

# CRS Report for Congress

## THE UFO ENIGMA

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## ABSTRACT

Unidentified flying objects (UFOs) have been a source of concern, anxiety, and ridicule for more than three decades in the United States, and for centuries on a global scale. The question in the case of UFOs is not whether there is other intelligent life in the universe, but whether it has visited Earth, and if not, then what accounts for the thousands of reports of strange lights and phenomena which seem to have no other explanation? Although the number of reports in the media about UFOs has dwindled in recent years, the film "Close Encounters of the Third Kind" rekindled interest in the UFO debate for a short time, and the movie "E.T. -- the Extraterrestrial" refocused attention on the possible existence of other intelligent life in the universe.

This report is an updated edition of the 1976 CRS study by the same title, and adds material on what has happened since the mid-1970's in terms of U.S. Government involvement in solving the UFO puzzle, and information that has been released under the Freedom of Information Act.

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## INTRODUCTION \*

Although the term UFO (for unidentified flying object) has been popular for only about 36 years, the phenomenon it refers to has been observed throughout recorded history. It is an unfortunate term, for literally anything seen in the sky and not immediately recognized is included. In the ancient skies, UFOs were especially numerous.

What are today's UFOs? And what type of person reports them to authorities? Publicity seekers, practical jokers, or sane, intelligent people genuinely mystified by something they have seen? This report cannot, and does not attempt to, answer those questions. After 36 years of concentrated interest in this country alone, experts cannot agree on what inhabits our skies. The U.S. Air Force had official responsibility in the field for 21 years and concluded that whatever was there, it was non-hostile and non-alien. But there are many who disagree.

In order for Earth to be visited by beings from other planets, there must be other inhabitants in the universe. The subject of extraterrestrial intelligence, as it is called, is too involved to be included here, and the reader is referred to a previous work by this author for the House Science and Technology Committee entitled "Possibility of Intelligent Life Elsewhere in the Universe" (revised October 1977) for a discussion of this topic.

\* The 1983 update of this report was prepared by Mr. George D. Havas of the Library of Congress Science and Technology Division while he was on special detail to the Science Policy Research Division of the Congressional Research Service. The original 1976 report was prepared by Marcia S. Smith of the Science Policy Research Division, CRS.

In addition to discussion about UFOs in general, there have been theories advanced that much of our present day knowledge, and indeed our evolution itself, was helped along by aliens. This "ancient astronaut" philosophy and that of the Bermuda Triangle are discussed briefly in an appendix. They are only of peripheral importance to a discussion of UFOs and are included only because they also deal with alien visits to Earth.

## I. WHAT IS A UFO?

A. DEFINITIONS

A UFO is an aerial phenomenon or object which is unknown or appears out of the ordinary to the observer.

U.S. Air Force 1/

A UFO is a moving aerial or celestial phenomenon, detected visually or by radar, but whose nature is not immediately understood.

Carl Sagan  
Astronomer and Biologist 2/

A UFO is any reported aerial or surface visual sighting or radar return which remains unexplained by conventional means even after examination by competent persons.

J. Allen Hynek  
Astronomer and Project  
Blue Book Consultant 3/

The most commonly used definition of a UFO is expressed in both the Air Force and Sagan definitions and encompasses the vast files of sightings that either have or have not been later identified as natural phenomena--12,097 from 1947 to 1967. Hynek's definition is more precise since it covers only those that, after investigation, still remain unidentified and are thought by some to be spaceships from other worlds--697 from 1947 to 1967. 4/

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1/ U.S. Air Force. Aids to Identification of Flying Objects. Washington, D.C., U.S. Govt. Print. Off., 1968. p. 28.

2/ Encyclopedia Americana, 1967, p. 43.

3/ Hynek, J. Allen. White Paper on UFOs. Christian Science Monitor, May 23, 1967: 9.

4/ Figures are from U.S. Air Force. Project Blue Book 1968. [n.p., n.d.] p. 7.

Since the term in general use can mean either of the above, one must be careful as to the context in which the term is used. There are naturally thousands upon thousands of reports that would come under the first two definitions, since many people can become confused by natural objects such as the planets and stars, and other natural phenomena like ball lightning are not well understood even by scientists.

For the sake of clarification, William Hartmann (Senior Scientist, Planetary Science Institute, Tucson, Arizona) suggested four groups into which sightings could be classified: UFO--unidentified flying object, the original sighting according to the Air Force and Sagan definitions; IFO--identified flying object, a UFO case that has been concretely solved; EFO--extraordinary flying object, something beyond the bounds of recognized natural phenomena; and AFO--alien flying object. 5/ The last two are relatively subjective, since those who refuse to speculate on the possibility of Earth being visited by extraterrestrial life will classify all unidentifieds into EFOs, and their counterparts on the other side of the question will assume that all unidentifieds are AFOs.

Other acronyms have also been suggested and one that has some support is "anomalous observational phenomena" (AOP). The term was coined by Dr. Robert M. L. Baker who notes that although some unexplained phenomena may be occurring, it "may not be 'flying,' may not always be 'unidentified,' and, perhaps, may not even be substantive 'objects,'" 6/ Unfortunately UFO has become the accepted term, and changing the habits of the masses is no easy chore.

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5/ Hartmann, William K. Historical Perspectives: Photos of UFOs. In Sagan, Carl and Thornton Page eds. UFOs--A Scientific Debate. Ithaca, New York, Cornell University Press, 1972. p. 12.

6/ Baker, Dr. Robert M. L. [Testimony] In U.S. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects. Hearings, 90th Cong., 2d Sess., July 29, 1968. Washington, U.S. Govt. Print. Off. p. 126.

Douglass Price-Williams has listed four stages through which a UFO report should travel before a determination can be made as to its nature. <sup>7/</sup> The first step is the actual reporting of an unexplained aerial incident, where it is labeled a UFO (he also notes a preference for AOP, but acknowledges that UFO has become too rigidly entrenched in our vocabulary). In the second stage, the report is broken down into one of three "populations": (1) reports that are easily explained, without controversy, as known phenomena; (2) reports that one group calls known phenomena while a second group questions that conclusion, and (3) reports that all agree are unknown.

The third stage examines those in the third group (and some from the second). This is the key step, for "failure to define the data at this point makes further analysis unamenable to systematic investigation." Here the questions of witness credibility arises (chapter 2), for the data are usually dependent upon the subjective observations of one or more witnesses, not upon exact measurements. Other than rejecting all present UFO reports and starting anew with a more exact reporting system, Price-Williams suggests going through existing reports searching for clues that can be relied upon to some extent, such as reports where some reference point was available to the witness(es) for distance, size, and speed estimates. Also a cross-correlation of what has been seen over the years in terms of these characteristics might prove valuable.

The final stage of the UFO report calls for a confrontation between data and hypotheses. Price-Williams points out that the crucial test for any hypothesis is for it to be tested, and this is the crucial problem with the extraterrestrial hypothesis. He suggests that outside of actually capturing a specimen,

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<sup>7/</sup> Price-Williams, Douglass R. Psychology and Epistemology of UFO Interpretations. In Sagan and Page, op. cit., p. 224-231.



one would have to "posit a model embodying aerodynamic and engineering properties that are then matched against the observed data as reported." These models are bounded by an upper limit where literally anything is considered possible due to technologies we may not be aware of, and the lower limit which allows not only that the physical model make sense within our framework of knowledge, but that someone be able to construct a realistic model (although not necessarily a working model).

#### B. DRAWINGS BY WITNESSES

Since Kenneth Arnold's 1947 sighting that began the current interest in UFOs in this country (see chapter 5), many drawings have been made by witnesses to show others what they saw. A few of these are presented below, reprinted with permission from UFOs: A New Look, National Investigations Committee on Aerial Phenomena, (NICAP) 1969.

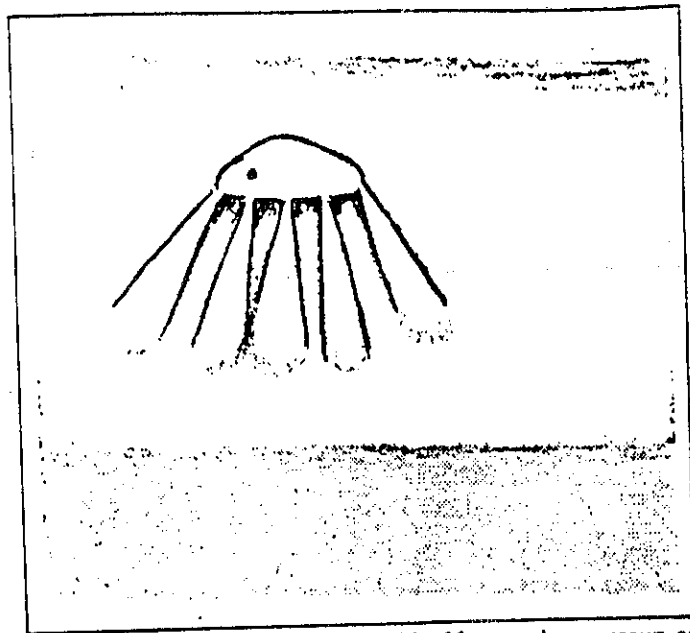
## WITNESS SKETCHES

The following graphic portrayal of the UFO mystery makes use of actual witness sketches drawn to describe what they had seen. Some of the drawings had to be touched up for reproduction purposes; however, they have not been altered. A few are artists' renditions carefully based on witness descriptions.

This small sample was selected from hundreds in recent years to illustrate some of the commonly reported types and features. Additional sketches appear throughout the text. (Cf., The UFO Evidence, especially pages 23, 54, 144, 147 and 182).

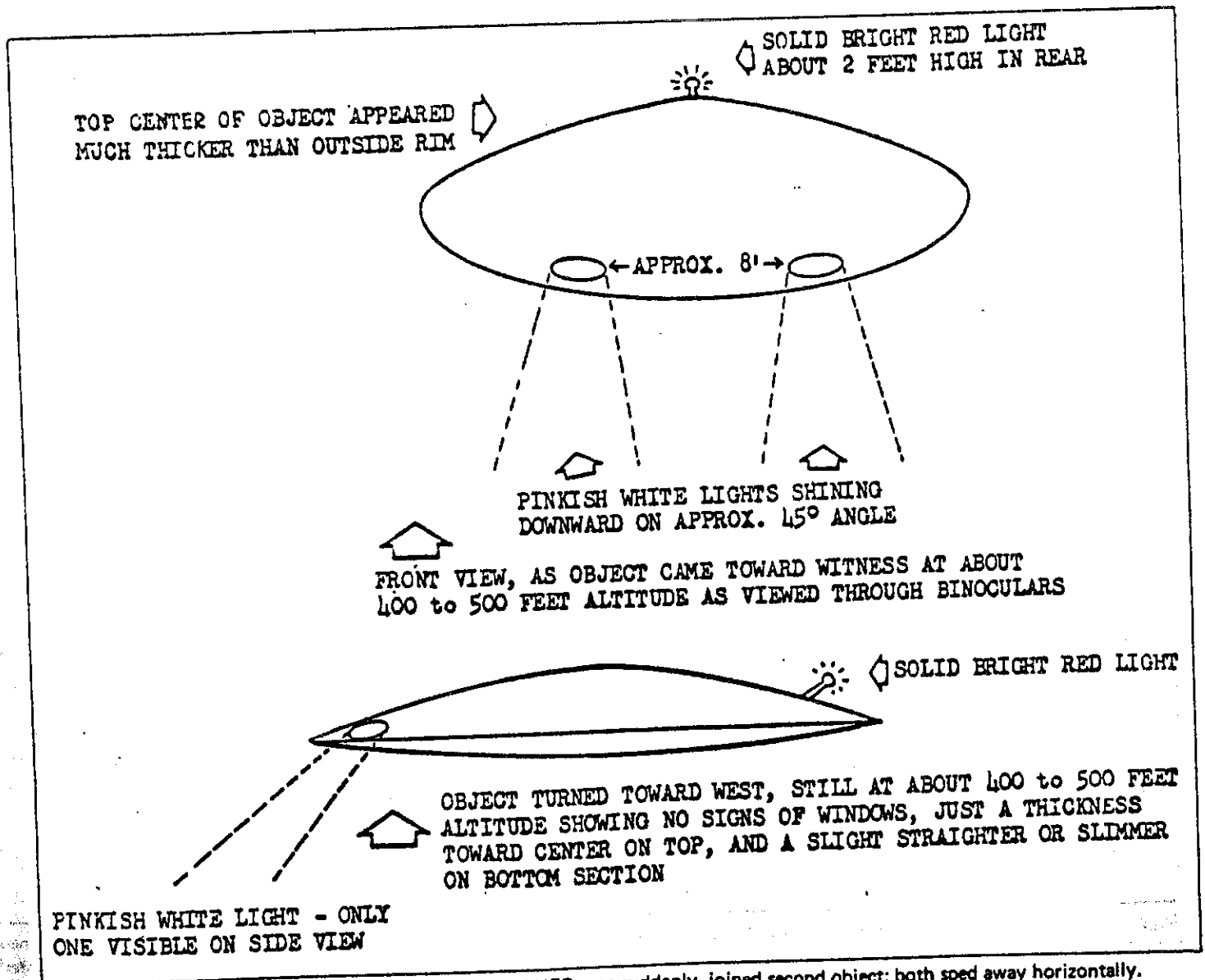
Some of the obvious recurrent features, also typical of thousands of documented verbal reports, are: clear structures most commonly disc-shaped or elliptical; light beams; body lights; rows of "portholes" or lights; domes and other projections; surrounding haze; and physical effects on the environment.

Although it was not possible to give additional details of the sightings here, many of the most complete cases will be reported in full in Volume II of The UFO Evidence scheduled for publication in 1969.

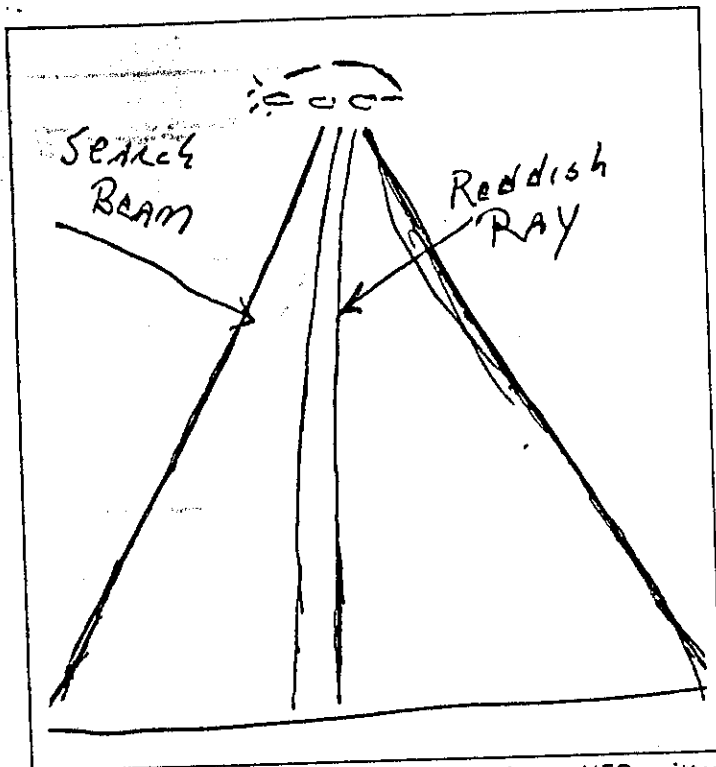


August 16, 1968; Nr. Hamilton, Ohio 11 p.m.: Large group of people saw UFO approach, beam lights down which reflected off Greenbriar Lake.

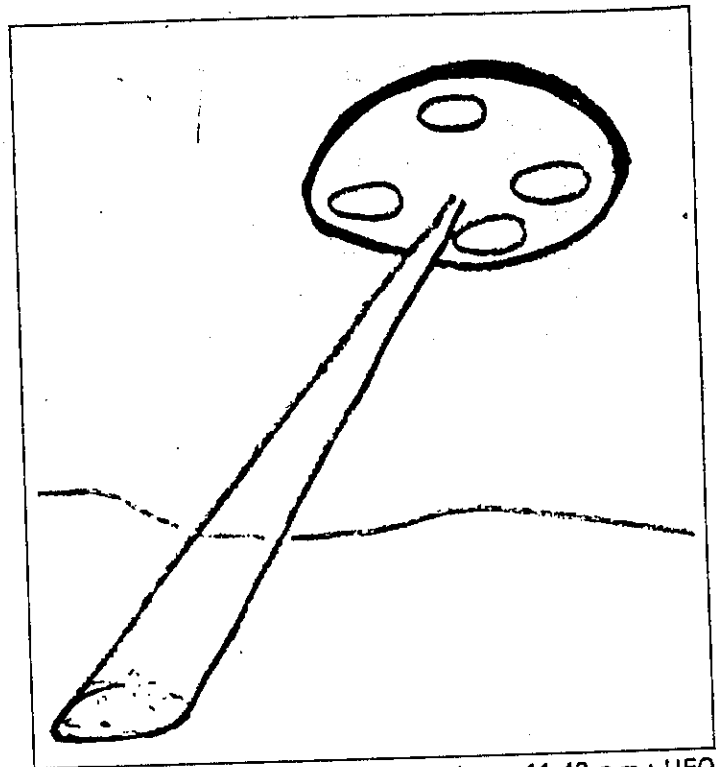
## LIGHT BEAM CASES



January 18, 1967; Shamokin, Pa. 8 p.m.: Low-level UFO rose suddenly, joined second object; both sped away horizontally.

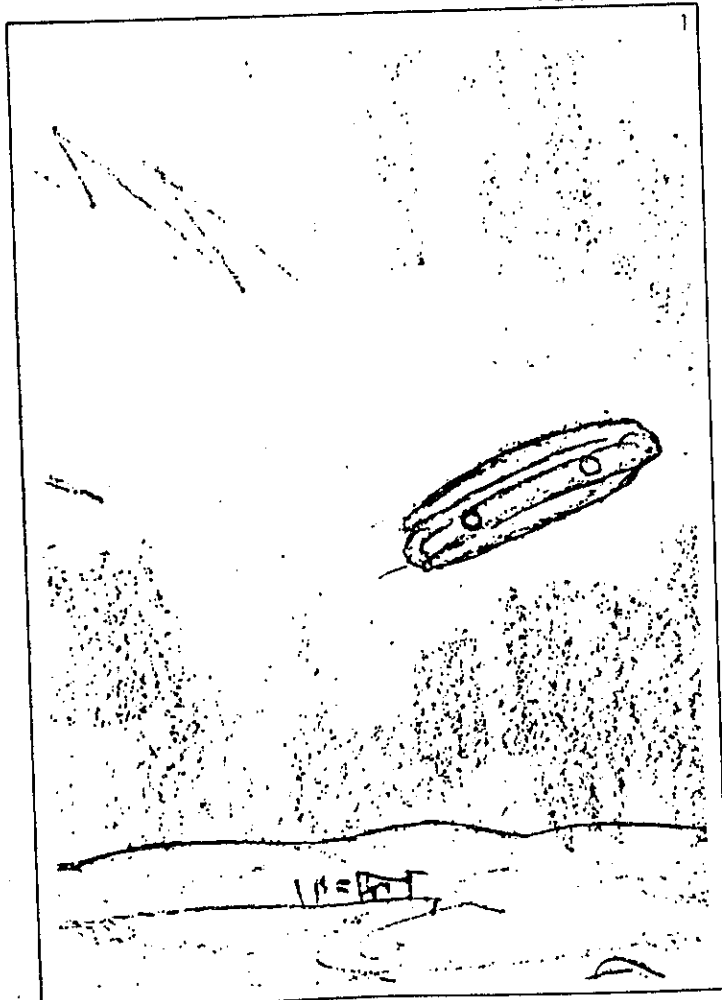


July 15, 1968; Nr. Columbus, Indiana Abt. 3 a.m.; UFO emitted beam like searchlight to ground; also narrower red beam or ray.

