freshmen and sophomores. Roughly half stated that their majors would be in the traditional sciences; the rest represented majors including English, radio and TV, business, and political science.

I did not attempt to formally assess the beliefs held in this microcosm, either at the beginning or the end of the semester. However, I do think that the course fulfilled its objective to improve the students' critical thinking skills and to raise their level of skepticism to extraordinary claims. At the beginning of the term several students seemed to accept ESP, astrology, New Age healing methods, and Ouija boards. By the end of the semester these same students were asking challenging questions of guest speakers and showed depth and originality in their final reports.

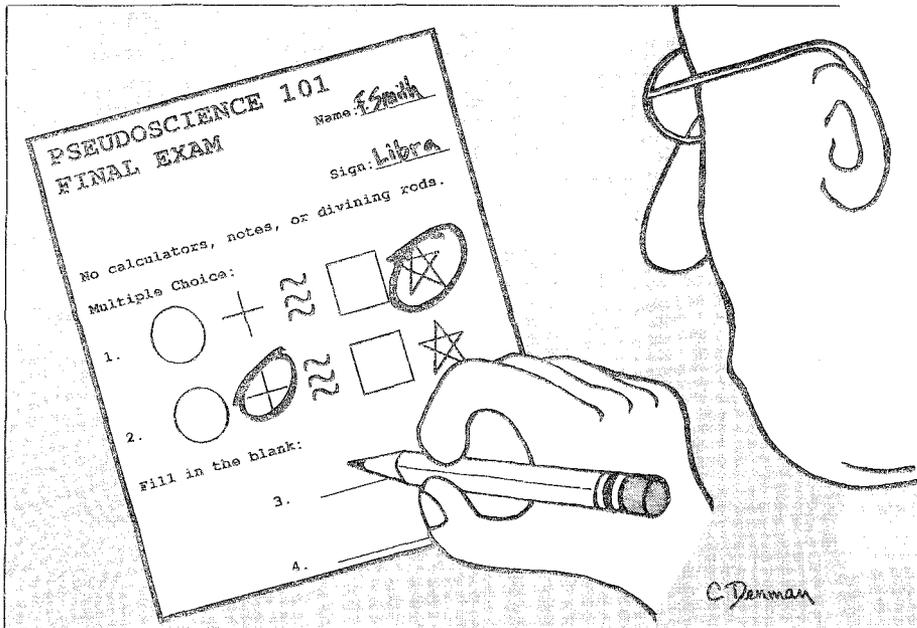
The class was organized around a series of readings including James Randi's *Flim-Flam* and David Marks and Richard Kammann's *The Psychology of a Psychic*. Other readings ranged from selections from the wonderfully eclectic *Fringes of Reason: A Whole Earth Catalog*, edited by Ted Schultz, the fascinating history told in *The Spiritualists*, by Ruth Brandon, and articles from the *Skeptical Inquirer*, *Nature*, *Science*, *Consumer Reports*, the *Washington Post*, and this newsletter.

Early in the semester each student choose a particular claim—such as telepathy or the predictive ability of Tarot cards—and proposed a formal, hypothetical experiment for testing it. The students made a brief presentation to the class, accepted constructive criticism, and then wrote up a revised protocol as a mid-term paper.

The final paper allowed each student to research a topic or attempt some form of independent work. One particularly interesting project involved the construction of two different questionnaires on UFO belief. Subtle and not-so-subtle differences in wording of the same types of questions demonstrated how respondents could be led to express seemingly different opinions on the same issues. Other projects included a critical review of the Laetle controversy, a report on Bigfoot evidence, and a summary of psychological theories of the *deja vu* experience.

Much of the course's success was due to the guests. NCAS members who spoke included Jamy Ian Swiss (magic, deception, and science); Phil Klass (UFOs); Lee

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Rickard (astrology); Steve Shore (modern physics and the New Age); and NCAS Vice-President Randy Lockwood (animals and the paranormal).

One additional speaker added immensely to the skeptical education of the university students: Diane Sonne, the aforementioned psychic and channeler. Appearing near the end of the semester—after we had thoroughly covered the tricks of such psychic luminaries as Uri Geller—Sonne told the class about her psychic gift for seeing the future, graciously stood for very perceptive questions from the students, and then channeled the spirit of “Tobias,” a Frenchman from the late 1700s who could not speak French but knew about American football. In the following class session one student remarked that “all semester we have heard from scientists and skeptics, but this psychic did more to debunk this psychic stuff than anyone else.”

