

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/

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.

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. ^{7/} 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,

^{7/} 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.

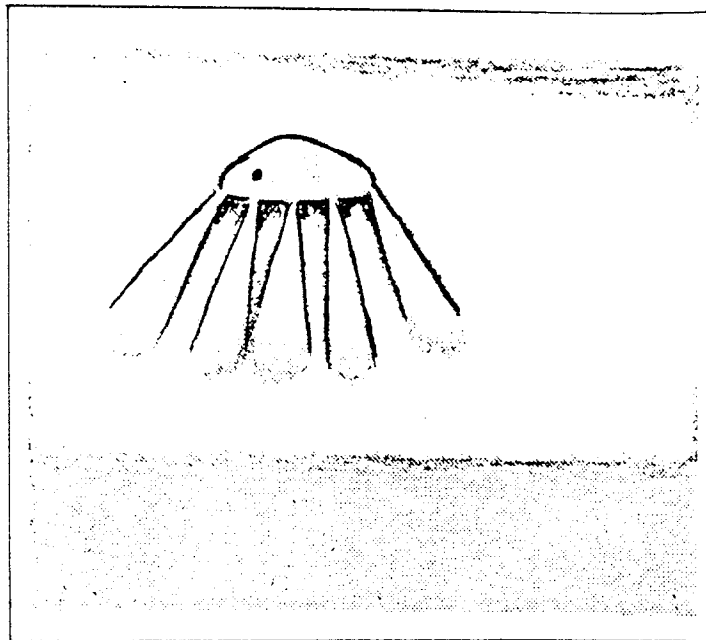
WITNESS SKETCHES

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).

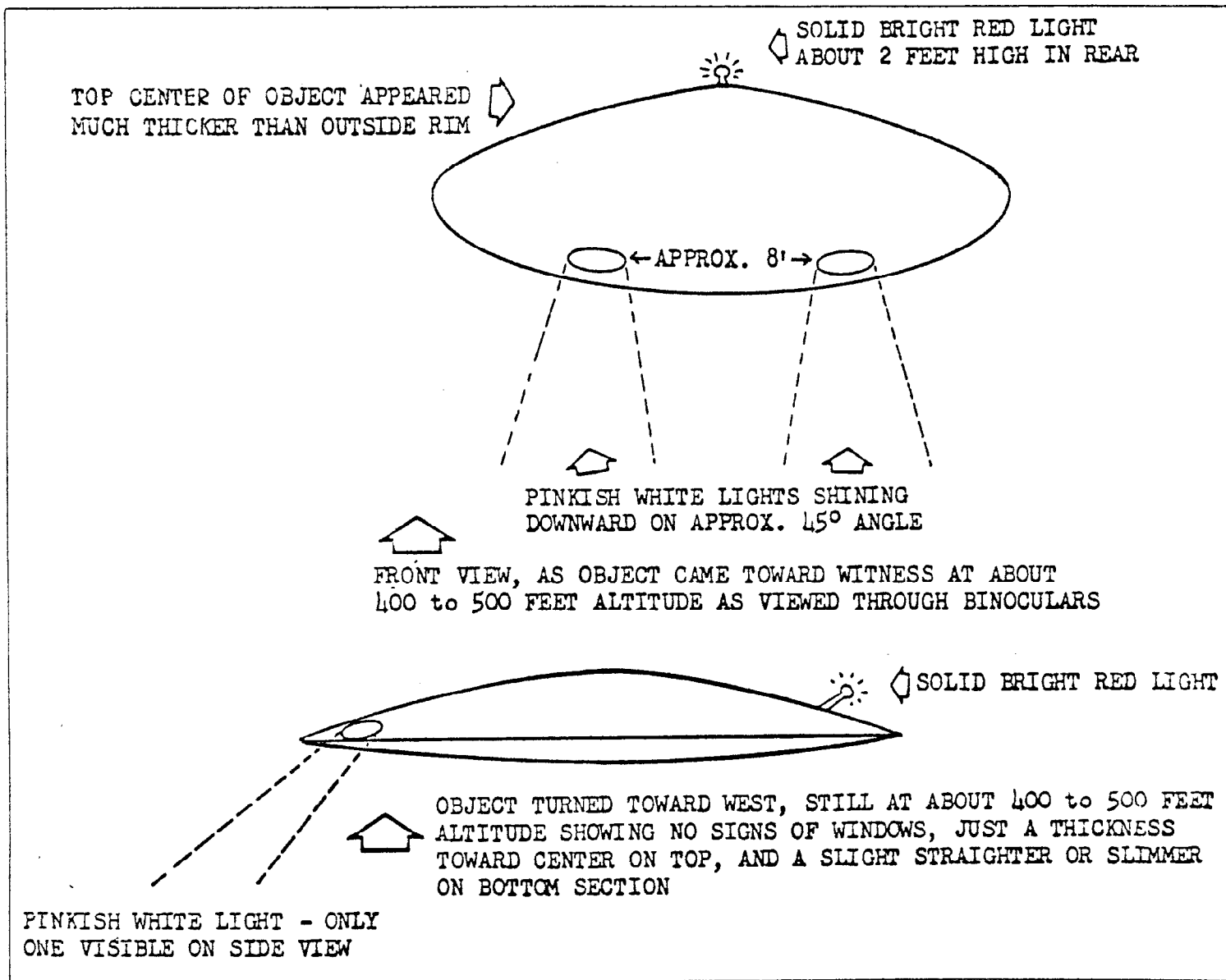
Some of the obvious recurrent features, also typical of thousands of documented verbal reports, are: clear structures most commonly disc-shaped or elliptical; light beams; body lights; rows of "portholes" or lights; domes and other projections; surrounding haze; and physical effects on the environment.