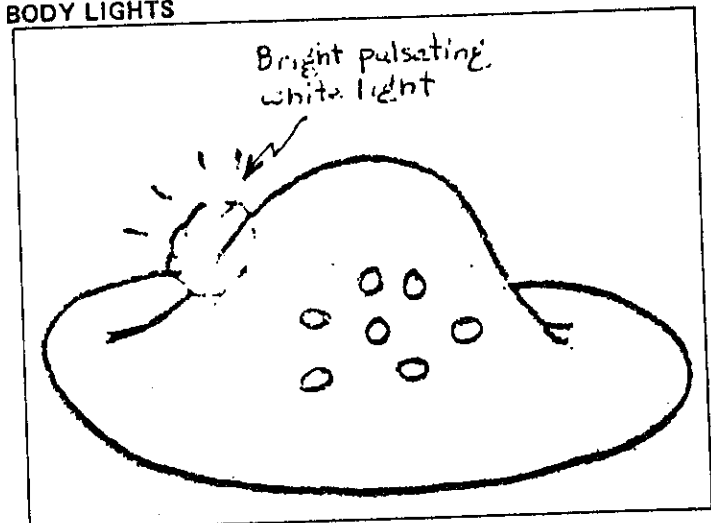


February 16, 1967; Nr. Kingman, Arizona 11:43 p.m.; UFO illuminated ground, joined two other objects as it flew away. three red and one green body lights

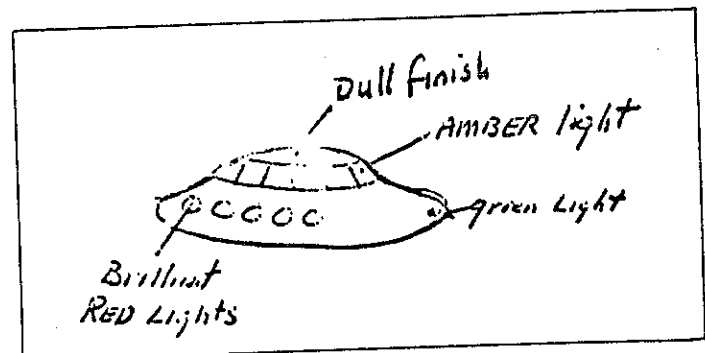
#### "PORTHOLES" AND BODY LIGHTS



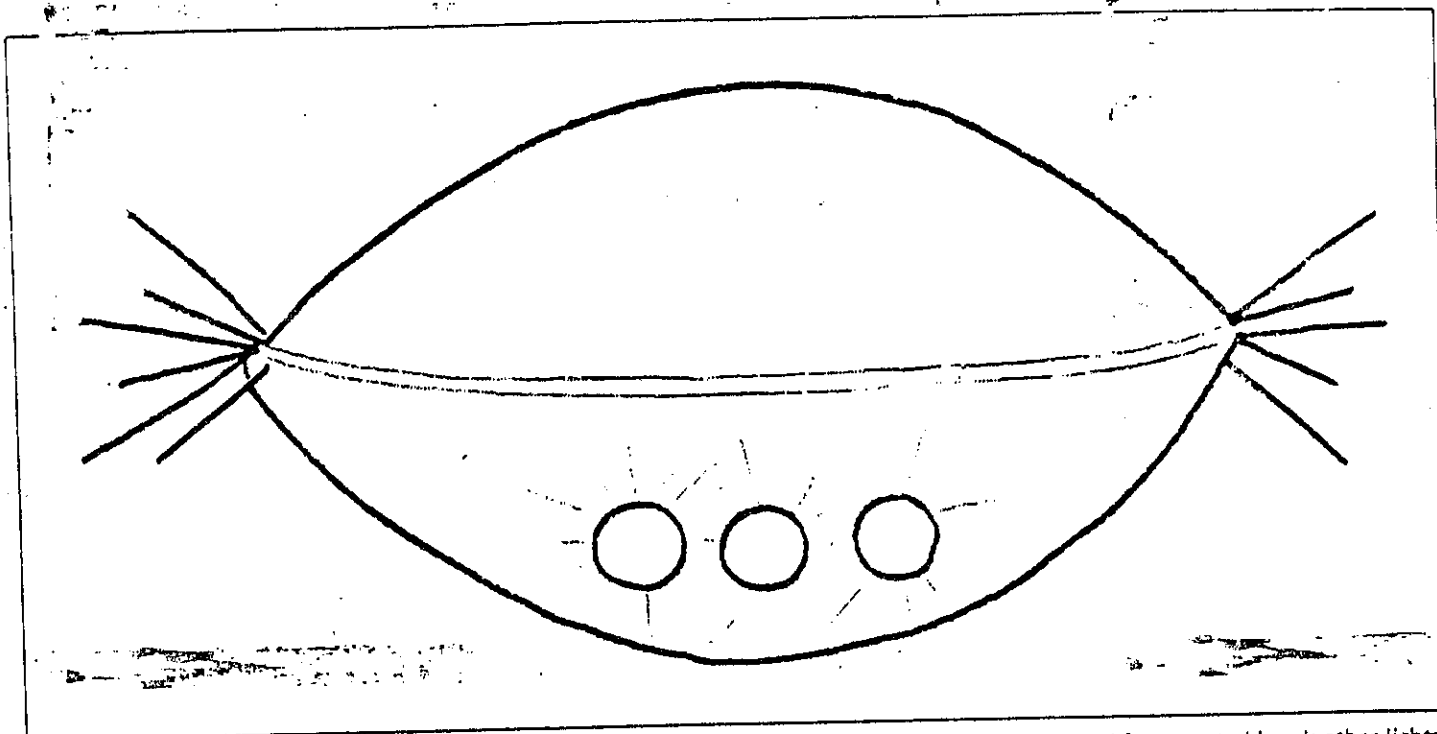
August 19, 1968; Oxon Hill, Maryland 8:25 p.m.; UFO approached, hovered, disappeared upward into clouds, visible several minutes.



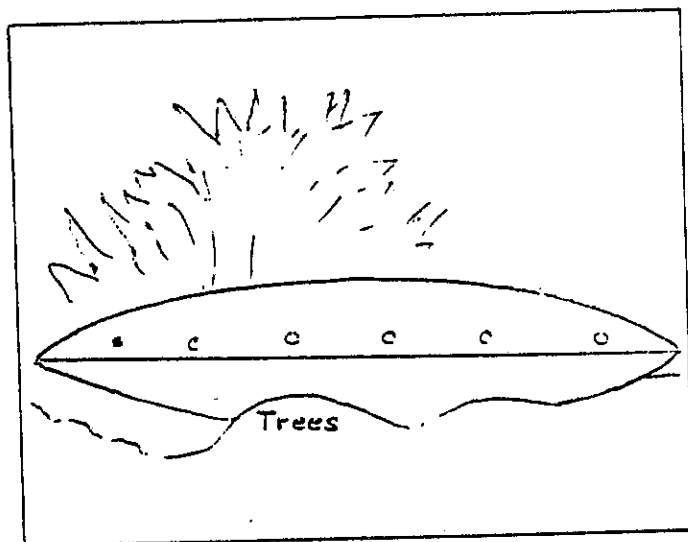
April 12, 1968; Cape Neddick, Maine 11:15 p.m.; UFO seen passing below moon during total eclipse. Body dull red-orange; small red lights, bright pulsating white light on end.



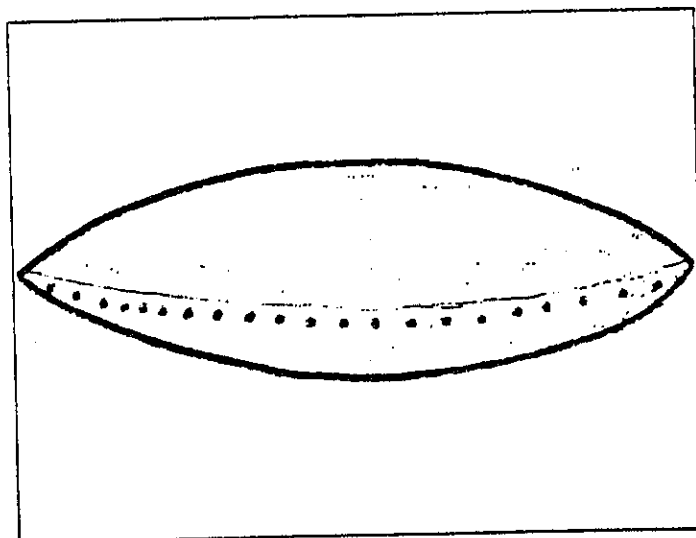
February 22, 1966; So. Kingston, N.H. 9:05 p.m.; UFO maneuvered for 35 minutes; six witnesses; "falling leaf" motion noted.



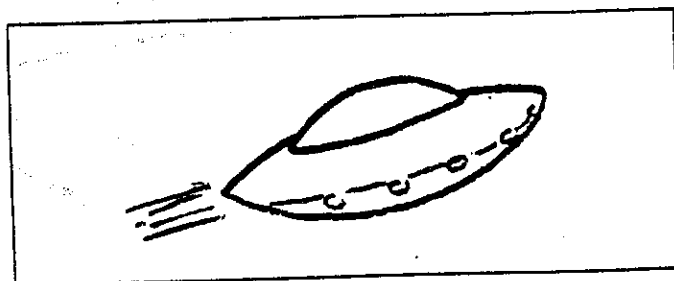
March 22, 1966, Hillsdale, Michigan; UFO sighted in midst of Michigan wave. Yellow light emanated from central band; other lights red, white and green.



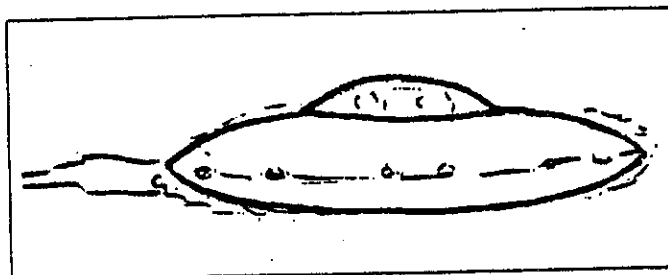
July 26, 1965; Hartshorne, Oklahoma 7 p.m.; UFO hovered 4-5 minutes just above treeline in front of one tall tree, then "whisked away." Upper part silver, lower gray-red; spots like indentations.



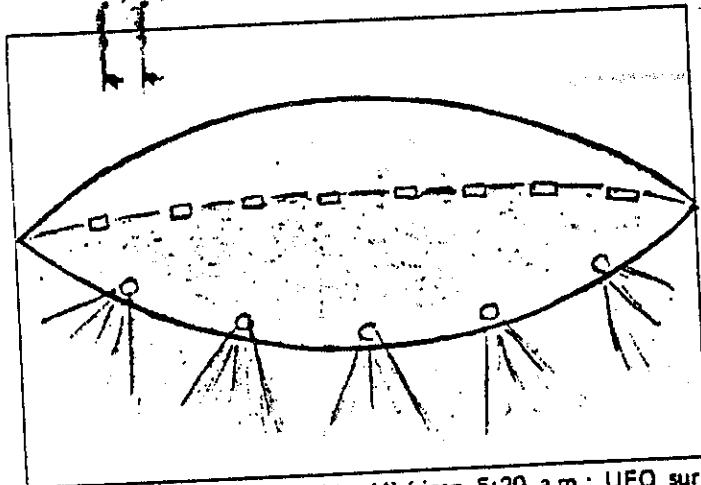
October 14, 1966; Nr. Newton, Illinois 6:45 p.m.; Yellow-orange UFO, blue line around center, red lights just under rim. Object illuminated ground, affected TV, other typical features.



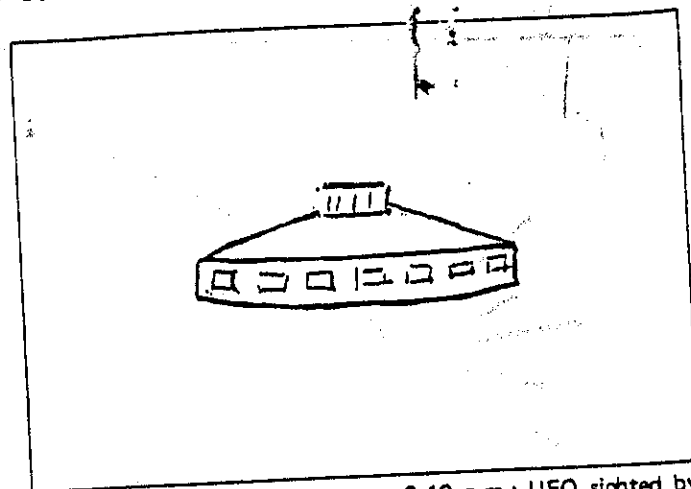
January 15, 1967; No. Granby, Conn. Abt. 5:45 p.m.; UFO emitted white shafts of light from "portholes."



February 15, 1967; Hollywood Bottom, Texas 10:15 p.m.; Family observed UFO with body lights, haze around body, "vibrating" noise. Blue-green light from dome, red-orange from front(r), bright white trail.

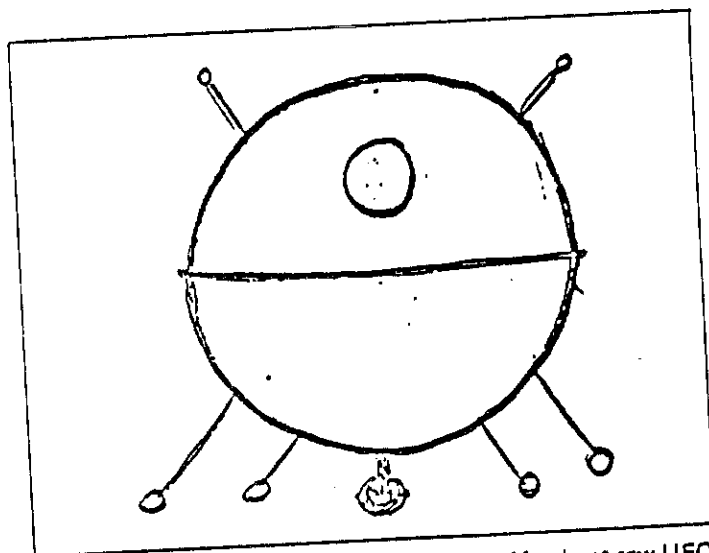


March 19, 1966; Big Rapids, Michigan 5:20 a.m.; UFO surrounded by bluish-white haze. Lights on bottom flicked on and off one at a time. Very similar object sighted 45 miles away at Grand Rapids March 17.

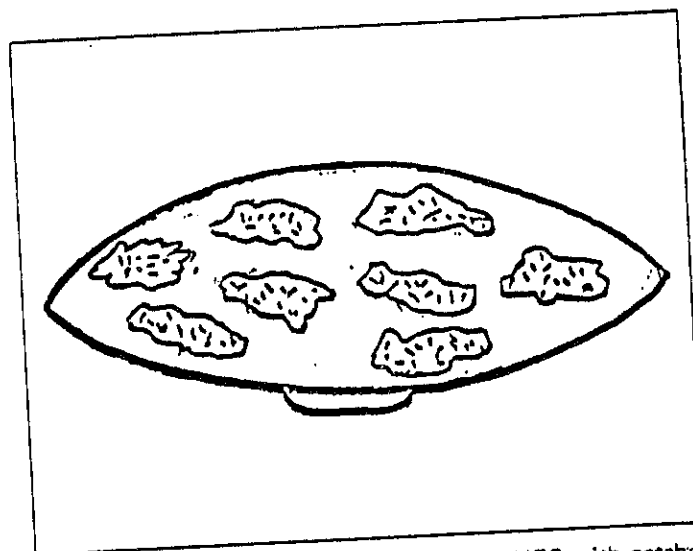


April 22, 1967; Tulsa, Oklahoma 8:10 p.m.; UFO sighted by several witnesses; lights or "ports" appeared to rotate.

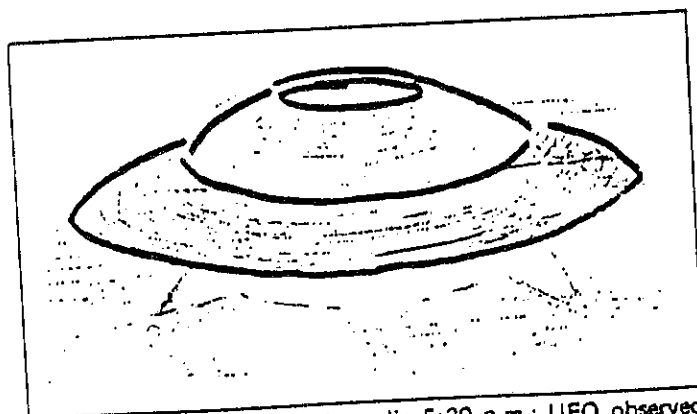
### OTHER REPORTS OF STRUCTURED OBJECTS



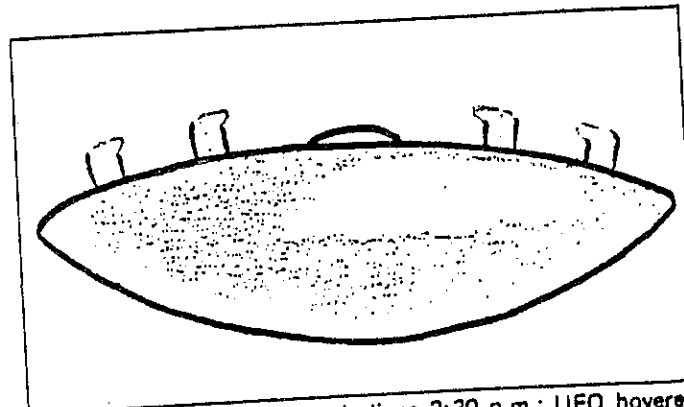
January 19, 1967; Dunbar, W. Va. 9:05 a.m. Merchant saw UFO hovering about 4 feet above Interstate 64, blocking roadway. Aluminum-colored UFO rose rapidly out of sight.