I wanted the course to stress skepticism and the scientific method as tools for the modern consumer of information—tools that are equally useful when buying a used car, choosing medical care, or looking at fortune tellers. A course such as this is successful if it helps students to be open to new ideas, to consider claims respectfully but scientifically, and to demand high-quality evidence for extraordinary claims. I have had the pleasure of getting to know 17 young thinkers who have convinced me that such courses should be a part of every college curriculum—even if the Learning Annex drops its courses on crystal power and aura reading. □

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President's Column

The Coolest Skeptics in the News

When the National Capital Area Skeptics was formed in 1987 one of our goals—other than to prove that “skeptics are cool”—was to serve as an information resource to the public and the media. We are now fulfilling that goal: in the past year we have been frequently sought out by media from the *Gaithersburg Gazette* to CBS News.

A little over a year ago, reporters became aware that there was a local organization that could comment scientifically on all sorts of neat sounding topics from ghosts to sea monsters. The *Annapolis Sunday Capital* quoted my skeptical remarks in an otherwise less-than-skeptical article on “Chessie,” the alleged sea-beastie living in the Chesapeake Bay (September 9, 1988). A few days later the *Journal Newspapers* carried a feature story describing NCAS and our focus against quack medicine (“Group Fights Quacks and ‘Miracle Cures,’” October 14).

In 1989 the word continued to spread. A *Washington Post* interview with Penn & Teller (June 6) casually mentioned Penn Jillette’s NCAS t-shirt. A few weeks later, when we brought James “The Amazing” Randi to town, Penn & Teller spread the news on morning radio appearances, particularly with Paul Harris on WCRX-FM. Randi’s and Penn’s performances on our behalf last summer drew a notable review in *Washington’s City Paper* (“You Don’t Gotta Believe,” July 14).

Among the other members of the media present at that talk was Bob Hirschon, who puts together the syndicated *Science Update* radio program produced by the American Association for the Advancement of Science (AAAS). Hours before Randi left town he recorded an interview that was later distilled into a *Science Update* segment that aired last summer.

In the fall, as Halloween approaches, reporters are often on the lookout for stories with a spooky slant. Our programs from seances to ESP have marked the National Capital Area Skeptics as a

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Hyman's NCAS Lecture, from page 1

"real" seance and his lecture, he declared, was that "nobody had a conversion experience just now. The difference between a trick and a miracle is not how it is done, but the context in which it is done."

The psychologist then launched into a history of science from an unusual perspective—how scientists can be fooled by charlatans. "Every decade since the 1840s," he said, pointing to a chart, "prominent scientists have been called on to verify a psychic claim. Five of them were Nobel scientists. In almost all cases, they confirmed the claim."

The conventional wisdom is that either the scientist must be right—there must be a paranormal explanation—or that there must be something wrong with the scientist—crazy, incompetent, or dishonest. This "false dichotomy" was even used as a tool by the Society for Psychical Research, a group founded in the late nineteenth century in Britain. But there is a third possibility, he said. "People can be competent, honest, and sane—and be wrong."

He gave as an example the case of the physicist J.K.F. Zollner, who was asked to authenticate the abilities of the famed "slate writer" Henry Slade. The psychic completely fooled the physicist with his legerdemain in two separate visits to Leipzig in the 1870s. Zollner was unable to find out how Slade could make chalk markings on sealed slates or produce other spiritu-



Psychologist Hyman uses a magic trick to psyche out audience.

24 Hours

By a stroke of luck—or perhaps parapsychological intervention—the producers of the CBS News program *48 Hours* chose to follow around CSICOP Fellow Ray Hyman during the weekend that he visited NCAS to do his lecture on "Why Are We Fooled?" (See related story.) The popular documentary series is doing a segment on parapsychology, and they chose the noted University of Oregon psychologist and psychic critic as the reality relief for the show.

The film crew started the day of the lecture by following Hyman, NCAS President Chip Denman, and board member Jamy Ian Swiss to the taping of a talkshow on WWDC (101 FM) on paranormal phenomena. The crew filmed the lecture, and an NCAS reception for Hyman afterward, then tagged along to a live show that evening on Q107-FM, where the trio followed a channeler to present alternative explanations for her purported abilities. Hyman's 24 hours with NCAS ended on a solo note the next morning, when he sat in with a well-scrubbed Greaseman during his popular morning drive-time program on WWDC.

