

Book Reviews

Sightings, Conjectures, and Disputes

The UFO Controversy in America. DAVID MICHAEL JACOBS. Indiana University Press, Bloomington, 1975. xxiv, 362 pp., illus. \$12.50.

In 1254 at St. Albans Abbey, England, an "elegantly-shaped, well-equipped ship of marvelous color" was seen in the sky. In 1800 in Mississippi, William Dunbar, a respected scientist, reported seeing a flying house. In 1885 at Adrianople, Turkey, a glowing red, cigar-shaped craft was sighted. In 1947 the passengers aboard a steamer off the coast of Kenya spotted a shiny, dirigible-shaped craft over 1000 feet long silently hovering. In 1957, during a night flight over Brazil, a cargo plane allegedly was buzzed by a reddish object. In 1965 near Pretoria, South Africa, two veteran police officers claimed that upon turning a bend in a deserted stretch of highway at midnight they nearly collided with a copper-colored, 30-foot-diameter disk sitting in the road, just before it sped into the sky.

Saucer-shaped or houselike, elongated or round, reddish or "shiny," hovering or zooming, 30-foot-diameter or 1000-foot. Such are typical descriptions of the elusive, metamorphosing UFO's. Most of them eventually are identified; some are not flying; and others are not even objects. Yet they enthral millions, including some scientists, in part because a small percentage of the reports seem to defy rational explanation. Not surprisingly, therefore, the subject has generated intense controversy, especially in America, as the book under review operosely details.

Jacobs does not mention the sightings described above or thousands of others. His discussion is restricted geographically to the United States and temporally to the periods 1896-97 and 1947-74, and even within those boundaries his coverage is selective rather than comprehensive. Nor does he conjecture about what any UFO might be; instead, he is nonspeculative and nonjudgmental.

Nonetheless, Jacobs presents a wealth of information, documented with hundreds of footnotes and a "selected bibliography" including scores of sources. In the book's foreword, J. Allen Hynek, chairman of the astronomy department at Northwestern

University and majordomo of ufology, declares: "Dr. Jacobs' most admirable work has put the UFO controversy into scholarly perspective. It is indispensable reading for any who seek an informed view of the tortuous history of the UFO phenomenon." Despite this hyperbole, the book's dispassionateness and thoroughness, albeit on a limited part of the topic, stand out.

An assistant professor of history at the University of Nebraska, Jacobs presents a scholarly but totally nontechnical chronology. Much of his voluminous documentation of esoteric sources comes from the files of the Aerial Phenomena Research Organization, the National Investigations Committee on Aerial Phenomena (NICAP), the archives at Maxwell Air Force Base, Hynek's personal collection, and newspaper clipping services. He cites not only well-known books but also official Air Force letters and, most especially, newspaper and magazine articles. The bulk of his documentation rests upon popular-level sources.

For such a book as this a foreword by Hynek is obligatory or at least expected. Without quite evoking the name of Galileo, Hynek suitably flagellates suppressors of free inquiry, reminding us of the Tennessee "Monkey Trial" and the refusal of the French Academy of Sciences in the 18th century to take reports of meteorites seriously. He rightly notes the unfair, emotional, and unscientific treatment that UFO's have sometimes received. And after reiterating many of the points made in his famous letter to *Science* (21 October 1966), he states: "A growing number of my colleagues and I have been driven, albeit reluctantly, into the bold step of accepting the more-than-amply reported UFO phenomenon as something that really *is* new, something not yet encompassed by our present science." Jacobs does little to either persuade or dissuade the reader about Hynek's assertion.