October 7, 1965; Williamstown, N.J. 6 a.m. UFO with patches of shimmering orange light, steady yellow light underneath, moved slowly at tree-top level.



July 19, 1965; Vacluse, Australia 5:30 p.m.; UFO observed taking off from beach; sound of rushing air; dogs barked loudly.



March 8, 1966; Chesterton, Indiana 2:30 p.m.; UFO hovered above cloudbank 4-5 minutes, surrounded by bright, misty haze, changed angles and sped away.

### C. TYPES OF ENCOUNTERS

Encounters with UFOs can be placed into three general categories, herein referred to simply as Type I, II, and III:

Type I: The witness sees only a moving light or object with the naked eye or an unknown image on a radar screen. These can be seen either at night or during the day, and many have been photographed.

Type II: The UFO is seen close up and physical effects are noticed, either on the witness or, say, on an automobile engine. This type includes landings when marks are left, but not where aliens are seen.

Type III: Alien beings are either observed in the spacecraft during a Type II encounter, or are actually contacted. This would include those reports of visits aboard spaceships (such as the famous Betty and Barney Hill incident in New Hampshire as discussed in appendix A) and the Pascagoula, Mississippi incident in 1973 (see below).

#### 1. Type I

This is by far the most common type of sighting. From objects that move erratically across the skies to radar images picked up by airport controllers, thousands have been catalogued since 1947 alone. A typical example of this kind of case was reported by J. Allen Hynek:

An example . . . is a case I investigated personally, involving five witnesses, the senior witness being the long-time associate director of a prominent laboratory at MIT. The nocturnal light was first sighted by his son, who had been out airing the dogs. He came bounding into the house crying, 'There's a flying saucer outside.' The senior observer picked up a pair of binoculars on his way out. He told me he didn't expect to see anything unusual but was going out to see what the commotion was all about. For the following ten minutes he was engrossed in what he saw--the nature of the light, its motions, its hovering, and its takeoff. He described the light as having a high color-temperature also though essentially a point source, subtending less than a minute of arc in the binoculars . . . the trajectory of the object was plotted against the framework of the branches of a denuded tree. This observer was a good one, and his report included the condition of his eyes and those of the members of his family. 8/

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8/ Hynek J. Allen. Twenty-one Years of UFO Reports. In Sagan and Page, Ibid., p. 45-46.

A case involving radar is typified by the following example:

Lakenheath, England, August 13, 1956, 11:00 P.M.--  
3:30 A.M. . . .

Two RAF ground-radar stations detected several objects moving at high speed on a clear moonlit night. The first radar tracked one traveling at about 3,000 miles per hour westward at 4,000 feet altitude; simultaneously, tower operators reported a bright light passing overhead toward the west and the pilot of a C-47 aircraft at 4,000 feet over the airfield saw the bright light streak westward underneath him. The second radar station, alerted by the first, detected a stationary target at about 20,000 feet altitude that suddenly went north at 600 miles per hour. It made several sudden stops and turns. After 30 minutes an RAF fighter was called in and made airborne-radar contacts with the object over Bedford (just north of Cambridge, England). Suddenly the object moved around behind the fighter plane, both being tracked by ground radar. The fighter pilot could not 'shake' the object. A second plane was called in but never made contact and all radar contacts were lost. Several other radar targets were tracked in the same areas and several other small moving lights were seen; all disappeared at 3:30 A.M., by which time a few clouds appeared in the sky. 9/

## 2. Type II

These are the next most numerous kinds of reports, and can involve several factors. Reports of close encounters with UFOs often include remarks that animals were unusually quiet during the episode or dogs would start whining. Engines have been reported to stop operating in the vicinity of the UFO and cannot be restarted until the object disappears. For those objects which land, reports have been made that the area around the landing site is changed in some manner, whether the grass is burned or bare ground is wet. A good example of a Type II case is given by Ted Phillips, Jr. of the Center for UFO Studies:

Langenburg, Saskatchewan, 1 September 1974. . .

Shortly after 1000 on Sunday morning, 1 September 1974, Edwin Fuhr a 36 year old farmer began harvesting his rape seed crop in a field located some 1,500 feet south of his home. Fuhr had been swathing for nearly an hour, a very light rain had been falling during the morning. As he approached a large slough he slowed the swather and looked up to check his position relative to the grassy area and saw a metal dome about 50 feet away sitting in the grassy area between the slough and the crop. At first he thought it was a metal goose blind. He stopped the machine and walked to within 15 feet of the dome.

As he approached the metal object he noticed that the grass around the base was moving and the object was spinning at a high rate of speed. Fuhr became quite frightened and backed away toward the swather which was still turning at full throttle.

When he reached the machine he moved behind it and climbed up to the seat. At this point he could see the spinning dome from a higher elevation. As he glanced to the left he saw four more metal domes, all the same size and all were spinning. They seemed to be hovering 12 to 18 inches above ground level. . . . He could hear no sound as the swather was still running.

. . . After what seemed several minutes, the objects suddenly burst into the air. The near object left the ground first, followed by the remaining four in order. The objects ascended in a step formation into the overcast sky. At about 200 feet altitude they stopped, a puff of dark gray 'vapor' was seen coming from exhaust-like extensions located at the base of each of the objects. The 'vapor' was about 6 feet in length and was followed by a strong downward gust of wind which flattened the crop that was standing in the immediate area. The ascent took only seconds. After reaching the 200 feet altitude the objects formed a line and remained stationary for about 1-2 minutes. They suddenly ascended into the clouds and were not seen again.

Fuhr learned later that cattle in a nearby field were bellowing and had broken through a fence in four places at about the time of the sighting.

After the objects had disappeared, Fuhr went to the landing area and found five rings of depressed grass. The #2 site has what he described as probe marks where the grass was depressed in 3 foot long areas leading away from the ring on the north side. The grass was swirled in a clockwise fashion at all of the sites. The grass was not dead and had not been burnt. 10/



### 3. Type III

The final class of UFOs is the one responsible for most of the ridicule extended to UFOlogists, for the stories of contacts with extraterrestrial beings seem so implausible. It also is the type depicted in the popular film "Close Encounters of the Third Kind." George Adamski is one of the most famous "contactees" and before he died he authored several books about his trips on board flying saucers to other planets in the solar system. His cases represent an extreme of the Type III encounter, the more common case being something like the Betty and Barney Hill case in Portsmouth, New Hampshire (which is discussed in the appendix under the title "Zeta Reticuli Incident") or the more recent Pascagoula, Mississippi encounter between a spaceship and two shipyard workers. As reported by Philip Klass, the event occurred as follows:

The incident involved Charles Hickson, age forty-two, employed in the small Walker Shipyards, and nineteen-year old Calvin Parker, who had recently come to work in the same shipyard from his home in Laurel, Mississippi. Parker was living with the Hickson's at the time. . . .

Hickson said the two men had been fishing after dark, within several blocks of downtown Pascagoula, when they heard an unusual buzzing or zipping sound. When they turned toward the sound, Hickson said, they saw a flashing blue light coming from a craft that was hovering several feet above the ground.

. . . as soon as the UFO appeared nearby, Hickson said, three strange-looking creatures suddenly emerged from the craft and 'floated' toward the two men. Two of them, he said, grabbed him, and the third was left to handle young Parker. According to Hickson, he and his friend were 'floated' into the UFO through a door which 'didn't open like a door opens--it just appeared, the opening just appeared.' Hickson said he was floated into a very intensely illuminated room and that Parker, apparently, was taken to another. Hickson said he was 'levitated' in a horizontal position while a large round object floated back and forth over his body as if giving him physical examination. . . .

. . . Despite the intense illumination and reported eye injury, Hickson somehow managed to note that the creatures were about five feet tall, with no necks, had gray wrinkled skin 'like an elephant,' long arms and lobster-like claws for hands. Their legs never separated for walking; instead they 'floated,' Hickson said. On their heads, where human ears and a nose would be located, were

small cone-shaped appendages. Below the 'nose' was a 'mouth' which Hickson first described as being a 'hole,' but in a later interview as a 'slit.' . . .

After the two men were carried aboard the UFO, Hickson reported he did not see his friend until sometime later when the two men were floated out and deposited on the riverbank. Parker proved unable to supply even sketchy details of his experience because, as Hickson explained, the youth had fainted at the start of the incident and had not regained consciousness until it was over. Hickson said the creatures had quickly boarded their UFO and it had zipped off into the night. 11/

Some of the above cases have been investigated by both sides of the UFO fringe, especially the Pascagoula case, and some will therefore be discussed later in this paper, but it should be borne in mind that they represent only a small sampling of the cases that have been reported throughout the past 36 years. Summaries of 10 selected cases are given in Appendix A.

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11/ Klass, Philip. UFOs Explained. New York, Random House, 1974.  
p. 293-296.



## II. WITNESS CREDIBILITY

Although UFO reports have been prevalent since the 1940's, it was only in more recent years that studies were made relating to factors that might affect the credibility of those who report the UFOs. In most sightings, there is no hard evidence of any kind, only the reports of eyewitnesses.

Sociologists and psychologists were asked to give their opinions on what type of person reports UFOs, when the evidence seems to be overwhelming that many more UFOs are seen than are reported, for fear of ridicule. J. Allen Hynek reports that when he asks his audiences how many have seen a UFO, more than 10 percent of the audience will raise a hand. When asked how many of them reported the event, few if any respond.

What then is the make-up of UFO reporters, and equally as important, how accurately can a person judge what he is seeing? The situation is probably a stressful one when all faculties are not at their best, and few reference points are available for accurate determination of distance to the object, its size and speed, if moving.

### A. SOCIOLOGICAL AND PSYCHOLOGICAL FACTORS

Apparently the first time public attention was focused on this aspect of UFOs was during the 1968 hearings by the House Committee on Science and Astronautics (see chapter 5). Dr. Robert Hall, head of the Department of Sociology at the University of Illinois was called as a witness, and Dr. Roger N. Shepard, Department of Psychology, Stanford University and Dr. R. Leo Sprinkle, University

of Wyoming, submitted papers for the record. A year later the American Association for the Advancement of Science held a UFO Symposium in Boston which included four people from these fields.

Just as other investigators are widely split on the subject of UFOs in general, so are the sociologists and psychologists on the type of people who report UFOs. Drs. Lester Grinspoon and Alan Persky, for example, seem to consider not only the witnesses but those scientists who are vigorously involved in the study of UFOs to be victims of the classic Freudian breast/penis syndrome, thus accounting for the cigar- or saucer-shapes of UFOs. 12/ This author could find no other papers supporting this hypothesis.

Dr. Robert Hall, who was present both at the House hearings and the AAAS symposium, reports that people first try to explain UFOs in terms of familiar objects. Only after the event does not fit into any known category will the witness conclude it is a UFO. He explains that everyone has a set of belief systems that help determine their frames of reference in day-to-day life.

What people believe is usually organized into elaborate systems of belief. That is, each person has a cognitive structure consisting of many items of information and belief which are interdependent, and people are organized into social systems in which each person lends support to belief of others in the system. A lonely belief is an unstable belief. . . .

. . . it appears that people tend in most circumstances to hold beliefs consistent with those of people around them. . . . When reasonable men report events which receive no social support from their friends and do not fit their own prior beliefs, we have to take these reports seriously. 13/

By his reasoning then, as long as the witness is of good standing in the community and meets other criteria set forth in section B of this chapter, his story should be believed.

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12/ Sagan and Page, op. cit., p. 233-246.

13/ Ibid., p. 215.

Walter Sullivan, Science Editor of the New York Times, however, points out that UFOs are part of most people's belief systems, put there by the media (it was the media, after all, that coined the term "flying saucer" after Kenneth Arnold's sighting).

It is claimed that witnesses in many of the unexplained UFO cases did not believe in UFOs before their experience with them. My thesis is that we have all been conditioned by the press, radio, and TV--by the general tone of our society--to a hierarchy of beliefs that include for most of the population at least the image of UFOs. 14/

If one does accept that UFOs are a part of virtually everyone's vocabulary, then what other clues can be obtained for determining a witness's reliability? Hall remarks that our legal system has criteria for determining the credibility of witnesses appearing in court, taking into account the person's "reputation in his community, previous familiarity with the event and persons involved in the testimony, apparent motives for prevarication or distortion, and internal characteristics of the testimony such as consistency, recency, verifiable detail and so forth." 15/ Hynek calls this a "credibility index" and feels that "By what right can we summarily ignore [witnesses'] testimony and imply that they are deluded or just plain liars? Would we so treat these same people if they were testifying in court, under oath, on more mundane matters?" 16/

As a consultant for the Air Force for many years, Hynek has had some familiarity with witnesses and has observed that "Very rarely do members of the lunatic fringe make UFO reports. There are many reasons for this; primarily it is simply that they are incapable of composing an articulate, factual, and objective

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14/ Sagan and Page, op. cit., p. 39.

15/ Ibid., p. 259.

16/ Ibid., p. 218.

report." 17/ This is an important statement, for it points out one aspect of UFO reports on which there seems to be general agreement, i.e., the more witnesses, the more believable the report. Hynek states:

True, occasionally a lone witness of low credibility will make a highly imaginative report, generated by an obviously natural event. But such reports are a warning to beware of UFO reports from single witnesses. . . . 18/

Philip Morrison agrees. "I would say that no witness is credible who bears a sufficiently strange story. The only hope is for independent claims, several independent witnesses, and then the credibility certainly rises." 19/

There is a danger in this as well, however. There is a psychological condition called hysterical contagion in which a group of people can be led to believe that some event is occurring. It is defined as:

. . . the dissemination of symptoms among a population in a situation where no manifest basis for the symptoms may be established [and where] a set of experiences or behaviors which are heavily laden with the emotion of fear of a mysterious force are disseminated through a collectivity. . . . 20/

The relationship that this condition may have to UFOs is unknown, but both the Condon Report and the AAAS symposium discussed it as a possibility. Two cases cited in both those studies will serve as examples of what the condition entails.

The first is the famous radio broadcast of H. G. Wells' War of the Worlds in 1938. To the listeners of that radio program who had not heard the introductory disclaimer explaining it was only a story and not an actual event, it

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17/ Hynek, J. Allen. [Testimony] In U.S. Congress. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects, op. cit., p. 5.

18/ Hynek, J. Allen. The UFO Experience: A Scientific Inquiry. Chicago, Henry Regnery, 1972. p. 20.

19/ Sagan and Page, op. cit., p. 282.

20/ Kerckhoff, A. C. and K. W. Black. The June Bug: A Study of Hysterical Contagion. New York, Appleton-Century-Crofts, 1968.

appeared that Earth was in fact being invaded by aliens from another planet. Their reaction was panic with some literally "heading for the hills" and in a few cases, committing suicide. The broadcast occurred at a time when anxiety was high over the threat of war, for Hitler had just occupied Austria and Japan was advancing in China. The populace was primed for news of war and destruction, and panic ensued.

A second case involves a "June Bug" epidemic in a southern factory. In 1962 workers from a section of a textile factory in the South reported a disease symptomized by nausea, skin rash and fainting spells, caused by a tiny insect. In fact, there was no insect. The symptoms had manifested themselves as an outgrowth of strain and frustration felt by the workers.

The Condon report concludes only that this be kept in mind while studying UFO cases, but did not cite it as a definite cause. Dr. Hall at the AAAS meeting decided to ignore it completely as an explanation.

Some effort has been made to liken UFO reports to these cases of hysterical contagion. . . but there are many difficulties in trying to argue that the hard-core cases can be explained in this way. For one thing, the persons reporting UFOs frequently do not interpret them as serious personal threats. They often describe a UFO with puzzlement but not fear. For another, the continuation of UFO reports over at least decades and their spread over all parts of the world would both be unprecedented for a case of hysterical contagion. 21/

Where, then, does this leave the researcher attempting to determine the credibility of a witness? Dr. Roger Shepard, in his statement for the House Science and Astronautics Committee, concluded that:

. . . a scientific study of UFO phenomena is not impossible--just more difficult. For, we are faced for the most part with a problem--not of making physical measurements--but of interpreting

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21/ Sagan and Page, op. cit., p. 217.



verbal reports. We are faced, in short, with a problem amenable more to the methods of the psychologist than to those of the physical scientists. 22/

The Condon Report concluded that it would be valuable to have sociologists and psychologists as part of the investigating team on UFO reports 23/ and there seems to be a good deal of evidence suggesting that persons from these disciplines could prove valuable to the effort. But even these professions are not in agreement, so it is doubtful that they will solve the controversy. Dr. Hall stated at the AAAS symposium that:

... we find some scientists arguing something like this: 'I can cite hundreds of cases of people who were excited and reported an aircraft, or a star as a UFO and hundreds of humorous cases of unbalanced people with demonstrably false stories; therefore it is plausible that the rest of the cases are similar.' I know from personal experience as a military flyer in wartime that flyers sometimes shoot at Venus or at an island, believing it to be an aircraft. It would be foolish for me to conclude from this that there were no aircraft in the sky. 24/

Either there must be a distinctive physical phenomenon which these witnesses have observed, or there must be a powerful and poorly understood motivation rooted in projection, or contagion of belief, or a similar mechanism. Given these alternatives, I find it more plausible to believe that there is a distinctive physical stimulus than to believe that multiple witnesses misperceive in such a way as to make them firmly believe they saw something which jars their own beliefs and subjects them to ridicule of their associates. . . . 25/

And just as there are professionals such as Grinspoon and Persky who feel that all UFOs are psychological manifestations, there are those who agree with Dr. Shepard who is convinced, after studying numerous UFO reports, that most

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22/ Shepard, Roger N. [Testimony] In U.S. Congress. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects, op. cit., p. 224.

23/ Rhine, Mark W. Psychological Aspects of UFO Reports. In Condon, Edward U. Scientific Study of Unidentified Flying Objects. New York, Bantam Books, 1968. p. 597. (Note that this is frequently referred to as the Condon Report.)

24/ Sagan and Page, op. cit., p. 221.

25/ Ibid., p. 219.

sightings are not psychological aberrations and that those who say they are "have neglected to study closely either into the literature on psychopathology, or into that on UFOs. . . ." 26/

#### B. OTHER LIMITATIONS ON WITNESSES

In addition to the above discussion there needs to be recognition of other factors playing upon a witness to a UFO event that have little if anything to do with their psychological make-up. Dr. Frank Drake reported to the AAAS symposium an experience he had when he was a visiting astronomer at the National Radio Astronomy Observatory in Green Bank, West Virginia. In 1962, a meteor shower occurred in that general area, and while out with colleagues collecting samples of the meteorites, Drake interviewed many witnesses to see what their perception of the shower had been. They found that ". . . a witness's memory of such exotic events faded very quickly. After one day, about half of the reports are clearly erroneous; after two days, about three-quarters are clearly erroneous; after four days, only ten percent are good; after five days, people report more imagination than truth." 27/ As a good example of trying not only to remember certain events but to explain them to an investigator, try to describe a close friend or relative to someone else so that they could pick that person out in a crowd. It is not very easy, even though you may have known that friend or relative for a number of years.