The *48 Hours* program will air some time in February. Watch your local listings to see your dues dollars at work! □

alist feats. But Zollner was interested in the theory of the fourth dimension, so he concluded that Slade was employing this "new" dimension to accomplish what was obviously impossible in three dimensions. This "symbiosis" works not only with scientists, of course, but with all people who find satisfaction in seemingly unexplainable mysteries.

Hyman called this the "foot in the door technique"—Slade gave the physicist what he wanted. Modern psychologists call it "incrementalism." In either case, the supposed psychic gives the audience what they want—something that they cannot explain, because they lack the knowledge of the prosaic techniques actually used to produce the effect. Hyman then went on to unseal a pair of slates previously shown to be blank. The characters "3" and "D" were written on the slates—just after a member of the audience had chosen the 3 of diamonds from a deck of cards.

In another demonstration, Hyman flashed a slide on the wall containing the sentence:

FINISHED FILES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF MANY YEARS.

He gave the audience a few seconds to count the number of Fs. Most reported there were three. Count them yourself—there are six.

"That proves that not only Zollner, but each and every one of you can be had," he concluded. "Once we jump to a conclusion, it's too late." □

Magician Bends Minds at Joint Meeting

By Sean O'Neil

NCAS board member Jamy Ian Swiss, a magician in the skeptical tradition of James Randi, entertained an enthusiastic audience of 150 with tales of the not-so-paranormal and displays of legerdemain designed to demonstrate that extraordinary feats can be achieved by anyone with an inclination to exploit human credulity. Swiss's lecture, held October 23 at Fort Meade Officer's Club, was the first joint meeting between NCAS and a scientific organization, the Society for Applied Spectroscopy.

Swiss spoke of the beginnings of Spiritualism and channeling in the last century, and the even longer history of magicians' attempts to debunk the claims of those profiting from the public's vulnerability to magical thinking. He noted the ease with which incautious scientists can be fooled by charlatans, since scientists are rarely trained in the detection of intentional deception. The ease with which he fooled his well-educated audience amply demonstrated the point.

"Science is one way of detecting patterns and making predictions about reality," Swiss said, "and it has a track record of success." Thus most people are accustomed to seeing a genuine process lead to a genuine result. Both magicians and fraudulent psychics use this conditioning by covertly substituting trickery to produce a seemingly genuine result. "In other words, they cheat." The problem is that scientists expect this from magicians but, used to the sanctity of the lab, do not recognize the chicanery used by frauds.

Improving the world will require truth, not wishful New Age ideas, Swiss said. He challenged those present to work for education in critical thinking, a responsible media, and the popularization of scientific ideas.

The meeting was arranged by Nancy Miller of the SAS and Mike Epstein, who is a member of both organizations. At NCAS, we look forward to a continuing alliance with the scientific community, which was well begun by this occasion. On December 17, Swiss delivered a similar talk to an enthusiastic audience of over 500 for the annual holiday symposium at the National Institute of Standards and Technology (formerly the National Bureau of Standards). □

Hack in the U.S.S.R.

Remember those reports coming out of the Soviet Union last fall about alien visitors to the little town of Voronezh? Well, we now have convincing evidence that they were either fabricated or have a more prosaic explanation—thanks to Whitley Strieber, author of *Communion* and self-claimed victim of a close encounter.

"Events in Voronezh present a superficially convincing case that contact with aliens has taken place," Strieber wrote in a letter publishing in the *New York Times* last October. "However, there are elements of absurdity and anomaly that are difficult to explain. For example, the aliens seen in Voronezh had huge bodies and tiny heads. Most aliens seen in the United States have huge heads and tiny bodies."

That should teach Tass a lesson or two about responsible journalism. □



NCAS magician Jamy Swiss uses his telekinetic powers to animate an audience member's ring.

SETI: Joining the 'Galactic Club'

Humanity has been searching for extraterrestrial intelligence for three decades, and the results to date have been entirely negative. Does this mean that the endeavor is worthless? Has it been fruitless?

The answer is a resounding no, said Howard University Geologist David Schwartzman at NCAS's annual meeting last November, held at the University of Maryland's College Park Campus. About 75 members and students attended the event.

The Search for Extraterrestrial Intelligence (SETI) was started by astronomer Frank Drake in 1961 and has since evolved into an official NASA program with a multi-million-dollar annual budget, plus endeavors by scientists in other countries. Drake's initial survey looked at three stars for three days. Since then, astronomers have logged more than 100,000 hours listening to signals that might indicate that humanity is not alone.