The book begins with the rash of mysterious airship sightings in 1896-97, which Jacobs believes were the first major UFO reports in the United States. In Belle Plaine, Iowa, witnesses reported seeing "two queer looking persons on board, who made des-

perate efforts to conceal themselves"; despite those efforts, the witnesses claimed the occupants "had the longest whiskers they ever saw in their lives." The city marshal of Farmerville, Texas, claimed to have seen an object with "two men in the ship and something resembling a large Newfoundland dog." Although he could not understand their language, it sounded like Spanish. A former senator of Arkansas allegedly encountered an airship whose occupant had a gun and was contemplating going to Cuba to "kill Spaniards." (Perhaps he wanted to avenge the recent sinking of the *Maine*.) And, like the more recent swamp gas explanations for UFO reports, theories abounded then too. Citizens of Madison, Wisconsin, decided that local accounts were a publicity stunt for a circus in nearby Baraboo. And a man in Washington State "proved" the sightings to be hoaxes by simulating them—he tied a Japanese lantern around a pelican's leg and turned it loose.

The entire book, especially the first chapter, contains many such wonders of miscellanea, but they lie buried in mounds of soporific minutiae.

Because "there were no known large-scale sighting waves in America between 1897 and 1947," Jacobs jumps a half century, principally to the renowned sighting in 1947 near Mount Rainier, Washington, from which issued the term "flying saucer." In painstaking detail, he then delineates the most controversial episodes, such as Project Bluebook, NICAP's activities, and the Condon study. Sometimes appearing perspicacious or foolish, the familiar characters replay their scenes: Adamski, Condon, Fuller, Hynek, Keyhoe, Klass, the Lorenzens, McDonald, Menzel, Quintanilla. Regrettably, with only ten photographs in the book, most of the drama's key players are not shown, and there is only one UFO picture.

The book's greatest weakness, however, lies in its construction. Except for the last few pages, it wants for analysis and critique; instead, it largely presents an organized compilation of paraphrased press clippings. Several sections dwell not so much on scientific or even quasi-scientific methodology as on American journalism. Fortunately, however, Jacobs's account centers solely on the "responsible" press, omitting myriads of tawdry publications. (Although such spectacular pieces provide no substantive information on scientific issues, except possibly on mass psychology, they occasionally do yield a memorable headline, the best in my recollection being "A UFO Saved by Virginity.")

But more important, Jacobs apparently also has omitted possibly the most comprehensive bibliography ever compiled on

UFO's (L. E. Catoe, Ed., *UFOs and Related Subjects: An Annotated Bibliography*, U.S. Government Printing Office, Washington, D.C., 1969). Produced by the Library of Congress's Division of Science and Technology for the Air Force Office of Scientific Research to assist the Condon study, this bibliography of books, journal articles, pamphlets, conference proceedings, tapes, and so on contains more than 1600 entries.

Jacobs's account eschews technical arguments or analyses. This may be just as well, considering that he apparently does not realize, in one of the few semiscientific passages, that Alpha Orionis and Betelgeuse are the same object. Nonetheless, even without his having an extensive technical background, his resolute agnosticism might have given way to a sterner stance than this: "Although von Däniken had a certain amount of evidence to back up his ideas, he failed to discuss a wide range of anthropological theories that may have accounted for the data or to grant to ancient people the intelligence and creativity they deserved. Nevertheless, the book was stimulating enough to provide widespread discussion."

But the humanistic and sociological minutiae that are Jacobs's forte impress and inform the reader. Here we have Einstein's comment about UFO observers: "These people have seen *something*. What it is I do not know and I am not curious to know." In the early 1950's, however, the Central Intelligence Agency was highly interested in knowing, and that story too is here. A measure of the public's interest in UFO's can be gauged from the fact that between 1957 and 1966 NICAP members appeared on over 900 television and radio shows. Some of the media, however, tired of the flap, especially in the 1960's; *Time*, for instance, with inimitable elocution once called the sightings "primaveral delirium." And we learn of mistakes and excesses on all sides of the controversy. Some contactee-oriented clubs, for instance, held that if someone learned too much about UFO's he might be visited by the awful Men in Black. Not fanatic but equally implausible was an astronomer's explanation for the 1965 rash of sightings: they were caused by lunar dust dislodged by a Russian moon probe, caught in the earth's gravitational field, and made luminescent in the atmosphere.