Another, more basic problem is trying to gauge the color, shape, speed and distance to the object. In Drake's example, the meteors were assigned virtually all the colors of the spectrum from red to blue. It is possible that the eye,

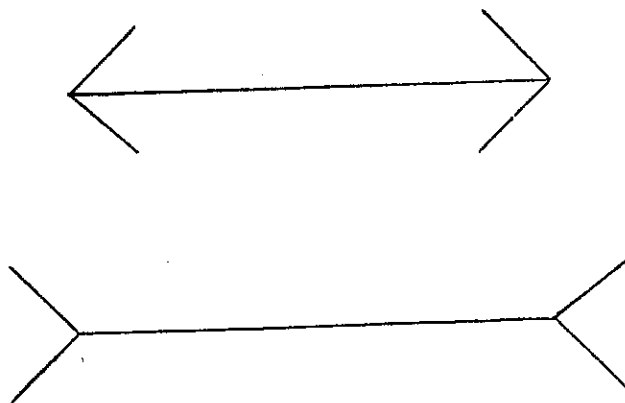
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26/ Sagan and Page., op. cit., p. 254.

27/ Sagan and Page., op. cit., p. 254.

responding to a sudden burst of light in an otherwise dark environment, can register any color and therefore render witness reports useless. Similarly, some witnesses thought they knew their exact position relative to the meteor shower, so could give good estimates of distance and position. Upon recreating the event, however, they found they were not sure of their location. In one example, a hunter said he knew exactly where his car had been parked, but upon re-examination found (by the litter he had left from his midnight snack) that he had been 100 yards away from the spot he originally showed to investigators.

A good example where seeing is not believing can be shown below with the standard optical illusion shown below. Although the bottom line looks longer, measurement will prove that both lines are the same length.



In 1968, Sydney Walker III, M.D., suggested that a series of physical checks be made on every UFO reporter. Included in his proposed examination would be: a complete physical examination, including a medical history and selected laboratory studies; a neuro-ophthalmologic examination of the eyes to ensure that the cornea, lens, aqueous humor, vitreous humor, retina, the head of the

optic nerve and the pathways to the brain are in order, a detailed neurological examination to assure that a neurologic disease is not causing hallucinations, delusions, distortions or confabulations; and finally, a psychiatric evaluation. 28/

Mark W. Rhine, writing in the Condon Report, placed a great deal of emphasis on the last step.

The testimony of any observer who shows no significant medical or psychological conditions which might distort perception or interpretation must gain in credibility. I would suggest . . . the use of psychological testing . . . when recommended by the psychiatrist. A psychiatric interview, if made a routine part of the evaluation of observers, should carry no social stigma. 29/

What neither Dr. Walker nor Mr. Rhine seem to take into account is that the potential reporters of UFOs may very well shy away from reporting if they know they will be subjected to such tests.

In his statement for the House Committee on Science and Astronautics, Dr. Shepard suggested that the witnesses be assisted in retelling their stories in a three-step procedure. First the witness would record what he saw in his own words with care taken that the interviewer does not give him cues that might bias him. Secondly, the witness would look at a standardized set of pictorial material and choose whatever object came closest to what he saw. The final step would allow him to reconstruct the picture with the help of a qualified artist to make it more nearly an exact replica of what he saw. These last two procedures would be similar to that used in police work to make a composite drawing of a criminal. Shepard points out that this has helped solve many cases, including the Richard Speck murders of eight student nurses in Chicago during the 1960s.

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28/ Walker, Sydney III, M.D. Establishing Observer Credibility: A Proposed Method. Journal of the Astronautical Sciences, v. IV Mar.-Apr. 19;68: 92-96.

29/ Rhine, Mark W., op. cit., p. 596.

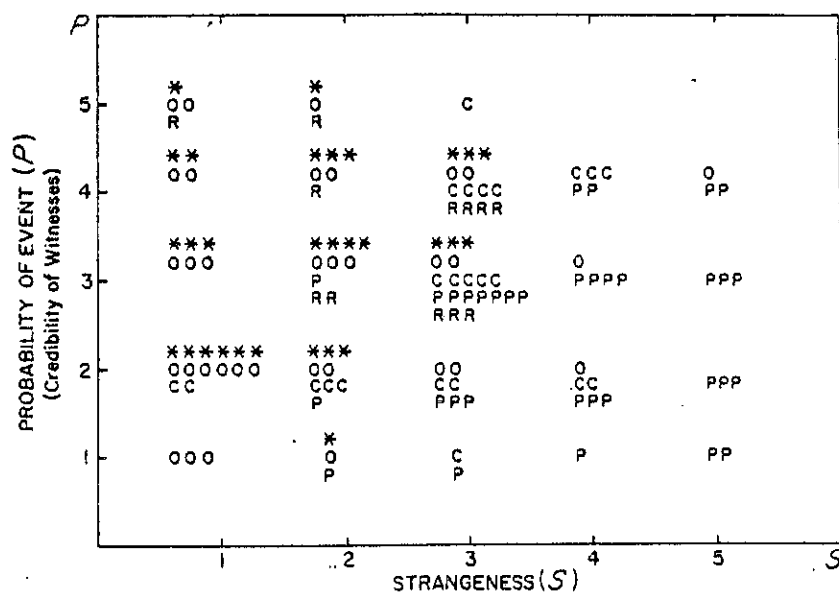
### C. STRANGENESS-PROBABILITY CURVE

Faced with all these factors and the problem of how to assimilate them, J. Allen Hynek has devised a "Strangeness-Probability" Curve to determine which cases have the highest probability of being hard-core cases. A complete discussion of the methods he uses can be found in his book The UFO Experience: A Scientific Inquiry (Chicago, Henry Regenery Co., 1972: 22-31) but in essence he defines "strangeness" as how many individual items, or information bits contained in the report demand explanation, and how difficult it is to explain them on the assumption that the event actually took place. Credibility takes into account several factors: "If there are several witnesses, what is their collective objectivity? How well do they respond to tests of their ability to gauge angular rates of speed? How good is their eyesight? What is their general reputation in the community? What is their reputation for publicity-seeking, for veracity? What is their occupation and how much responsibility does it involve? 30/

Hynek then plots cases to determine which are the best, as shown below. Cases falling in the upper right hand corner would be the most potentially important, and as is seen, that region is scarcely populated. The chart does, however, provide a beginning for the search for "good" cases.

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30/ Sagan and Page, op. cit., p. 41-42.



Strangeness/probability diagram of UFO sightings. To be considered important, such a sighting must have both a very high probability of having actually occurred and a very high strangeness. The upper right-hand corner of the diagram is not heavily populated. \* = nocturnal lights; O = daylight disks; R = radar cases; C = close encounters with no interaction with the environment; P = close encounters with physical effects (landing marks, burnt rings, engine stoppages, etc.).

## III. POINT - COUNTERPOINT

It is very difficult in a report like this to express adequately the wide variety of opinions that exist on UFOs. The range goes from the late Donald Menzel who thought there was no possibility that we are being visited by extraterrestrial beings, to Donald Keyhoe who is certain that we are. In the ~~middle~~ would be someone like J. Allen Hynek who is more disposed toward the view that there is value in studying UFOs if for no other purpose than learning more about atmospheric processes, psychology, and other scientific fields.

This chapter presents some of these various views on different aspects of the UFO problem. If one were to make a spectrum with "true believers" on the left and "true nonbelievers" on the right, the four men who are the subjects of this discourse would appear in the following order: Donald Keyhoe, J. Allen Hynek, Carl Sagan, and Donald Menzel. This is, of course, only a rough estimation of where their positions lie, but will serve as a guide. Four essays are offered, and since each stands alone, they admittedly present only one side of the issue. That is the purpose of this chapter, however, so no attempt is made to balance their views.

A. PROBABLE INVALIDITY OF THE EXTRATERRESTRIAL HYPOTHESIS

Carl Sagan, an astronomer and biologist presently at Cornell University, has been a leader in the field of guessing at how many other intelligent civilizations exist in our galaxy. After a series of long computations (the nature of which have no real relevance to this report) he estimates one million other

intelligent, technical civilizations at least as advanced as ours. But Sagan also is one of the leading opponents of the extraterrestrial hypothesis for UFOs. Is this a contradiction?

To demonstrate his point, Sagan uses the "Santa Claus hypothesis" from the fable that each year, in a time span of about eight hours, an "out-sized elf" visits over a hundred million homes in the United States depositing presents. Sagan calculates that if Claus spends only one second per house, he would have to spend three years just filling stockings, not counting the time spent going from house to house.

This is an example of hypothesis testing independent of reindeer propulsion mechanisms or debates on the origin of elves. We examine the hypothesis itself, making very straightforward assumptions, and derive a result inconsistent with the hypothesis by many orders of magnitude. We would then suggest that the hypothesis is untenable. 32/

Applying this to UFOs, and considering how many "interesting places" there are in our galaxy, he then calculates the number of launches required from his one million galactic civilizations in order for Earth to be visited just once a year: each civilization would have to make 10,000 launches per year. Besides being an enormous technical feat, it would impose a large drain on material resources.

For those who argue that Earth might hold special interest for another civilization, Sagan counters that, at best, certain specialists in, for example, nuclear weapons, would want to visit us. After all, if we discovered a primitive tribe in Africa making fish nets, only anthropologists interested in fish net development would visit the tribe. He considers the idea that we are "special" to the galaxy inconsistent with the theory that there are a million other civilizations

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32/ Sagan, Carl. The Cosmic Connection. Garden City, New York, Doubleday, 1973. p. 200.



in the Milky Way alone, not to mention the rest of the universe (there are approximately  $10^{11}$  stars in the Milky Way and  $10^{11}$  galaxies in the known universe). With that many civilizations, what could we have that is so interesting?

Sagan does not entirely dismiss the possibility that we may have been visited in the distant past or that we might be visited in the distant future. Again using the guesstimate of a million other civilizations in this galaxy, if each one launched one ship per year "and even if all of them could reach our solar system with equal facility, our system would, on the average, be visited only once every 100,000 years." <sup>33/</sup>

He recounts the history of Sumer, which was perhaps the first civilization, using the contemporary definition of that word. There have been suggestions that they could not have learned skills such as written language, mathematics, and astronomy without a teacher, and that teacher came from another world. Referencing a theory by Drake and Clarke, Sagan adds that the extraterrestrial instructors might have left a "technology monitor beacon" to alert them once we reached a certain technological level. The monitor might measure radioactivity in the atmosphere, for example, and the instructors would know it was time for them to return. At this point Sagan refers back to his comments about the great distances involved in space, and even if speed-of-light travel were possible, it would still take hundreds of years for them to arrive: "we will have to wait until A.D. 2300 or 2400 for their response." <sup>34/</sup> He does not, however, accept the von Daniken theory of ancient astronauts and the relics purportedly left behind.

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<sup>33/</sup> U.S. Congress. House Committee on Science and Astronautics. Symposium on Unidentified Flying Objects, op. cit., p. 94.

<sup>34/</sup> Shklovskii, I. and C. Sagan. Intelligent Life in the Universe. San Francisco, Holden-Day, 1966. p. 463.

He feels each object has "a variety of plausible, alternative explanations. Representations of beings with large, elongated heads, alleged to resemble space helmets, could equally well be inelegant artistic renditions, depictions of ceremonial head masks or expressions or rampant hydroencephalia." 35/

In answer to what people are seeing, Sagan draws on one of his own experiences.

Once when I was on the faculty at Harvard I gave a popular lecture on something or other, and in the question period at the end there were some questions about UFO's. I said that I felt at least a great fraction of them were misapprehended natural phenomena. For some reason that I don't understand, policemen are present at all such public gatherings, and as I walked out after the last question, two policemen outside the lecture hall were pointing up at the sky. I looked up and observed a strange brilliant light moving slowly overhead. Of course, I got out of there fast, before the crowd came out to ask me what it was. I joined some friends at a restaurant and said, 'There's something terrific outside.' Everyone went outside. They really liked it--it was great fun. There it was. It wasn't going away. It was clearly visible, slowly moving, fading and brightening, no sound attached to it. Well, I went home, got my binoculars, and returned. Through the binoculars I was able to resolve the lights; the bright white light was really two closely spaced lights, and there were two lights on either side, blinking. When the thing got brighter we could hear a mild drone; when the thing got dimmer, we couldn't hear a thing. In fact it turned out to be a NASA weather airplane.

#### B. ALLEGED AIR FORCE SECRECY AND COVER-UPS

When the Air Force was given responsibility for investigating the matter of UFOs in 1948, it instituted a policy of secrecy which came under attack from several directions. Donald Keyhoe, a retired Marine Corps Major, was one of the leaders in trying to expose the information he felt certain the Air Force had. Some of the Air Force reports are explained in other parts of this paper, and

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35/ Sagan, Cosmic Connection, op. cit., p. 205-206.

indeed most were kept secret (the Project Sign "Estimate of the Situation," the Robertson Panel's conclusions, and most of the UFO sighting reports, for example).

As someone interested in showing the public that UFOs are for real, Keyhoe found the Air Force a major stumbling block and tried on many occasions to expose their operation. He wrote magazine articles and books, culminating in 1973 with an overview of the entire affair entitled Aliens from Space. In that book he goes through the years of Air Force secrecy and what he called "cover-ups" of incontrovertible evidence that Earth is being visited by spaceships from other worlds.

Keyhoe stated that in December 1969, when the Air Force announced that all UFO cases were solved and cancelled Project Blue Book: "At that very time, AF interceptor pilots were trying to bring down these unknown flying objects by secret orders of the Aerospace Defense Command." <sup>36/</sup> He further said that the Air Force continued to investigate incidents even after 1969, concealing their activities from everyone, including Congress.

Some of the early Air Force records were made available in 1967, and NICAP (under the leadership of Keyhoe at that time) published Blue Book Reports 1-12. Keyhoe stated, and copies of the NICAP publication bear out, that the reports were stamped SECRET or CONFIDENTIAL along with a warning statement that if the contents were transmitted to unauthorized persons, it was a crime under the Espionage Act.

Keyhoe discussed cases which do not show up in other literature, involving, for example, jet crashes. He stated that on July 1, 1954 an F-94 Starfire jet was scrambled by Griffiss AFB to intercept a UFO. As the pilot closed

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<sup>36/</sup> Keyhoe, Donald. Aliens from Space. New York, Doubleday, 1973. p. 3.

on the object "Abruptly a furnacelike heat filled both cockpits. Gasping for breath, the pilot jettisoned the canopy. Through a blur of heat waves he saw the radar observer bail out. Stunned, without even thinking, he ejected himself from the plane." The F-94 reportedly crashed in a town, killing four people and injuring five. Keyhoe said this report was still buried in Air Force files, classified SECRET. 37/

Keyhoe also claimed in his book that during the early fifties, the CIA wanted to take over UFO investigations from the Air Force, and they were the ones that first ordered the debunking campaign. The Robertson Panel was the first step in this process, according to Keyhoe and Major Dewey Fournet (Air Force Headquarters Intelligence Unit) was planning to "give the public the facts" but was foiled by the CIA. They ordered him to work up a "national debunking program" and make UFO reports sound like "poppycock." Keyhoe states that similar actions of secrecy and cover-up extended throughout Project Blue Book (including during the Condon study) and continued into the 1970s.

### C. HOAXES AND WITNESS CREDIBILITY

The late Donald Menzel, an astrophysicist at Harvard, opposed the UFO "myth" from the early 1950s until his death in 1976. Among the many other problems facing investigators of unfamiliar aerial phenomena are the deliberate hoaxes perpetrated for publicity purposes, and the teen-age pranks. Twenty years ago, Menzel discussed the hoaxes, and explained their origin this way:

The Arnold story was scarcely 24 hours old before the hoaxers, jokers, and publicity seekers of the Nation moved in. The subject matter lent itself admirably to such activities. People had seen saucers in the sky. People wanted to see more. And so the jokers started tossing wheelshaped objects of all sorts and descriptions

from the tops of tallest buildings. These activities produced the desired result. The women screamed, as they were supposed to do on such occasions. The men--at least after they realized that the object would not explode--bravely picked it up and showed its true nature. 38/

The most popular hoax seems to be the photograph, for it is considered hard evidence by UFO investigators, although the number of fakes reduces the believability of such "evidence." Menzel discussed the Trindade incident which took place in 1958, wherein the claim was made that the crew of a Brazilian ship had seen a UFO, and a civilian aboard the ship had photographed it. As it turned out, no crew member had seen the UFO, only the photographs of it, and the pictures were considered fraudulent. The three witnesses who had seen the UFO all reported that it was brilliant, but the photos showed only a gray shape. In the one picture that suggested a shape, the mountains in the foreground were quite clear, whereas the UFO was just a dark line with an "indistinct beginning and end, with a faint suggestion of rounding at top and bottom." The photographer was found to have no connection with the Brazilian Navy and was indeed a professional photographer specializing in trick photography. 39/

The pranks add to the noise in the UFO problem, and Menzel provided an excellent example of one, for it also relates to witness credibility. In January 1968, 12 witnesses saw a UFO in Castle Rock, Colorado, a small town 30 miles south of Denver. Their descriptions ranged from "all of a sudden about a dozen lights shined on me, all the color of car headlights that had mud on them"; "a big, real bright light. Not a brilliant light, but a bright one" which moved at different speeds and seemed about 600 feet high and at least 25 feet in

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38/ Menzel, Donald and Lyle Boyd. The World of Flying Saucers: A Scientific Examination of a Major Myth of the Space Age. Garden City, New York, Doubleday, 1963. p. 206-216.

39/ Ibid.

diameter; and an egg-shaped bubble about 50 feet long, 20 feet wide and 20 feet deep. Two days later a "slightly embarrassed" mother came forward to explain that her sons had built the UFO from a clear plastic dry-cleaning bag. <sup>40/</sup>

The "ludicrously long" size estimates are part of a fault existing in many UFO reports, according to Menzel, and in addition are perceptual problems common to most observers of a strange, sudden phenomenon. Menzel addressed himself to sensory difficulties both in a statement for the 1968 House Science and Astronautics hearings, and at the 1969 AAAS symposium. He gave the following example: A child gets up to go to the bathroom in the middle of the night and turns on a light. One of his parents awakens, is blinded by the sudden illumination, the light goes off, and the parent happens to glance out the window.