The program is not without its objectors, said Schwartzman. He quoted one skeptic as saying that "bioastronomy resembles nothing so much as parapsychology." The astronomer Eugene Malone, on the other hand, said that "the cost of SETI is small compared with the monumental potential benefits," which, if nothing else, would include "focusing humanity's attention on a common purpose." As to the expense, Schwartzman noted that all SETI efforts to date have cost less than one-sixth of the cigarettes smoked in the United States in one day. A positive result from the search, said Schwartzman, "could revolutionize human culture."

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SETI, from page 5

Schwartzman launched into his explanation of the program by declaring up front that the effort "is scientific and will give us knowledge regardless of whether we detect an extraterrestrial signal." The spinoff knowledge could come in the form of new astronomical discoveries.

Whether or not SETI is science, it has been pursued from the start by scientists, starting with Drake, and including CSICOP Fellow Carl Sagan, who was partly responsible for spurring the "classical period" of SETI optimism in the mid-seventies when he collaborated with a Soviet astronomer on the seminal book *Intelligent Life in the Universe*. The optimistic period ended in 1979, when a group of SETI pessimists gathered in what Schwartzman humorously called the "We Are Alone Conference"—a play on the title of journalist Walter Sullivan's prize-winning 1964 book that first brought the search to public consciousness.

The leading point of these scientists is that, given the long age of the galaxy and the vast number of stars in it, a few extraterrestrials with the ability to travel between stars should have evolved long ago and already paid us a visit. This has been countered, he noted, by the so-called "zoo hypothesis," which declares that even so, the visitors may have chosen not to contact us.

Schwartzman laid out an expurgated version of the equation devised by SETI scientists to calculate how many of the 100 billion stars in our galaxy could have intelligent life. The only known quantity in the entire string of multipliers, he pointed out, is the rate of new star formation. The launch scheduled this year of the Hubble Space Telescope could help fill in one of the blanks by giving some idea of the number of planets in the galaxy.

President's Column, from page 3

good source for such stories. Hirshon created another *Science Update* featuring my comments on spiritualism and New Age channeling. The program aired nationally Halloween week and identified NCAS as "Washington's own ghostbusters."

That same week I was contacted by several other reporters to provide skeptical commentary for stories on ghosts and monsters. One lengthy feature in the *Washington Post* ("Is There a Ghost in the House?" October 27) included my remarks on ghost-hunting, both historical and personal.

In addition to the official press contacts, there have been a number of NCAS members acting as individuals who have written letters to various newspapers. I am aware of letters published by Randy Lockwood, Julie Stern, and Walter Rowe; other members may have written as well. This is a significant way to contribute to our goals. I urge each of you as individuals to take the time to write to newspapers and magazines when you feel that they need complimenting or criticizing for a particular story. Identify yourself as a skeptic, and let the media know that you expect careful, critical treatment of all stories. And please send us a copy if your letter is published. (But remember, only designated persons may speak for the organization!)

—Chip Denman □



Schwartzman: Other civilizations turned off by Lucy broadcasts?

The scientist made the distinction between current search efforts, aimed at detecting deliberate attempts at interstellar communication—so-called "beacons"—and possible future efforts to detect what he called "leakage" from electromagnetic communication. *I Love Lucy* programs have already covered a sphere 35 light years in radius, he noted, "which may explain why they have chosen not to communicate with us." A human SETI effort

designed to detect leakage would involve trillions of dollars, however.

Schwartzman concluded that if there already is a "Galactic Club" of advanced civilizations communicating across the light years, humanity clearly is not a member. At present, we spend \$1 trillion a year on armed forces. In the future, we may be able to channel that expense into more constructive endeavors, including interstellar communication through our own beacons. But we can only do that if we become a true "planetary society," Schwartzman said, a plausible prerequisite to joining the Galactic Club.—Stephen R. Dujack □

Prophecy for Profit

By Stephen R. Dujack

I want Sydney Omarr's job. I don't know how much the syndicated astrologer gets for his daily column, but I'm sure it's more than I get for doing real work. For an example of how easy his job is, read these excerpts from his column that appeared last Thanksgiving.

Aries: "You'll be asked to say grace."

Taurus: "Accent moderation. Enjoy company, beverages, food."

Gemini: "Young person asks you to explain significance of this day."

Cancer: "Family reunion featured."

Leo: "Focus on relatives, reunion."

Virgo: "Dinner conversation provides valuable information."

Libra: "Innovative food preparation featured."