The Condon study, meticulously reviewed here, probably spurred more controversy and animosity than any other occurrence in UFO history; yet, ironically, one of its founding purposes had been to facilitate a thorough, objective investigation, presumably thereby satisfying and mollifying all parties. Instead, dis-

passionate impartiality was often lost. Following months of public controversy about the study, in April 1969 Condon denounced UFO proponents, declaring: "In my view publishers who publish or teachers who teach any of the pseudosciences as established truth should, on being found guilty, be publicly horsewhipped, and forever banned from further activity in these usually honorable professions." The usually liberal *Nation* concurred with Condon that schoolchildren should not read about UFO's because they might get a warped view of science. And when the AAAS attempted to mount a symposium on UFO's, Condon tried, unsuccessfully, to get Vice President Spiro Agnew to stop the event.

Political leaders also appear in other contexts in the story. While director of the National Bureau of Standards, long before undertaking the UFO study, Condon encountered difficulties with the House Committee on Un-American Activities, headed by Richard Nixon, because he had fraternized with certain liberals and communists and because his wife was Czechoslovakian. In 1966, Congressman Gerald R. Ford, responding to constituents' concern, formally called for a congressional hearing on UFO sightings. And in the same year, when the federally supported UFO study was assigned to the University of Colorado, two congressmen from that state expressed delight because they reasoned that the Atomic Energy Commission would then be more inclined to place the National Accelerator Laboratory in Colorado.

The UFO controversy lingers on today, largely because after the crank and readily explicable cases have been excluded a nettlesome residue remains. At least three possible explanations exist for these baffling reports:

- 1) They would be understandable in terms of conventional science and known phenomena if the observational data were more extensive and precise.
- 2) They arise from purely natural phenomena, either not yet discovered or not yet understood.

- 3) They are, in fact, not of this world, coming from another place and time, constructed by an alien technology, and capable of seemingly impossible feats as gauged by our understanding of science.

The first of these appeals to the scientist's visceral response. According to current scientific methodology and training, when searching for explanations of natural phenomena one should not forsake the familiar and substantiated mosaic of contemporary science unless it has been demonstrated to fail. Moreover, many events in modern life—ranging from some UFO sightings themselves to the assassination of President Kennedy—have demonstrated

the fallibility even of credible witnesses, especially under stressful, unexpected conditions. Mechanical evidence, such as photographs or radar sightings, can likewise be misleading, even though genuine.

The second type of explanation has been proffered by many scientists attempting to account for UFO's. Menzel's bizarre atmospheric occurrences, Klass's plasma theories, and Hynek's swamp gas were conservatively of this form. If extremes of this class of explanation were to prove valid for the implacably unidentified cases, the impact on science and public policy clearly would be colossal.

The third type of explanation repels most scientists on fundamental procedural and epistemological grounds. Such supraterrrestrial, extraexperiential interpretations could always be right; but to over-rely on them would trivialize science, dethroning repeatability and experimentation from their position as ultimate arbiters in research. Such fanciful explanations should be adopted only as the last resort; otherwise science becomes too easy and thereby misleading. Yet multitudes unquestioningly accept these explanations for UFO's. Those who know the least about science often seem the most inclined to abandon it, particularly for sensational alternatives. But some cautious, sober scientists are now concluding that no other explanation for UFO's is fully tenable.

Zealots abound in all these camps. Jacobs does not help us decide which group to follow, but he does exhaustively delineate the controversy. And, for better or worse, John Chancellor probably was right when he said in a news broadcast on 18 October 1973, "Many people would like the UFO's to go away. But the UFO's won't go away, and many scientists are taking them very seriously. It's likely that we will hear more and more about the UFO's."

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Paleozoic Fossils

Trilobites. A Photographic Atlas. RICCARDO LEVI-SETTI. University of Chicago Press, Chicago, 1975. x, 214 pp. \$27.50.

Trilobites were marine arthropods whose existence spanned nearly all of the 350 million years of the Paleozoic era of earth history. Their symmetrical, segmented bodies and often elaborate morphological variation have made them sought-after prizes for the amateur collector and a rich source of information about many geological problems for the profes-