He is startled to see a peculiar spot of light floating over the trees and making irregular, jerky motions. He watches the UFO for a minute or two until it finally disappears.

He cannot be blamed for failing to realize that the erratic and often rapid movement of his UFO are those of the after-image, drifting with the similar movements of his own eye. <sup>41/</sup>

Among the many mundane objects that are reported as UFOs, Menzel listed birds, kites, hats, paper, plastic sacks, feathers, spider webs and seed pods. He commented that "If you want to see flying saucers just look up."

#### D. POSSIBLE BENEFITS TO SCIENCE FROM A UFO STUDY

Dr. J. Allen Hynek has had a long association with UFOs. As an astronomer at Ohio State University, he was asked by the Air Force to determine which UFO reports came from known astronomical objects. When Project Blue Book was formed,

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<sup>40/</sup> Menzel, David. UFOs: The Modern Myth. In Sagan and Page, op. cit., p. 132-3.

<sup>41/</sup> U.S. Congress. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects, op. cit., p. 202.

Captain Ruppelt formally contracted Hynek to continue that work. His views on the subject have changed during his many years of UFO investigation, and many would now classify him a believer. One of his strongest arguments has been that regardless of whether UFOs are alien spacecraft, the study of UFOs could lead to a greater understanding of other fields of science, such as psychology and physics.

As a scientist himself, Hynek is aware of the methodology needed to deal with the subject and he is also aware of the variety of views of the scientific community. In the latter area, he distinguishes between two classes of scientists who work with the UFO problem:

(1) those scientists who treat the UFO phenomenon with ridicule and contempt, refusing even to examine it, denouncing the subject out of hand; and (2) those scientists who maintain--or might come to believe after examination--that there is a strong possibility that UFOs are purely psychological phenomena, that is, generated wholly by individual or group mental activity. (No scientist who examines the subject objectively can claim for long that UFOs are solely the product of simple misidentification of normal objects and events). 42/

He feels the latter group's views are entitled to discussion and debate, although the views of the former group are not, since they have not examined the data.

Paucity of data is another concern for Hynek. He feels some of this lack of hard core information is due to the investigator not asking questions that would draw such information from the witness. There is also the "signal-to-noise" problem in which the investigator has to separate real UFO reports (the signal) from hoaxes and misidentifications (the noise). But Hynek points out that astronomers are well accustomed to such problems, for they have instrumental errors and atmospheric distortion to contend with.

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42/ Hynek, J. Allen. The UFO Experience: A Scientific Inquiry, op. cit., p. 7.

That so many of the UFO reports are interpreted as extraterrestrial vehicles, Hynek feels is "obviously unwarranted without a detailed study of the content of reports of unidentified sightings. . . . For, the 'U' in UFO simply means unidentified, and may cover a wide range of unrelated causes." 43/

Throughout his writings, Hynek refers back to some of the great scientific discoveries in the history of our planet, and how unlikely they seemed at the time. For example, the discovery of radium by Mme. Curie.

Let us suppose that . . . there had been a rumor--an old wives' tale, or an alchemist's story--that there existed a miraculous unknown element which could be used in the transmutation of elements, and which had miraculous healing powers and other exotic properties. Would any scientist, . . . have done what Mme. Curie did to lift the signal out of the noise of tons of pitchblende? Hardly, Mme. Curie knew that there was a signal--it wasn't a rumor. 44/

In hearings before the House Science and Astronautics Committee, Hynek asked, "Can we afford not to look toward the UFO skies; can we afford to overlook a potential breakthrough of great significance?" and later added that even though he can only draw conclusions from reliable data, he is allowed a hunch, and that hunch tells him that "there is scientific paydirt in the UFO phenomenon--possibly extremely valuable paydirt--and that therefore a scientific effort on a much larger scale than any heretofore should be mounted for a frontal attack on this problem." 45/

As to which discipline the effort belongs, Hynek suggested an interdisciplinary approach. He found the field more akin to astronomy than physics in that the data are mostly observational, not experimental, and one cannot predict

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43/ Hynek, J. Allen. The Emerging Picture of the UFO Problem. Presented to AIAA 13th Aerospace Science Meeting, Pasadena, Calif., Jan. 20-22, 1975. New York, American Institute of Aeronautics and Astronautics, 1975. p. 3.

44/ Ibid., p. 2.

45/ U.S. Congress. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects, op. cit., p. 6 and 14.



when something will occur. He suggested that if UFOs do turn out to be extra-terrestrial, the behavioral sciences would certainly prove valuable. He asked for an international effort to establish world-wide trends, stating that if definite patterns are established "the probability that such correlations happened by chance . . . would be vanishingly small. The probability, therefore, that the UFO represents something truly new in science--new empirical observations--would be a virtual certainty. 46/

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46/ Hynek, UFO Experience, op. cit., p. 227.

## IV. PRE-1947 ACCOUNTS

Those who believe in UFOs often like to remind skeptics that stories that could be construed to suggest extraterrestrial visitors have been around not just since 1947, but throughout recorded history. Erich von Daniken has studied ancient skies in some detail, as will be discussed in the appendix. Among the references used for this purpose is, perhaps surprisingly, the Holy Bible.

A. BIBLICAL SIGHTINGS

It is difficult to assess what import stories from the Bible really have for the study of UFOs, since the Book concerns itself with powers from the heavens that can visit Earth and perform remarkable feats. Opinions vary on how much of this is actual factual reporting and how much is symbolic interpretation. Some UFOlogists, however, seem to claim that most of the references to the Lord and his angels are in fact references to extraterrestrial visitations misunderstood by the people of those times. Some oft cited examples follow.

As I looked out, behold a stormy wind came out of the north, and a great cloud, with brightness round about it, and fire flashing forth continually, and in the midst of the fire, as it were gleaming bronze. And from the midst of it came the likeness of four living creatures. And this was their appearance: they had the form of men, but each had four faces and each of them had four wings. Their legs were straight, and the soles of their feet were like the sole of a calf's foot; and they sparkled like burnished bronze. Under their wings on their four sides they had human hands.

Ezekiel 1:4-6

And the Lord went before them by day in a pillar of cloud to lead them along the way, and by night in a pillar of fire to give to them light, that they might travel by day and by night; the pillar of cloud by day and the pillar of fire by night did not depart from before the people.

Exodus 13:21-22

When they had crossed, Eli'jah said to Eli'sha, 'Ask what I shall do for you, before I am taken from you.' And Eli'sha said, 'I pray you let me inherit a double share of your spirit,' And he said, 'You have asked a hard thing yet, if you see me as I am being taken from you, it shall be so for you; but if you do not see me, it shall not be so.' And as they still went on and talked, behold, a chariot of fire and horses of fire separated the two of them. And Eli'ja went up by a whirlwind into heaven. And Eli'sha saw it and cried 'My father, my father' the chariots of Israel and its horsemen. And he saw him no more.

2 Kings 2:9-12

Brinsley Le Poer Trench has written extensively on Biblical sightings (The Sky People, The Eternal Subject) and calls the Bible "really the greatest flying saucer book of them all. . . ." <sup>47/</sup> Certainly if one were scrupulously to read the Bible, one could probably come up with hundreds of incidents that could be called UFO accounts, although some disagree on what the real catalysts for the writings were.

#### B. OTHER EARLY REPORTS

In addition to Biblical accounts, many other early accounts have been cited. An example of this would be a 213 B.C. episode written about by Jacques Vallee:

. . . in Hadria an 'alter' was seen in the sky, accompanied by the form of a man in white clothing. A total of a dozen such observations between 222 and 90 B.C. can be listed, but we have eliminated many more sightings reviewed in the literature because we felt that they could best be explained as misinterpretations of meteors or atmospheric phenomena. <sup>48/</sup>

The theme expressed in the last sentence is carried through in the Condon Report by Samuel Rosenberg. He keenly points out that:

The wealth of ancient 'UFOs' is due to a basic fact about man's perception of his contemporary universe. A concentrated glance

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<sup>47/</sup> Le Poer Trench, Brinsley. The Eternal Subject. London, Sovenir Press, 1973. p. 36.

<sup>48/</sup> Vallee, Jacques. Anatomy of a Phenomenon. Chicago, Henry Rengery Co., 1965. p. 3.

backward in time quickly reveals that throughout our recorded history (and presumably before that), mankind has always seen UFOs and reported 'sightings' that remained unexplained even after examination by persons believed to be competent. Our earliest ancestor gazed earnestly into terrestrial and outer space to witness an infinite variety of phenomena and--understood virtually none of them. . . . In short, to him everything was a UFO. 49/

He also describes some of the problems facing readers of anthologies of ancient sightings. None of the techniques described in chapter 2 of this report are available to determine the credibility of those reporting the sightings, there is no way to know if the author is quoting from an original document or from someone else's translation, and perhaps most importantly one can't determine author credibility.

An excellent example of the latter is provided by Rosenberg. First, the account of an ancient Indian sighting, as reported by Frank Edwards in Flying Saucers--Serious Business.

A chronicle of ancient India known as the Book of Dyzan is in a class by itself, not only because of its age, but because of a surprising account given therein. The Book is a compilation of legends passed down through the ages before men were able to write, and finally gathered by the ancient scholars who preserved them for us.

They tell of a small group of beings who came to Earth many thousands of years ago in a metal craft which first went AROUND Earth several times before landing. 'These beings,' says the Book, 'lived to themselves and were revered by the humans among whom they had settled. But eventually differences arose among them and they divided their numbers, several of the men and women and some children settling in another city, where they were promptly installed as rulers by the awe-stricken populace.'

The legend continues:

Separation did not bring peace to these people and finally their anger reached a point where the ruler of the original city took with him a small number of warriors and they rose into the air in a huge shining metal vessel. While they were many leagues from

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49/ Condon, op. cit., p. 481-2.

the city of their enemies they launched a great shining lance that rode on a beam of light. It burst apart in the city of their enemies with a great ball of flame that shot up to the heavens, almost to the stars. All those in the city were horribly burned and even those who were not in the city--but nearby--were burned also. Those who looked upon the lance and the ball of fire were blinded forever afterward. Those who entered the city on foot became ill and died. Even the dust of the city was poisoned, as were the rivers that flowed through it. Men dared not go near it, and it gradually crumbled into dust and was forgotten by men.

When the leader saw what he had done to his own people he retired to his palace and refused to see anyone. Then he gathered about him, those of his warriors who remained, and their wives and their children, and they entered into their vessels and rose one by one into the sky and sailed away. Nor did they return.

This would seem to be an account of an attempt by some extra-terrestrial group to establish a colony on Earth in the distant past. Like so many colonizing attempts by man, it appears to have ended in dissension and conflict. The most interesting portion of the story is the description of the great 'lance that traveled on a beam of light,' which bears a surprising resemblance to a modern rocket and its jet of flame. The effect of this so-called 'lance' brings to mind a rather detailed picture of a nuclear blast and its catastrophic sequels.

If this is a mental concoction of some primitive writer, it is at least remarkable. If it is a reasonably accurate piece of factual reporting, then it is even more remarkable. Since it is unverifiable, we must at this late date classify it as 'interesting, but unproven.' 50/

This would certainly be an excellent example of a UFO landing and another civilization trying to colonize Earth--if it were true. Rosenberg investigated the Book of Dyzan and found that it was not "a compilation of legends passed down through the ages" at all, but rather was written in 1886 by Madame Helene Petrovna Blavatsky in The Secret Doctrine. An unauthorized biographer declared that "the mysterious 'Dyzan manuscript' like the 'Senzar' language they were

written in, seem wholly to have originated in Madame Blavatsky's imagination" and Rosenberg says that the stanzas are part of "her preposterous Atlantean 'Theory of Cosmic Evolution.'" 51/

The conclusion can be drawn from the above account that second hand reports may lose something in the translation, and even well-meaning authors (which we assume Mr. Edwards to be) can be misled. Therefore, much care should be taken when accounts of ancient extraterrestrial visitors are given.

#### C. THE WAVE OF 1896

Strange sightings have been made throughout history, including the middle ages in Europe, up to the first "wave" of sightings in 1896. Jacques Vallee in Anatomy of a Phenomenon devotes an entire chapter to sightings preceding the modern wave. Some of the examples he lists involve not only common folk, but astronomers. The latter group was able to explain some of the sightings as astronomical objects, but they themselves experienced some strange events.

On March 6, 1716, the astronomer Halley saw an object which illuminated the sky for more than two hours in such a way that he could read a printed text in the light of this object. The time of the observation was 7:00 p.m. After two hours, the brightness of the phenomenon was reactivated 'as if new fuel has been cast on a fire.' 52/

It is not surprising that with the advent of the telescope and therefore the rise of interest in astronomy, more UFO reports were forthcoming. More and more students were studying the heavens in an attempt to explain the motion of the planets and stars, and most importantly, the position of the Earth in relation to them. Vallee cites numerous cases and notes:

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51/ Ibid., p. 496.

52/ Vallee, op. cit., p. 9.

It is certainly audacious to declare that astronomers are unaware of any reliable observation of a UFO when so many computations have been made by some of the founders of modern astronomy in an effort to interpret coherently their observations of strange objects. . . .

We are not, however, claiming that the alleged 'objects' were of artificial construction . . . or that they even existed at all. . . . But we do think that such reports should be assimilated into the general body of observations involved in the UFO problem; those who claim that nothing out of the 'ordinary' has ever been seen in the sky by professional astronomers should be reminded of the existence of these data. 53/

Although most of the sightings in this period were made in Europe, a few were made in the United States. The real beginning of UFO sightings here occurred in 1896. These are usually referred to as "airships" since their general description resembles that object; however, airships were not in evidence for several more years. Le Poer Trench notes that many reports were found to be hoaxes or misidentifications, but quotes Donald B. Hanlon as saying:

After sifting through data . . . , one is left with a hard core of sightings (now over 200) of a rather unlikely looking aerial craft which created much commotion among the observers. The only detectable effect the sightings left on the society of 1896-7 is exactly the same as that left by the modern UFO phenomenon--a psychological impact.

It is clear that the origin of the airship is still very much an open issue. It is also clear that the mystery surrounding its appearance at that particular time in history has deepened. 54/

The sightings occurred over 19 states from November 1896 to May 1897, with a break from January to the middle of March. Descriptions varied considerably from an object 18 inches in diameter and 12 to 30 feet long, to a 70 foot long structure with wings or sails. Lights were usually reported

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53/ Ibid., p. 10-11.

54/ Le Poer Trench, op. cit., p. 96.

on the object and it moved both erratically and smoothly. David Michael Jacobs prepared a history of the airship sightings which is published in his book The UFO Controversy in America. One of the most famous of the airship incidents, involving occupants as well, happened on April 19, 1897 in Leroy, Kansas. Jacobs' recounting of the story goes like this:

Alexander Hamilton, his son Wall, and his tenant Gid awoke to cattle noises. Going outside they discovered--to Hamilton's 'utter amazement'--'an airship slowly descending over my cow lot about forty rods from the house.' The cigar-shaped object was three hundred feet long with a carriage made of 'panels of glass or other transparent substance alternating with a narrow strip of some other material'; a large searchlight and smaller red and green lights were attached to it. As it descended to thirty feet above ground and witnesses came to within fifty yards of it, Hamilton could see 'six of the strangest beings I ever saw' inside. The occupants were 'jabbering' but Hamilton could not understand anything. Then the witnesses noticed that a heifer was attached to a red 'cable' emanating from the airship and also was caught in a fence. Unable to free the heifer, the witnesses cut the fence and stood in amazement to see the ship, cow and all rise slowly and sail off.' The next day a neighbor recovered the calf's hide, legs, and head a few miles away. 55/

The case of the mystery airship has never been solved. At that point in time inventors were discussing the building of a vehicle that could travel through the air (not balloons or aircraft, but an airship) and some believed that the first such vehicle had, in fact, been developed and its inventor was making test flights. All those who were working on the problem said that they had not gotten that far in their research or the money was not available for the project. Thus, according to the scientists of the day, no such object was within the technological domain. Just as is done today, some tried to explain all the

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55/ Jacobs, David Michael. UFO Controversy in America. Bloomington, Indiana, Indiana University Press, 1975, p. 15.



sightings as hoaxes (and there certainly were a lot of them) or astronomical objects. And again just as is done today, believers said that astronomical objects could not move in the way the airship did, have occupants, land and take away, cattle, etc. As Jacobs points out:

To explain the enigma, the public then, as did the public later, looked first for rational explanations--those that would make sense in terms of the scientific and the experimental knowledge of the time. When these were not completely satisfactory, the public turned to more irrational theories. An airship seemed so far out of the realm of current technological knowledge that a gap resulted in people's idea of what should be and what was. Since a. ships, given the technology of the times, could not have existed, then witnesses who claimed to have seen one obviously had not seen one. . . . This attitude is the crucial link between the 1896-7 phenomenon and the modern unidentified flying object phenomenon beginning in 1947. 56/

#### D. THE POST-WAR EUROPEAN SIGHTINGS

As can be seen from the preceding discussion, what is called the modern wave of UFO sightings had many precedents, even if one discounts those of ancient origin. From 1897 to 1947, sightings continued, mostly in Europe. Many of these occurred during the last year of World War II and in post-war Europe, centering in Scandinavia.

In 1944, allied bombers reported seeing strange balls of light which paced their planes or danced off their wingtips. Dubbed "foo fighters" from the French word "feu" (fire), they were originally thought to be some type of enemy weapon. Since they never attacked the planes, some considered them psychological warfare weapons, sent to frighten or distract the pilots. Another explanation was that they were static electricity charges, although to date no definite explanation has been uncovered. Jacobs reports that "Ironically,

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56/ Ibid., p. 33-34.

after the war the American public learned that the Germans and Japanese had encountered the same strange phenomenon and had explained it as Allied secret weapons." 57/ No further investigation was made.

After the war, reports began coming in from western and northern Europe, centering on Scandinavia, Sweden in particular. Donald Menzel reported that more than 1,000 sightings were made in 1946 in Sweden alone. 58/ Again the first hypothesis was that these were secret weapons made by the Russians with the help of German scientists, although investigators were able to solve 80 percent of the cases as natural phenomena.

The real importance of these sightings is that they set the stage for the beginning of the UFO controversy in America. Objects of unknown origin had been reported, some described as discs or cylinders. The U.S. Air Force was prepared in some respects when, in 1947, Kenneth Arnold began the modern wave of UFO interest.

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57/ Ibid., p. 36.

58/ Menzel, Donald. In Sagan and Page, op. cit., p. 131.

## V. 1947-1969 ACCOUNTS

A. UNITED STATES1. Kenneth Arnold and the 1947 Wave

In 1947, the United States experienced a series of UFO sightings which are considered the beginning of the modern era of UFOs in this country. The most often cited of these cases is Kenneth Arnold's report in June, which was the first of a new wave of sighting reports in the United States. Ted Bloecher wrote a comprehensive analysis of the "wave of 1947" and cited 853 sightings that occurred that summer, mostly in the Northwest. The volume was published privately in 1967 as Report on the UFO Wave of 1947.