Scorpio: "Music could be featured during dining experience. You'll be surprised by dessert."

Sagittarius: "You'll become keenly aware of spiritual values."

Capricorn: "Focus on appreciation of efforts."

Aquarius: "Young person might say, 'I really missed you!'"

Pisces: "You'll arrive at truth and finally will enjoy Thanksgiving."

The truth, of course, is that these predictions will come true for most people, and the ones that don't, won't be remembered. Horoscopes for non holidays are more difficult to write—but not much. Witness Omarr's predictions for people born November 23: "Most people agree you are creative, quixotic, have insatiable curiosity." Who would disagree with that? □

Book Review: Creative Theory

By Mike Hoffman

Evolution from Space, by Sir Fred Hoyle and N. Chandra Wickramasinghe. Touchstone, 1984. 176 pages, \$5.95.

This is one of several books that Hoyle, the distinguished British astronomer best known for his advancement of the ingenious but now discarded "steady state" theory on the origin of the universe, and Wickramasinghe, also an astronomer, have written in support of their unconventional ideas about the origin and evolution of life.

They believe that life could not have originated on earth and must have arrived from space; thus, they support a version of the "panspermia" theory first proposed by the chemist Svante Arrhenius a century ago. More recently Francis Crick, a co-discoverer of the structure of DNA, tentatively advanced a form of the panspermia theory in his book *Life Itself*.

Hoyle and Wickramasinghe go much further than this, however. They argue that evolution could not occur in the Darwinian fashion, and instead is brought about by new genes that are constantly arriving from space. Also, these genes must be consciously designed, if not by God, then at least by a higher intelligence. At this point their theory becomes at least quasi-religious.

This is indeed an extraordinary theory. What is their evidence? They point out that bacteria are remarkably hardy, and can stand large doses of X-rays. They offer some calculations of how small particles could be moved through interstellar space by radiation pressure, and how they could be delivered to planets by comets. But they have no direct evidence—indisputably extraterrestrial bacteria in comets or in open space, for example, or experiments that show that multicellular organisms can be modified by naturally occurring foreign genes.

In fact, they seem not to have thought through their own theory in some ways: it seems to me that if evolution is caused by organisms incorporating genes raining down from space, then situations like that in the science-fiction film *The Fly* would be common (i.e., how do the right genes wind up in the right organisms?). Nowhere is this point addressed. Instead, the authors devote most of their time to attacking the conventional theory of evolution.

Early in the book the authors dismiss the idea of a terrestrial

origin of life. They first offer what I can only call a bogus calculation. They begin by asserting that the probability of "randomly" assembling one enzyme is 1 in 10^{20} , a figure they arrive at by making the invalid assumption that all configurations of the atoms constituting it are equally likely. Then they say that about 2,000 enzymes are necessary for life, so the probability of getting them all is 1 in 10^{20} raised to the 2,000th power—making a second invalid assumption that the origins of all these enzymes were independent events.

Second, the authors cite the 1979 report of "Isuasphaera," apparently fossils of a yeast-like organism, in the oldest known rocks, a 3.8-billion-year-old deposit in Greenland. They do not tell their readers that an international team that subsequently examined the evidence concluded that the supposed fossils were simply mineral inclusions.

The authors then attack the Darwinian theory itself. They argue (unconvincingly, I think) that evolution through random mutation and natural selection cannot be rapid enough to account for the big genetic differences between, say, mammals and reptiles. Further, they point out the lack of transitional forms in the fossil record. The latter point, though exaggerated, has some validity. The fossil record is indeed somewhat "jumpy": one can find many intermediate forms, but truly transitional forms are very rare. This is the motivation for the "punctuated equilibria" theory of Gould and Eldredge, who propose that new species appear fairly rapidly and that most selection is between species rather than within them.

Hoyle and Wickramasinghe never mention punctuated equilibria, offering the reader only slow, gradual evolution versus their own theory of new genes from heaven. They argue that mutation cannot create new structures, only "garble" existing ones: real improvements must come from outside. They seem unaware that evolution is constantly turning old structures to new uses: we breathe with modified swim bladders and hear with modified jaw bones.

The book has two appendixes. The first, on the history of evolution, seems little more than an attempt to cast aspersions on Darwin's character. The second, on interstellar grains, argues from observed spectra that interstellar dust may consist largely of organic material and freeze-dried bacteria. It is written in a technical style and may intimidate the lay reader. In

(Continued on page 8.)

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