On June 24, 1947 Kenneth Arnold, a fire-fighting equipment salesman from Boise, Idaho, flew his private plane from Chehalis to Yakima, Washington and on the way decided to look for a downed plane that had been missing for several days on the slopes of Mt. Rainier. Arnold was an experienced pilot with over 4,000 hours of flying experience over mountains, an air-rescue pilot, as well as deputy sheriff of Ada County.

About 3:00 p.m. Arnold was approaching Mt. Rainier from the west and a flash of light caught his eye, as if something were reflecting off a mirror. He looked around and saw nine objects rapidly approaching the mountain on a southern heading. As they neared, he saw that they were flat, disc shaped objects arranged in a "diagonally stepped-down echelon formation" stretched out over about five miles. Using the peaks of Mt. Rainier and Mt. Adams as

reference points, he clocked their speed at 1,700 miles per hour. Allowing for some degree of error, he subtracted 500 miles per hour, giving the object a speed well above 1,000 miles per hour. In 1947 the only object that could move that fast was a rocket, and Arnold was certain that that was not what he saw.

The objects swerved in and out of the mountain peaks, and Arnold's description of their moving like "a saucer skipping over water" caused the media to coin the term "flying saucer," an unfortunate misnomer which has remained to this day.

Upon landing at Yakima, Arnold immediately told his story to Central Aircraft general manager Al Baxter, and word quickly spread around the airport. Thus, by the time Arnold reached the next stop on his route, Pendleton, Oregon, a skeptical press was waiting for him. Discovering his good standing in the community and experience as a pilot, the press quickly changed their attitude, and reported the incident as a serious news story. Bloecher reports that of 150 newspapers surveyed, virtually all of them reported the story, many on the front page.

Despite the obvious controversy and investigation spurred by the sighting, it has not been resolved to this day. The official Air Force explanation is that it was a mirage in which the tips of the mountain peaks appeared to be suspended above the mountains due to a layer of warm air. J. Allen Hynek, however, in his investigation for the Air Force, concluded that it was probably a fleet of planes. He found irreconcilable differences in Arnold's data which brought Arnold's calculations into doubt. Arnold had reported that the objects were 20-25 miles away and their size about 45-50 feet long. Hynek noted that an object of that size cannot be resolved by the human eye at that distance, so

therefore, Arnold's distance estimate was wrong. This would mean the objects were closer to the pilot and traveling at subsonic speeds, completely within the capability of 1947 aircraft.

Bloecher counters Hynek's arguments by saying that Arnold had used fixed reference points to determine the distance, so it must have been the size estimate that was incorrect. One should note, however, that earlier in his report, Bloecher states that Arnold had originally misidentified the mountain peaks.

He began to time them as the first object reappeared from behind the outlier peak on the southwest flank of Mountain Rainier. (He later identified this peak as Goat Rocks, but he is probably in error as Goat Rocks is approximately half-way between Mount Rainier and Mount Adams.). 59/

Thus, the accuracy of the distance estimate must also be called into question, leaving the case still unsolved. As mentioned above, the Air Force did not accept Hynek's explanation either or they would have classified it as "possible aircraft."

## 2. U.S. Air Force Involvement (1948-1969)

A major fear generated by (or a supporting cause of) UFO reports in the late 1940s was that these were new aircraft or secret weapons being tested by the enemy in preparation for another war. Thus, the Air Force was given responsibility for investigating these reports and determining if a threat to the national security existed. The Air Force's involvement began in early 1948 with Project Sign, which was renamed Project Grudge, and later operated under the name Project Blue Book. In total, the Air Force kept records for 21 years (1948-1969) and received over 12,000 reports. Their final conclusion was that

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59/ Bloecher, Ted. Report on the UFO wave of 1947. The Author, 1967.  
p. 1-2.

although some reported objects remained unidentified, they were not enemy weapons or extraterrestrial craft, but only natural or conventional objects that could not be identified, because of insufficient information.

a. Projects Sign and Grudge (1948-1952)

The many sightings reported in 1947 caused great concern in the Nation, and the Air Force geared up to handle the situation. When the case concerning Thomas Mantell occurred (he died while chasing a UFO in his Air Force plane--see appendix), the Air Force was ready to investigate.

Project Sign was placed under the jurisdiction of the Intelligence Division of the Air Force's Air Material Command at Wright Field, Ohio (now Wright-Patterson Air Force Base). This division was later renamed the Air Technical Intelligence Center (ATIC) and was the base for UFO investigations until 1966 when responsibility was transferred to the newly created Foreign Technology Division. Its function was to "collect, collate, evaluate and distribute to interested government agencies and contractors all information concerning sightings and phenomena in the atmosphere which can be construed to be of concern to the national security."

The wide variety of opinions on UFOs and their origin was present even in 1948 when attention was first focused on the issue. There were those who considered them conventional objects, and those who thought they were extraterrestrial vehicles. Members of the latter group held the reins of power at Sign during its early months, and after the Eastern Airlines incident (see appendix) they issued an "Estimate of the Situation" in which they concluded that UFOs were indeed craft from other worlds. General Hoyt S. Vandenberg, then Chief of

Staff, rejected the report however, citing its lack of evidence to support the theory. The report had been classified Top Secret 60/ and after Vandenberg's action, all copies were reportedly destroyed.

The lack of approval led to a change in policy at Sign, and those who felt UFOs were conventional objects took charge. In February 1949, the Air Force announced that the classified name "Sign" had been compromised, so they were changing the name of the Project to Grudge (and they insist that there was no significance to this title), and the Sign group issued a final report. The change in emphasis was easily spotted in the group's recommendations which read in part:

Future activity on this project should be carried on at the minimum level necessary to record, summarize and evaluate the data received on future reports and to complete the specific investigations now in progress. When and if a sufficient number of incidents are solved to indicate that these sightings do not represent a threat to the security of the Nation, the assignment of special project status to the activity could be terminated. Future investigations of reports would then be handled on a routine basis like any other intelligence work. 61/

Despite its controversial nature and lack of internal consensus, Sign was handled well. They had quickly realized the "signal-to-noise" problem and taken measures to deal with it. Dr. J. Allen Hynek, an astronomer from Ohio State University (now head of the Center for UFO Studies), and the Air Weather Service were respectively requested to sort out those reports which were clearly astronomical objects or weather balloons (and a large percentage were). The staff's major problem was inexperience in determining which cases deserved further study.

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60/ Edward Condon debated the security classification of this report, and the allegation that all copies were destroyed. Edward Ruppelt, later head of Projects Grudge and Blue Book, is the source of the above statement. See Condon, op. cit., p. 506; and Ruppelt, Edward. The Report on Unidentified Flying Objects. New York, Doubleday, 1956. p. 85.

61/ United States Air Force, Unidentified Aerial Objects: Project Sign, No. F-TR-2274-IA, Feb. 1949: vi-vii.

Because of unfamiliarity with the phenomenon, the staff spent inordinate amounts of time on sightings that were obviously aircraft, meteors, or hoaxes. The staff also spent much time looking into the private lives of witnesses to see if they were reliable. Sign checked routinely with FBI field offices and criminal and subversive files of police departments, and the staff interviewed the witnesses' fellow employees, friends, and acquaintances. The Sign staff, however, did a creditable job considering that these early sightings usually contained too little information on which to base any kind of judgment and that the Air Force had no standardized method of reporting sightings. 62/

The Air Force continued to investigate UFOs under Project Grudge even though most of the people involved were convinced that these were non-hostile and non-military in nature. The Air Force still wanted to have the controlling hand in investigating reports, which prevented the scientific community from conducting studies of its own, since all the "good" reports were in the hands of, and classified by, the Air Force. In this manner, the Air Force shaped the nature of the controversy for the entire 21 years of its involvement, and Project Grudge was determined to explain every sighting.

To assist in the effort to debunk UFOs, Ruppelt reported that the Air Force selectively granted permission to Sidney Shallet of the Saturday Evening Post to have access to their files for an article on the subject. According to Ruppelt, the Air Force wanted to ensure that the article would expose UFOs as a waste of time.

As a public relations officer later told me 'We had a devil of a time. All of the writers who were after saucer stories had made their own investigations of sightings and we couldn't convince them they were wrong.' . . . I have heard many times, from both military personnel and civilians, that the Air Force told Shallet exactly what to say in his article--play down the UFO--don't write anything that even hints that there might be something foreign in our skies. I don't believe that this is the case. I think he just wrote the UFO story as it was told to him, told to him by Project Grudge. 63/

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62/ Jacobs, op. cit., p. 47

63/ Ruppelt, op. cit., p. 88-89.



The article appeared, but had the opposite effect from what the Air Force expected. Phrases such as "rich, full-blown screwiness," and "great flying saucer scare" were meant to convince readers there was nothing to the UFO reports, but within a few days of publication, UFO reports reached a new high. Some attributed this to Shallet's admission that some cases remained unexplained, while others felt that he had thrown suspicion on the Air Force's investigative methods. In any event, Project Grudge was deluged with reports.

This did not deter the Air Force, however, and only six months later Grudge issued its final report. Commenting on 244 of the cases, and despite their best efforts to explain them all (which reportedly were highly speculative in many instances), 23 percent remained unidentified. For these Grudge stated "There are sufficient psychological explanations for the reports of unidentified flying objects to provide plausible explanations for reports not otherwise explainable." In other words, those that could not be identified were psychologically motivated, and that was that. They concluded that the investigation of UFOs should be reduced in scope so that only those reports "clearly indicating realistic technical applications" would be submitted to ATIC. They did, however, suggest that the Psychological Warfare Division be informed of the study results, since if the enemy simultaneously placed a series of aerial objects over the United States and started rumors that they were alien craft, mass hysteria could ensue.

Although many thought Grudge was terminated at the time of this final report, it did in fact continue to operate, although in a much subdued state, for over two more years. Despite its efforts to debunk the reports, public interest continued and magazine articles flourished, as well as books by such writers as Major Donald Keyhoe, later President of NICAP (National Investigations Committee on Aerial Phenomena).

In 1951, Capt. Edward Ruppelt was placed in charge of Grudge, and brought new life to the project, for he was not as convinced as his predecessors that UFOs were not worth studying. He formally contracted Hynek as a consultant, and through his efforts the project's staff and budget were increased. He recognized the unwillingness of many Air Force pilots to report UFO sightings for fear of ridicule and arranged for a new directive to be issued and standardized reporting forms were made available. Air Force Letter 200-5 directed every Air Force base in the world to immediately telegram information on any UFO sighting to Ruppelt, ATIC and other major Air Force commands, with a complete report sent later to ATIC. By 1952, Grudge was a very well organized effort.

b. Project Blue Book and the Robertson Panel (1952-1953)

Nineteen-fifty-two was a boom year for UFO reports, with a record 1,501 reported in that one year alone. One of the most important, if for no other reason than its location, occurred in Washington D.C. (see appendix). The Air Force had renewed its interest, and upgraded Grudge from a project to a separate organization, named Project Blue Book. Ruppelt's budget and manpower continued to increase along with the number of sightings, and he instituted the practice of receiving monthly reports on the status of all reports under investigation. He briefed top officers of the Air Defense Command on using their radarscope cameras (numbering about 30 nationwide) to help detect UFOs, and contracted with Battelle Memorial Institute to perform a statistical analysis of UFO characteristics. He completely revitalized the project.

By the beginning of 1953, ATIC was overwhelmed with reports. Again opinion was split on the significance. Some skeptics began believing in the extra-terrestrial hypothesis while others more firmly held to their "conventional

objects" stance. Regardless of what UFOs were, the Air Force decided that the number of reports had to be drastically reduced to ease the concern of the masses, so they asked the CIA to form a panel of top scientists to study the issue. The group was chaired by Dr. H. P. Robertson, and is therefore usually referred to as the Robertson Panel.

Although a sanitized version of this report had been available for a number of years, it was only in December 1974 that the CIA finally declassified the report and made copies available. The members were finally identifiable, together with their affiliations and areas of expertise:

Dr. H. P. Robertson, California Institute of Technology, physics and weapons systems;  
 Dr. Luis W. Alvarez, University of California, physics and radar;  
 Dr. Lloyd V. Berkner, Associated Universities, Inc., geophysics;  
 Dr. Samuel Goudsmit, Brookhaven National Laboratories, atomic structure; and  
 Dr. Thornton Page, Johns Hopkins University, astronomy and astrophysics.

In addition to these five panel members, other participants included:

Dr. J. Allen Hynek, Ohio State University, astronomy;  
 Mr. Frederick C. Durant, III, Arthur D. Little, Inc., rockets and guided missiles (who served as reporter for the panel);  
 Brig. Gen. William M. Garland, Commanding General, ATIC, scientific and technical intelligence;  
 Dr. H. Marshall Chadwell, Assistant Director, O/SI, CIA;  
 Mr. Ralph L. Clark, Deputy Assistant Director, O/SI, CIA; and  
 Mr. Philip G. Strong, CIA.

After studying 75 UFO reports, the panel concluded that there was no evidence of a "direct physical threat to national security" and that the "continued emphasis on the reporting of these phenomena, in these parlous times, result in a threat to the orderly functioning of the protective organs of the body politic." They therefore recommended:

- a. That the national security agencies take immediate steps to strip the Unidentified Flying Objects of the special status they have been given and the aura of mystery they have unfortunately acquired;

- b. That the national security agencies institute policies on intelligence, training, and public education designed to prepare the material defenses and the morale of the country to recognize most promptly and to react most effectively to true indications of hostile intent or action.

To accomplish these ends, they proposed a public education program to train people to identify correctly known objects, as well as a "debunking" effort to lower public interest. They were, they said, impressed by the lack of sound data in the majority of case histories, as well as by the "lack of speedy follow-up due primarily to the modest size and limited facilities of the ATIC section concerned." In effect, they suggested that the Air Force Project be continued at its present level, only with a change in emphasis from attempting to determine the nature of UFOs to convincing the public that nothing was awry in the skies. 64/

Not everyone connected with the panel agreed with its recommendation, however. Hynek was not officially a member of the panel and therefore was not asked to sign the final report, but he stated that he would not have done so in any case, since he considered it unreasonable that the panel could come to a conclusion about UFOs in four days, when he himself had spent more than four years in the field. 65/

The effect of the report was significant. Once again the Air Force changed its position, and now the sentiment was that UFOs were not a threat to national security, UFO reports were, and the purpose of Blue Book would be to educate the public. The Air Force could now say that an impartial and independent group of scientists had found no evidence of extraterrestrial visitation or enemy weapons.

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64/ Durant, F. C. Report of Meetings of Scientific Advisory Panel on Unidentified Flying Objects. Convened by Office of Scientific Intelligence, CIA, Jan. 14-18, 1953.

65/ Jacobs, op. cit., p. 96.

Contrary to the panel's recommendation, however, Blue Book's staff and budget began to shrink, not remain level. The Battelle statistical report was finally completed, and it corroborated the panel's position that no threat was evident (this report was later released as Special Report #14--see below). Thus, by the time Ruppelt left the Project and the Air Force in August 1953, only he and two assistants remained. When no replacement came for him, the Project was handed over to Airman First Class Max Futch.

c. Special Report #14 and the O'Brien Report:  
Project Blue Book 1953-1966

The period from 1953 to 1966 was an era of public relations for Blue Book. It set about the task of educating the public as to the "true" nature of UFOs, and tried to counteract the interest raised by believers such as Major Keyhoe. Keyhoe had created public discomfort when he published Air Force regulations which prohibited the release of UFO reports to the public (Air Force Regulation 200-2) and made disclosure of sightings described in JANAP (Joint Army-Navy-Air Force-Publication) 146 forms a criminal offense. AFR 200-2 also allegedly suggested that all UFO reports be solved in any way possible. Predictably, the Keyhoe and Air Force factions disagreed on the meaning of the following paragraphs.

Air Force activities must reduce the percentage of unidentifieds to the minimum. Analysis thus far has explained all but a few of the sightings reported. These unexplained sightings are carried statistically as unidentifieds. If more immediate, detailed, objective data on the unknowns had been available, probably these, too could have been explained. However, because of the human factors involved, and the fact that analyses of UFO sightings depend primarily on the personal impressions and interpretations of the observers rather than on accurate scientific data or facts obtained under controlled conditions, the elimination of all unidentifieds is improbable.

AFR 80-17

B-4. Response to Public Interest. The Secretary of the Air Force, Office of Information (SAF-OI) maintains contact with the public and the news media on all aspects of the UFO program and related activities. Private individuals or organizations desiring Air Force interviews, briefings, lectures, or private discussions on UFOs will be instructed to direct their requests to SAF-OI. Air Force members not officially connected with UFO investigations will refrain from any action or comment on UFO reports which may mislead or cause the public to construe these opinions as official Air Force findings.

AFR 80-17

Condon maintained that the critics were misreading the paragraphs, that the first did not in any way suggest speculation as to the nature of a sighting, simply that the investigation of a report should be pursued seriously and thoroughly. The second, he maintains, was simply a method to "minimize the circulation of wild stories and premature reports before an investigation is completed." 66/

To counteract these charges, the Air Force, upon Ruppelt's suggestion, commissioned Battelle to determine if anything in the air "represented technological developments not known to this country," and to build a model of a flying saucer from the data. The Battelle findings were released in 1955 and became labeled Special Report #14. The researchers reported that they could neither devise a model of flying saucer nor find physical evidence that they exist; they found no trends in the data. David Saunders, later a member of the Colorado group that produced the Condon Report, stated that whoever performed the study did it in such a way as to minimize the possibility of finding something significant.

This \$100,000 taxpayer-financed report was issued in May of 1955 and purports to be a sophisticated statistical treatment of all the data in the files up through late 1952, a period when the Air Force was still getting much interesting input. The report contains more than 200 tables filled with numbers. It also makes use

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66/ Condon, op. cit., p. 530.

of an elementary statistic known as chi-square to lend credence to its primary argument. I was impressed by the fact that not even the formula used for calculating chi-square was correct. And with remarkable regularity, whoever did these statistics combined the categories so as to minimize his chances of finding anything significant. 67/

Again the Air Force had misjudged public response. Instead of quelling the controversy it gave it more fuel, especially when it was criticized by Ruppelt himself. The group stated that "the probability that any of the UNKNOWNNS considered in this study are 'flying saucers' is concluded to be extremely small, since the most complete and reliable reports from the present data . . . conclusively failed to reveal even a rough model . . . " Ruppelt countered that Battelle had not been asked to explain the unidentified reports or solve the UFO problem, but only to determine if unknown technological developments were evident in their movements.

Nevertheless, the Air Force used Special Report #14 as the foundation of their official stance for many years, for they could still say that the issue had been studied scientifically and the conclusion was drawn that UFOs were not extraterrestrial. As other men became Blue Book Director, public education became the watchword and investigation was left to the private UFO organizations, which began to flourish.

But their public relations campaign was not very effective. More and more people began to think the Air Force was covering up something, that they did indeed have evidence that Earth was being visited by aliens. Two contributing factors to this theory were that the Air Force still refused the media access to their files, and those who knew of Blue Book's activities couldn't believe that such a low-priority, low-budgeted, and minimally staffed operation could

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67/ Saunders, David, and R. Roger Harkins. UFOs? Yes New York, World Publishing Co., 1968. p. 115.

actually be investigating reports to the extent the Air Force itself claimed. Thus they believed that Blue Book was a front for a much higher level investigative team. Hynek disagrees with this theory, citing the high turn-over rate among Blue Book directors. After Ruppelt left, the Project in turn was headed by Captain Harden, Captain Gregory, Major Friend and Major Quintanilla. He also states:

All my association with Blue Book showed clearly that the project rarely exhibited any scientific interest in the UFO problem. They certainly did not address themselves to what should have been considered the central problem of the UFO phenomenon: is there an as yet unknown physical or psychological or even paranormal process that gives rise to those UFO reports that survive severe screening and still remain truly puzzling?

Such lack of interest belies any charge of 'cover-up'; they just didn't care. 68/

During the period between the issuance of Special Report #14 (1955) and the 1966 O'Brien report, one of Blue Book's prime concerns was that Congress would call for hearings on what they were doing. To prevent this, whenever a Congressman broached the subject to the Air Force, he was given an individual briefing in which the Air Force convinced him that a hearing would only make the populace think that UFOs were something to be concerned about. At this point the Congressman would usually commend the Air Force on its conduct of the matter, and decide not to hold hearings. 69/

One of these briefings was to a subcommittee, not to an individual Congressman. In 1958, the House of Representatives set up the Select Committee on Astronautics and Space Exploration (later Science and Astronautics Committee, now Science and Technology Committee) to deal with the emerging issue of space

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68/ Hynek, UFO Experience, op. cit., p. 180.

69/ See Jacobs, op. cit., chapter 7.



exploration. Rep. John McCormack (D-Mass.) chaired the Subcommittee on Atmospheric Phenomena and decided to hold week-long hearings on UFOs. On August 8, they called on Air Force chief science advisory Francis Arcier, Captain Gregory (head of Blue Book at the time), Majors Best and Byrne of Air Force Intelligence, and Majors Brower and Tacker of the Office Public Information. McCormack announced at the beginning of the session that it was not actually a hearing, and in fact no stenographer was present. Records cited by David Jacobs 70/ were apparently taken by the Air Force participants themselves and are not an official transcript of the meeting. 71/

By the end of the day, Congressman McCormack announced that he was satisfied with the Air Force's handling of the subject and no formal hearings would be necessary. The Air Force had once again averted publicity.

The reprieve did not last long, however, and in 1960 they were called to Capitol Hill again. David Jacobs reports that three committees, House Armed Forces, House Science and Astronautics, and Senate Preparedness, called for a briefing by the Air Force, under the chairmanship of "Congressman Smart." This is an error. Only staff members were present at the briefing, which negates much of the significance given by Jacobs to the briefing. He states that "congressmen for this first time had expressed dissatisfaction with the UFO program and had suggested steps to remedy the situation." In fact, Smart was a staff member of the House Armed Services Committee (not Armed Forces, and his first name is Robert, not Richard) and the other participants listed by

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70/ Jacobs, op. cit., p. 160-162.

71/ The late Dr. Charles Sheldon, who was Chief of the Science Policy Research Division, Congressional Research Service, Library of Congress from 1968 to 1979, served as Assistant Director of the Select Committee on Astronautics and Space and later as Technical Director of the permanent House Science and Astronautics Committee. He was present during this entire session and clarified aspects of Jacobs' account.

Jacobs (Spencer Beresford--not Bereford, Richard Hines, and Frank Hammill--not Hammit) were from the staff of the Science and Astronautics Committee. Also, there is no indication that the Senate Preparedness Committee staff participated in this briefing, and Jacobs does not list anyone from that committee. 72/

Although the staff members were not as pleased with Air Force performance as Congressman McCormack had been, little was changed in Blue Book. By 1963 congressional interest had dropped considerably, and this lull continued through 1964.

Ninety-sixty-five was a different matter.

For 17 years, 1947 to 1964, the UFO controversy raged within the confines of special interest groups--the Air Force on one hand and the private UFO organizations on the other. The press, public, and Congress became involved sporadically, but for them the subject of UFOs and the controversy over the phenomenon had only fleeting interest, . . . But the period from 1965 to 1967 marked a turning point in the controversy. Those who had been on the periphery of the controversy became actively engaged in it. The press, public, Congress, and the scientific community all entered the debate over UFOs. As a result, the Air Force finally gave up its near monopoly of the UFO study and asked a university to examine the phenomenon. 73/

By the close of 1965, ATIC had received 887 reports. The media began to report on UFOs again, raising public consciousness, and Hynek suggested that another panel of scientists review the situation and Blue Book's status. As a result, the Ad Hoc Committee to Review Project Blue Book was formed, headed by Dr. Brian O'Brien (its report was called the O'Brien Report).

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72/ Dr. Sheldon, at the time of this session, was Technical Director for the Science and Astronautics Committee and again served as the source for the above material. Jacobs' version can be found on pages 176-179 of his book.

73/ Jacobs, op. cit., p. 193.

Joining O'Brien (a physicist) on the panel were: Dr. Launor F. Carter, psychologist, System Development Corporation; Dr. Jesse Orlansky, psychologist, Institute for Defense Analyses; Dr. Richard Porter, electrical engineer; Dr. Carl Sagan, astronomer and space scientist, Smithsonian Astrophysical Observatory; and Dr. Willis H. Ware, electrical engineer, the RAND Corporation. All but Sagan were members of the Air Force Scientific Advisory Board.

They met for only one day, February 3, 1966, reviewing the Robertson Panel report and being briefed by the then head of Blue Book, Major Quintanilla, and the staff of the Air Force's Foreign Technology Division (a newly formed division which took over UFO investigations). In March, the O'Brien group issued its report.

Their assessment of the situation was very similar to the Robertson findings. They stated again that the cases which remained unidentified did so only because of insufficient information to solve them, and cited the fact that even though hundreds of astronomers constantly watched and photographed the sky, they had not recorded any UFOs. They conceded that Blue Book's resources were very scarce (at that time only one officer, a sergeant, and a secretary were involved), but that effort was well organized.

Rather than suggest disbanding Blue Book, the O'Brien panel recommended that it be strengthened.

. . . there is always the possibility that analysis of new sightings may provide some additions to scientific knowledge of value to the Air Force . . . the committee recommends that the present program be strengthened to provide opportunity for scientific investigation of selected sightings in more detail and depth than had been possible to date. 74/

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74/ Special Report of the USAF Scientific Advisory Board Ad Hoc Committee to Review Project Blue Book. Condon, op. cit., p. 543.

d. The Condon Report and Termination of USAF Interest (1967-1969)

Following up on the O'Brien panel's recommendations was no easy matter. UFOs were not considered a subject worthy of investigation by many "impartial" scientists (a requirement on which the Air Force insisted and which ruled out such UFOlogists as Hynek and McDonald) or universities. The Air Force was turned down in turn by MIT, Harvard, the University of North Carolina and the University of California before the University of Colorado accepted the task. Some say that Colorado accepted only because they needed the Government contract, amounting to \$500,000 by the time the project was finished. The requirement for matching funds was waived, so Colorado only had to put up \$1.

They found a highly respected physicist, Dr. Edward U. Condon, to head the project, and debate is also rampant as to why he accepted the assignment. Many of his professional colleagues had turned it down, if for no other reason than lack of time to devote to it (and Condon himself only committed half-time). Condon stated that it was the appeal to his patriotic duty, since the Air Force requested him specifically to head the project, and after some discussion with colleagues, decided to say yes. He adds that "Had I known of the extent of the emotional commitment of the UFO believers and the extremes of conduct to which their faith can lead them, I certainly would never have undertaken the study." 75/

Along with Condon were principal investigators Stuart W. Cook (psychology), Franklin E. Roach (astrogeophysics), David Saunders (psychology), with William Scott (psychologist) listed as a co-principal investigator. Robert Low, Assistant Dean of the Graduate School acted as Project Coordinator, and five research

associates were hired: Norman E. Levine (Ph.D., Engineering), Ronald I. Presnell (M.S., Engineering), Gerald M. Rothberg (Ph.D., Physics), Herbert J. Strentz (M.A., Journalism), and James E. Wadsworth (B.A., Behavioral Sciences).

The choice of Condon seemed to please both believers and non-believers, for they were convinced of his impartiality and willingness to take a stand against popular opinion. During the McCarthy era he had been branded a communist, and, rather than suffer quietly, demanded a hearing and kept the matter in front of the press. He was subsequently cleared. 76/

Shortly after the project began operating in October 1966, however, doubts began to emerge about its impartiality, and especially that of Condon. In January 1967 Condon stated in a speech that the Government should get out of the UFO business and the phenomenon itself had nothing to do with it. Future speeches and interviews provided much the same negative attitude. 77/ The situation was further aggravated in July 1966 when two of the project members, Saunders and Levine, discovered a memorandum written by Project Coordinator Low on August 9, 1966, shortly before the project got under way. In it, Low set down some thoughts on how the study should be conducted and wrote:

Our study would be conducted almost exclusively by nonbelievers who, although they couldn't possibly prove a negative result, could and probably would add an impressive body of evidence that there is no reality to the observations. The trick would be, I think, to describe the project so that, to the public, it would appear a totally objective study, but, to the scientific community, would represent the image of a group of nonbelievers trying their best to be objective, but having an almost zero expectation of finding a saucer. 78/

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76/ For a biographical sketch of Condon, see Saunders and Harkins, op. cit., p. 32-45.

77/ Jacobs, op. cit., p. 226-227.

78/ The memo was addressed to Dr. E. James Archer, Dean of the Graduate School, and Thurston E. Manning, Faculty Dean. Archer stated that he never  
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Saunders and Levine were distressed by the suggestion of "tricks" and sent a copy of the letter to NICAP President, Donald Keyhoe. Keyhoe forwarded a copy to Dr. James McDonald, a UFOlogist from the University of Arizona, who referenced it in a January 1968 letter to Low. Low read McDonald's letter on February 6 and reportedly was furious. He took the matter to Condon who charged that Saunders and Levine had stolen the letter, and should not have sent it outside the project staff. The two were immediately fired for insubordination. Two weeks later, Low's Administrative Assistant, Mary Louise Armstrong, resigned stating that morale was very low within the project and the participants had no confidence in Low's leadership.

The full story of this incident was written up by John Fuller for Look magazine 79/ and created quite a stir within the academic community and Congress, although public reaction was subdued. NICAP and APRO, who had been providing the Condon staff with reports and preliminary investigations by their members as well as providing other valuable services, quit their support of the committee. In Congress, Representative J. Edward Roush (D-Ind.) organized hearings before the House Science and Astronautics Committee on UFOs, although the Condon committee itself was not reviewed, since it did not come within the committee's jurisdiction (see next section).

Condon stated that he was not aware of the memorandum's existence until the McDonald letter arrived in February 1968, well after the project was underway,

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(continued) saw the original memo and was unaware of it until brought to his attention by Roger Harkins. See Saunders and Harkins, op. cit., p. 194. Since the full text of this letter is difficult to obtain, and was such a controversial chapter in the Condon study, it is printed in full as Appendix C.

79/ Fuller, John G. Flying Saucer Fiasco. Look, v. 32, May 14, 1968: 58, 60-63.

and therefore it had no effect on its operation. 80/ Saunders himself had second thoughts about Condon's part in the letter. He had assumed that since Condon was mentioned, he had been aware of it, but admits that Condon might not have been and if he had known that, might have handled the situation differently. 81/ Some criticism may be due both Saunders and Levine for sending the letter to NICAP rather than the Air Force contract monitor.

As a result of the continuing dissension within the group, by the time they finished their study on June 1, 1968, a shadow of suspicion had already fallen over their final recommendations. This may have prompted Condon's decision to send the report to the National Academy of Sciences for review before publication, and the Academy gave the report its stamp of approval.

The NAS panel was comprised of 11 scientists without previous experience in the UFO field, and their review created nearly as much controversy as the report itself. They found that the scope, methodology and conclusions of the work were quite proper:

In our opinion the scope of the study was adequate to its purposes:  
a scientific study of UFO phenomena.

We think the methodology and approach were well chosen in accordance with accepted standards of scientific investigation.

We concur with [the] evaluations and recommendations.

We are unanimous in the opinion that this has been a very creditable effort to apply objectively the relevant techniques of science to the solution of the UFO problem. . . . While further study of particular aspects of the topic (e.g., atmospheric phenomena) may be useful, a study of UFOs in general is not a promising way to expand scientific

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80/ Condon, op. cit., p. 550. Note that he says the memo was dated Aug. 10, although the actual date seems to be Aug. 9.

81/ Saunders and Harkins, op. cit., p. 195.

understanding of phenomena. On the basis of present knowledge the least likely explanation of UFOs is the hypothesis of extra-terrestrial visitations by intelligent beings. 82/

The main conclusion of the Condon report, as stated by Condon in his summary, is:

Our general conclusion is that nothing has come from the study of UFOs in the past 21 past years that has added to scientific knowledge. Careful consideration of the record as it is available to us leads us to conclude that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby. 83/

A page later, however, he adds:

Scientists are no respecters of authority. Our conclusion that study of UFO reports is not likely to advance science will not be uncritically accepted by them. Nor should it be, nor do we wish it to be. For scientists, it is our hope that the detailed analytical presentation of what we were able to do, and of what we were not able to do, will assist them in deciding whether or not they agree with our conclusions. Our hope is that the details of this report will help other scientists in seeing what the problems are and the difficulties of coping with them. . . .

Therefore we think that all of the agencies of the Federal Government, and the private foundations as well, ought to be willing to consider the UFO research proposals along with the others submitted to them on an open-minded, unprejudiced basis. While we do not think at present that anything worthwhile is likely to come of such research each individual case ought be carefully considered on its own merits. 84/

Hynek calls this a "masterpiece of throwing a scrap of political meat to the critic dogs. A more insincere statement can hardly be imagined, and surely Dr. Condon, master in the politico-scientific world, would be the first to recognize it as such." 85/ Whether Condon actually was being devious, or if he simply

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82/ Review of the University of Colorado Report on Unidentified Flying Objects by a Panel of the National Academy of Sciences, 1969.

83/ Condon, op. cit., p. 1.

84/ Condon, op. cit. p. 2-3

85/ Hynek, UFO Experience, op. cit., p. 193.



wanted to call attention to the fact that his was only one committee and anyone can make mistakes, is a matter of opinion. .

Besides finding fault with the cases that were chosen to be studied (some claim that since most were recent cases, no trends could be established) and the scientific methodology involved, criticism seemed to center around Condon's participation in the study. Of 23 chapters, he wrote only one, which dealt with the historical aspects of Air Force involvement. He wrote the summary and conclusions, but they did not always seem consistent with what the other participants wrote in the rest of the book.

To understand the Condon report, which is difficult to read, due in part to its organization, one must study the bulk of the report. It is not enough to read summaries, such as those by Sullivan and by Condon, or summaries of summaries, on which the vast majority of readers and news media seem to rely. There are differences in the opinions and conclusions drawn by the authors of the various chapters, and there are differences between these and Condon's summary. Not all conclusions contained in the report itself are fully reflected in Condon's summary.

Condon's chapter, 'Summary of the Study,' contains more than its title indicates: it disclosed many of his personal conclusions. Making value judgments was no doubt one reason why Condon was asked to handle the project. One is happy to obtain the judgment of so experienced and respected a man; but one need not agree with it. 86/

In effect, although there were many critics of the Condon report in the scientific community, the general public apparently accepted the Condon conclusion that there was no value in continuing a study of the problem. The Air Force used this reasoning to cancel Project Blue Book in December 1969, and since then has had no official interest in the subject. The Condon Report is, at the very least, an extensive reference work on UFOs.

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86/ UFO: An Appraisal of the Problem. A Statement by the UFO Subcommittee of the AIAA. Astronautics and Aeronautics, Nov. 1970: 46.

### 3. Congressional Interest

Due perhaps to the controversial nature of subject, Congress has been somewhat reluctant to get into the practice of making statements or holding hearings related to unidentified flying objects. National interest was so acute in the 1960s, however, that two committees of the House of Representatives did hold hearings to learn more about the matter and to quell concerns of their constituents. The first was in 1966 by the Armed Services Committee, the second in 1968 by the Science and Astronautics Committee. Their purpose was to serve as a forum, not to solve the question.

#### a. House Armed Services Committee Hearings (1966).

As might be assumed from the committee's name, the main interest of its hearings was Air Force involvement in UFOs from Project Sign through Project Blue Book. The only witnesses called were from the Air Force: Secretary Harold Brown (accompanied by General McConnell), Major Hector Quintanilla, Jr., and Dr. J. Allen Hynek, consultant to the Project.

In his testimony, Secretary Brown explained the methods used by the Air Force to study UFO reports and announced that of 10,147 cases reported from 1947-1965, identifications had been made of 9,501. He noted that although the Air Force had not identified any national security threat or any evidence of extraterrestrial vehicles, they would continue to investigate reports with an open mind.

In a special report of the U.S. Air Force Scientific Advisory Board Ad Hoc Committee to Review Project Blue Book (the O'Brien Report), submitted with the Secretary's testimony, the statement was made that the 646 unidentified sightings

"are simply those in which the information available does not provide an adequate basis for analysis." 87/

The report went on to suggest that the Air Force increase the resources made available, so scientific investigation of selected sightings could be subjected to this study. The reports would be available upon request and given wide unsolicited circulation among Members of Congress and other public persons.

When asked by the chairman of the Armed Services Committee if anyone thought UFOs were from outside the solar system, Secretary Brown responded:

I know of no one of scientific standing or executive standing or with a detailed knowledge of this, in our organization who believes that they come from extraterrestrial sources. 88/

Dr. Hynek was the next to testify and in response to an accusation that he was an Air Force "puppet" on the subject, he read a statement "which has certainly not been dictated by the Air Force."

Admitting that during his 20 years of association with UFOs, the subject seemed "utterly ridiculous . . . like some fad or craze [that] would subside in a matter of months," Hynek announced that he had chosen 20 cases, still unidentified, for further study to illustrate that no one was hiding the fact that there were still unsolved cases. He also repeated a recommendation he had been making for 13 years that Project Blue Book could not study the reports as closely as was needed and that a civilian group should be appointed.

In questioning from the committee, Rep. Nedzi (D-Mich.) asked about sightings in other countries and when told the Air Force dealt with U.S. sightings

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87/ U.S. Congress. House. Committee on Armed Services. Unidentified Flying Objects. Hearings, 89th Cong., 2nd Sess., Apr. 5, 1966. Washington, U.S. Govt. Print. Off., 1966. p. 5995.

88/ Ibid., p. 6005.

only and no one in the other countries was investigating UFO reports, he suggested that there be an exchange of ideas among U.S. and other scientists. The Chairman said an international effort would not broaden the basic data base and might degrade the quality of data, considering the difficulty encountered in getting details in this country.

In general, the Members of the committee expressed disbelief in extraterrestrial vehicles and confidence in the Air Force and Dr. Hynek. Rep. Hebert (D-La.) asked if Dr. Hynek had conferred with Ray Walston on the matter (Mr. Walston portrayed a Martian on a television show at that time.)

b. House Science and Astronautics Committee Hearings (1968)

Despite the reassurance given by the Armed Services Committee, the controversy over UFOs continued and in 1968 another set of hearings was conducted, this time by the House Science and Astronautics Committee. These proceedings were the opposite of the 1966 hearings in that not only were no Air Force witnesses called, but the other witnesses were not allowed to comment on Project Blue Book at all, since the committee did not feel Air Force activities came under their jurisdiction. 89/

Six men presented testimony and six others prepared statements for the record. Due to space limitations, only the oral testimony will be summarized below, although the other six statements are recommended to the reader, as important to a more complete understanding.

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89/ U.S. Congress. House. Committee on Science and Astronautics. Symposium on Unidentified Flying Objects. Hearings, 90th Cong., 2nd Sess., July 29, 1968. Washington, U.S. Govt. Print. Off., 1968: p. 2.

DR. J. ALLEN HYNEK, DEPARTMENT OF ASTRONOMY, NORTHWESTERN UNIVERSITY

Emphasizing that he was appearing "as a private citizen and scientist and not a representative of the Air Force" Hynek again explained that although he originally held no interest in the subject, his official involvement with UFOs eventually led to an acute interest in certain of the reports.

Although some reports are obviously misunderstandings of natural phenomena, some contain information not readily explainable and of scientific interest. Hynek asked "By what right can we summarily ignore [witnesses'] testimony and imply that they are deluded or just plain liars? Would we so treat these same people if they were testifying in court, under oath, on more mundane matters?" 90/

Hynek pointed out that the most crucial problem for a scientist examining the subject is the lack of hard-core data. "His publicly available source material is almost certain to consist of sensational, undocumented accounts of what may have been an actual event." 91/

He also pointed out several misconceptions about UFOs: that only UFO buffs report sightings; that they are never reported by scientifically trained people; they are never seen at close range; they have never been detected by radar; and they have never been recorded by scientific cameras. 92/ All of these statements are untrue.

Stating that "I do not feel that I can be labeled as a flying saucer 'believer'--my swamp gas record in the Michigan UFO melee should suffice to quash any such idea--but I do feel . . . signals continue to point to a mystery that needs to be solved," he made the following recommendations:

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90/ Ibid., p. 5.

91/ Ibid., p. 6.

92/ Ibid., p. 13.

1. That Congress establish a UFO Scientific Board of Inquiry to study those cases that come under his definition of UFO [see chapter 1 of this report];
2. That the United States seek the cooperation of the United Nations to set up means for international exchange of information on UFOs.

PROF. JAMES E. McDONALD, DEPARTMENT OF METEOROLOGY,  
UNIVERSITY OF ARIZONA

Prof. McDonald explained that his intense interest in UFOs began with a visit to the Project Blue Book offices at Wright-Patterson Air Force Base in 1966. In the two intervening years "I have interviewed several hundred witnesses in selected cases, and I am astonished at what I have found." 93/ He was called by the committee to discuss witnesses because of his expertise in the area, both in the United States and abroad.

He pointed out that, contrary to public opinion, those who report UFOs are not usually interested in notoriety. For example, in Australia "People are quite unwilling to tell you about a UFO sighting, afraid acquaintances would think they have 'gone around the bend,' as the Australians put it. Over and over you encounter that. People are reluctant to report what they are seeing." 94/

Another characteristic . . . is the tendency . . . to turn first not to the hypothesis that he is looking at a spaceship, but rather it must be an ambulance . . . or that is a helicopter. . . . There is a conventional interpretation considered first, only then does the witness get out . . . and realize the thing is stopped in mid-air and is going backwards. 95/

McDonald also referred to the fluctuating nature of sightings or waves, and suggested it is only because the media do not put the reports on the wire services

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93/ Ibid., p. 18.

94/ Ibid., p. 20.

95/ Ibid., p. 21.

with any regularity. He cites a recent case with over 100 witnesses that received only a short column in a local newspaper. "The ridicule lid keeps these out of sight."

McDonald next turned his attention to a recently espoused theory by Philip Klass that UFOs were in fact ball lightning, a physical phenomenon. He pointed out that during Project Grudge the Air Force concluded that "ball lightning doesn't come near to explaining these sightings" and agreed with that assessment:

One of the most characteristic features of a plasma is its very short lifetime and exceedingly great instability. . . . To suggest that clear weather conditions can somehow create and maintain plasmas that persist for many minutes, and fool pilots with 18,000 flight hours into thinking that they are white- and red-domed discs . . . is unreasonable. 96/

He concluded that "UFOs are entirely real and we do not know what they are . . . . The possibility that these are extraterrestrial devices, that we are dealing with surveillance from some advanced technology, is a possibility I take very seriously." He emphatically agreed with Hynek's recommendations for a broad based study and international cooperation. In his written statement he elaborated upon his oral testimony and cited many cases where there was radar contact, multiple witnesses, daylight sightings, etc. to dispel the misconception that these had never occurred.

DR. CARL SAGAN, ASSOCIATE PROFESSOR OF ASTRONOMY, CENTER  
FOR RADIOPHYSICS AND SPACE RESEARCH, CORNELL UNIVERSITY

Dr. Sagan was asked to testify on the possibility of extraterrestrial life (see chapter 3). He is a leading proponent of extraterrestrial intelligence and leading skeptic about UFOs being spaceships piloted by other beings.

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96/ Ibid., p. 26.

He went through an explanation of how difficult it would be for other civilizations to detect life on Earth, and of communicating with other civilizations in the universe if, in fact, they do exist. (For further information on this subject, see Possibility of Intelligent Life Elsewhere in the Universe, House Committee on Science and Technology, October 1977).

Sagan stated that there is nothing in physics to prevent interstellar travel, although we can't possibly know all the problems that might be involved. He does request "extremely convincing evidence of an advanced technology in a UFO" before he can accept it, though. He stated that he has always kept an open mind, but there are many emotional factors in what makes believers and non-believers.

There are individuals who very strongly want to believe that UFOs are of intelligent extraterrestrial origin . . . things are so bad down here, maybe somebody up there will come and save us from ourselves. . . . There are also predisposing emotional factors in the other direction; people who very much want to believe UFOs are not of extraterrestrial origin, because that would be threatening to our conception of us as being the pinnacle of creation. 97/

Sagan feels that in order to justify an investigation on the order of that suggested by Hynek, harder evidence is required, even though the study would probably aid the studies of atmospheric physics and psychology. He recommended that if Congress was truly interested in studying extraterrestrial life, it should support the Mariner and Voyager programs of the National Aeronautics and Space Administration, and the radio astronomy programs of the National Science Foundation, rather than UFOs.

DR. ROBERT L. HALL, DEPARTMENT OF SOCIOLOGY, UNIVERSITY OF ILLINOIS

Dealing with UFOs from a purely socio-psychological basis, Hall began by examining mass hysteria. He believes that some cases definitely result from "hysterical contagion."

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97/ Ibid., p. 91.



Once people are sensitized to the existence of some kind of phenomenon . . . where there is an ambiguous situation requiring explanation, when there is emotion or anxiety associated with this, resulting from the uncertainty, there [sic] are precisely the conditions that have been observed repeatedly as resulting in what I shall call 'improvised news.' 98/

He cited several factors in determining whether hysterical contagion would be at issue: reputation of the witnesses; quality and details of the report; if there are motives for distortion or prevarication; if there is preexisting knowledge of whatever is being reported; if there were multiple witnesses; if observation was through more than one medium (visual as well as radar, for example); and so forth. He concluded that some cases looked very good in relation to the above criteria, and that therefore all UFO sightings cannot be attributed to hysterical contagion. He also noted that assimilation (trying to explain the event in conventional terms before reaching the conclusion it is a UFO) is contrary to hysterical contagion in which people want to see strange objects.

Hall concluded that in the hard-core cases "hysterical contagion is highly improbable."

DR. JAMES A. HARDER, ASSOCIATE PROFESSOR OF CIVIL ENGINEERING,  
UNIVERSITY OF CALIFORNIA AT BERKELEY

Dr. Harder was called as a witness to discuss propulsion systems necessary for interstellar travel and the types of maneuvers allegedly seen by witnesses. In Harder's opinion, "on the basis of the data and ordinary rules of evidence, as would be applied in civil or criminal courts, the physical reality of UFOs has been proved beyond a reasonable doubt." 99/

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98/ Ibid., p. 101.

99/ Ibid., p. 113.

With that as a basis, Harder discussed possible propulsion systems that could accomplish incredible maneuvers at high speeds and without noise, since many reports did not include noise as a factor. A 1960 California case was used as an example. The UFO was observed by two police officers and an applied chemist from the University of California. The chemist noted that when he viewed the object through his polarized glasses, a series of rings appeared around it. Harder concluded that this was due to atmospheric disturbances from a magnetic field type of propulsion system.

He did remark that at that time the use of magnetic fields for propulsion was impossible, since each time a north pole is created, a south pole is as well, thus cancelling out any advantage. He therefore suggested that UFOs might use gravitational fields in some way of which we are not aware. His conclusion was that the study of UFOs might prove valuable for our civilization. "In the UFO phenomena we have demonstrations of scientific secrets we do not know ourselves. It would be a mistake, it seems to me, to ignore their existence."

Discussion then turned to what was thought to be a piece of a UFO discovered in Brazil. After many tests in that country and the United States, the material was found to consist of unusually pure magnesium. Harder thought that if other pieces of spaceships were searched for, they might easily be found. No concerted effort was being made, however, which substantially decreased the probability of success. He suggested a three point program for obtaining more scientific data of UFOs:

1. Establish an early warning network;
2. Put together instrument packages that could be shipped to a UFO site on short notice;
3. Cooperate with the Air Force for logistics and high speed transport of these packages.

DR. ROBERT M. L. BAKER, JR., SENIOR SCIENTIST, COMPUTER SCIENCE  
CORPORATION AND DEPARTMENT OF ENGINEERING, UNIVERSITY OF  
CALIFORNIA AT LOS ANGELES

Beginning his testimony on semantical grounds, Dr. Baker cited a preference for the term "anomalous observational phenomena" (AOP) rather than unidentified flying objects for the sake of clarity. Some "UFOs" are not reported to fly at all, and whether they are "objects" or not is still in question.

He then recounted the history of his interest in AOPs beginning in 1954 while he was with Douglas Aircraft Company. He viewed several films sent to Douglas by the Air Technical Intelligence Center for analysis, and became convinced that the objects photographed were not natural phenomena.

Baker then described the problems involved in collecting data that could be used for computer analysis, citing a lack of sensor equipment and systems. He worked only with hard data, such as permanent photographs, rather than soft data such as eyewitness accounts. Therefore, sensitive radar capable of tracking AOPs is crucial. A list of available tracking setups yielded only one which Baker considered adequate, but could not discuss it due to its confidential nature.

Although he felt the phenomena were not natural, he was not willing to say they were extraterrestrial either, and advocated a research program.

Personally, I feel that it is premature for me to agree that the hard and soft data forces the scientific community to give overriding attention to the hypothesis that the anomalous observations arise from manifestations of extraterrestrial beings . . . The potential benefit of such a research project to science should not hinge solely on the detection of intelligent extraterrestrial life, it should be justified by the possibility of gaining new insights into poorly understood phenomena, such as ball lightning. . . . 100/

He recommended setting up an interdisciplinary task force to obtain hard and soft data supported by a sensor system designed expressly for that purpose, possibly a phased array radar. In addition, a space-based long-wave-length infrared surveillance sensor system should be set up. He also suggested "technological and behavioral pattern forecasting" studies to assess what extraterrestrial life might be like, and that a study be made of the psychiatric/medical problems of determining witness credibility.

#### Written Statements

As mentioned above, written statements were provided by six other persons.

The respondents were:

Dr. Donald Menzel, Harvard College Observatory

Dr. R. Leo Sprinkle, Division of Counseling and Testing, University of Wyoming

Dr. Garry C. Henderson, Senior Research Scientist, Space Sciences, General Dynamics

Mr. Stanton T. Friedman, Westinghouse Astronuclear Laboratory

Dr. Roger N. Shepard, Department of Psychology, Stanford University

Dr. Frank R. Salisbury, Head, Plant Science Department, Utah State University

#### 4. Private Organizations

Although official responsibility for UFO investigations was charged to the U.S. Air Force, many felt the issue was not receiving enough serious attention and therefore formed their own organizations. These have played an important role in the study of UFOs since 1952, when the first was formed in this country, and their importance expanded when Project Blue Book was disbanded in 1969. They are now the only places to which one can report a sighting with any expectation of having it investigated.

Over the years a large number of these groups have come and gone, both in the United States and abroad. A few of the larger groups are described below.

a. APRO

The Aerial Phenomena Research Organization was the first private UFO group formed in the United States. Founded in 1952 by a Wisconsin couple, Coral and Jim Lorenzen, APRO claims approximately 3,000 members. The membership rolls have varied substantially over the 31 years of APRO's operation, with the low point coming just after the Condon Report was issued. As its membership diminished, APRO redirected its efforts from collecting reports to computerizing, synthesizing, and analyzing the reports themselves. To facilitate this, they set up groups of scientific consultants in fields such as metallurgy, plant pathology, and psychiatry. Their 45 consultants are listed under four categories: biological sciences, medical sciences, physical sciences, and social sciences.

APRO publishes a monthly newsletter, APRO Bulletin, and occasionally sponsors symposia and publishes their proceedings. The Lorenzens have written several books, separately and jointly. APRO can be contacted at 3910 E. Kleindale Rd., Tucson, Arizona 85712; Telephone: (602) 793-1825.

b. AFSCA

Amalgamated Flying Saucer Clubs of America is primarily interested in extraterrestrial contacts, and disseminates descriptions of the experiences of persons who were allegedly contacted by extraterrestrial beings and books dealing with UFOs. Its publication, Flying Saucers International, appeared between 1956 and 1970. The group can be contacted at P.O. Box 39, Yucca Valley, California 92284.

c. CUFOS

Organized in late 1973, the Center for UFO Studies (CUFOS) is quite unlike either of the above organizations. Rather than a membership group, CUFOS is a core of 26 scientists concerned about UFOs and willing to spend some of their time investigating and debating the issue. It was founded by Northwestern University astronomer J. Allen Hynek, who has figured prominently throughout this report as someone who has been involved with UFOs since 1948. He set up CUFOS with the following purposes: (1) To be a place to which persons can report UFO experiences without fear of ridicule, and with the knowledge that their reports will be given serious scientific attention; (2) To pursue a vigorous study of such reports; (3) To be a source of reliable information to schools, universities, scientific organizations, and the general public; (4) To assist and guide in the international study of the phenomenon; and (5) To aid in coordinating the efforts of the researchers.

The board is assisted by field investigators from the Mutual UFO Network (see below). CUFOS keeps a computerized list of UFO cases that are reported to them, as well as others from the past, and has over 50,000 cases on record. They operate a toll free number for police departments across the Nation, so that a UFO sighting can be passed on from the reporter, to the local police, to CUFOS for possible investigation. Some 80 percent of the cases can be explained as natural phenomena, but those that remain unidentified are subject to further investigation.

A tax-exempt, non-profit organization, CUFOS operates on donations from individuals who are also interested in having UFO cases investigated. Contributors receive the bimonthly International UFO Reporter and/or CUFOS Associate Newsletter, as well as information on books in the field that can be purchased through CUFOS. Technical papers are published in The Journal of UFO Studies

(1979 and 1980 annual issues have appeared thus far). For further information, contact: Center for UFO Studies, P.O. Box 1621, Lima, Ohio 45802; Telephone: (419) 223-2531.

d. CSICOP

The Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) "attempts to encourage the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view and to disseminate factual information about the results of such inquiries . . ." CSICOP was formed in 1976 and regards UFOs with skepticism. Critical articles about UFOs and reviews of books, films, and other releases dealing with UFOs appear in the committee's journal, The Skeptical Inquirer. In 1977, the UFO Subcommittee was formed "to provide the public and the news media with authoritative, no-nonsense information on Unidentified Flying Objects. . . ." The CSICOP/UFO Subcommittee may be contacted at 1341 Poe Lane, San Jose, California 95130.

e. The Fund

The Fund for UFO Research was organized in 1979 "to seek public support and to channel money into worthwhile [research] projects that show promise of dispelling myths and/or acquiring reliable scientific information [about UFOs]." The Fund seeks scientific data "that will help to evaluate current theories or provide the basis for new ones." At the present time, the Fund is supporting lawsuits to obtain the release of additional documents about UFOs under the Freedom of Information Act. The Fund, among other projects, supported a psychological study of UFO witnesses who claim to have been abducted by alleged alien

beings, a computer study of UFO reports in Great Britain, and a slide/tape presentation on the subject of UFOs for libraries, schools, and community groups. The Fund's address is Box 277, Mount Rainier, Maryland 20822.

f. MUFON

The Mutual UFO Network was formed on May 31, 1969 to answer four questions about UFOs: are they extraterrestrial craft, and if so, what is their method of propulsion, where do they come from, and what can we learn from the beings that pilot them? The organization is divided into three levels of directors: the overall coordinator, International Director Walter Andrus; State Directors; and State-Section Directors. Membership is only by invitation by one of these directors, so that "only qualified, competent, and sincere people may become involved." Currently there are 1,000 such members.

When J. Allen Hynek set up the Center for UFO Studies (see above), MUFON volunteered the services of its 800 field investigators to support the Center's efforts. MUFON publishes the monthly MUFON UFO Journal, as well as the proceedings from its annual MUFON Symposia. In 1971, they prepared a Field Investigator's manual for studying UFOs, which was updated in 1975 and again in 1982 by Raymond E. Fowler.

MUFON can be contacted at 103 Oldtowne Road, Seguin, Texas 78115; Telephone: (512) 379-9216. For subscriptions to MUFON UFO Journal, write: 26 Edgewood Drive, Quincy, Illinois 62301.

g. NICAP

The National Investigations Committee on Aerial Phenomena was formed in 1956 by Major Donald Keyhoe, who believes in the extraterrestrial hypothesis, and was convinced that the Air Force was waging a conspiracy against him