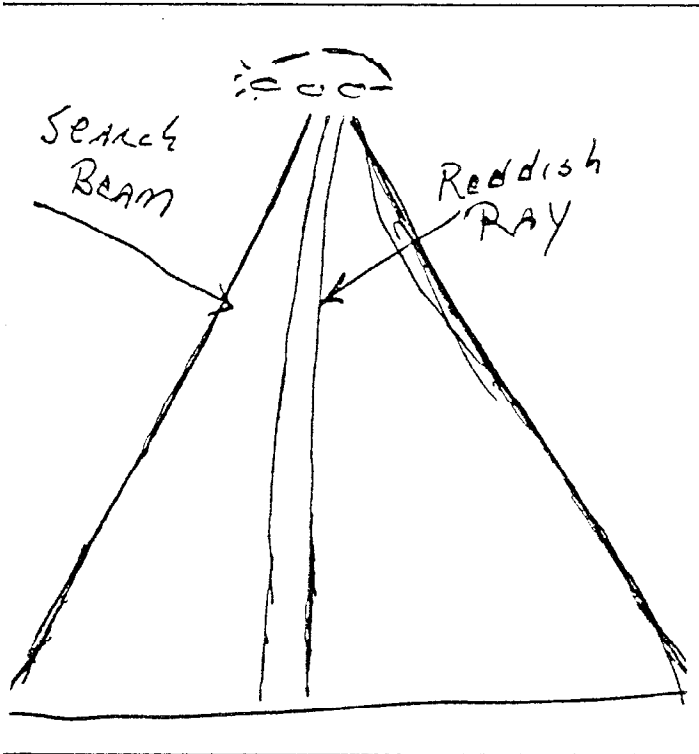
Although it was not possible to give additional details of the sightings here, many of the most complete cases will be reported in full in Volume II of The UFO Evidence scheduled for publication in 1969.



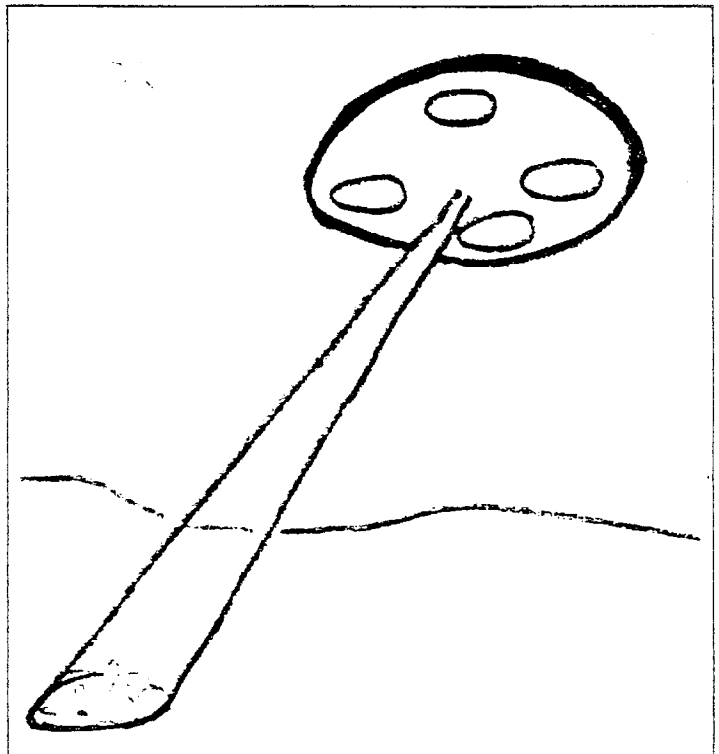
August 16, 1968; Nr. Hamilton, Ohio 11 p.m.; Large group of people saw UFO approach, beam lights down which reflected off Greenbriar Lake.

LIGHT BEAM CASES



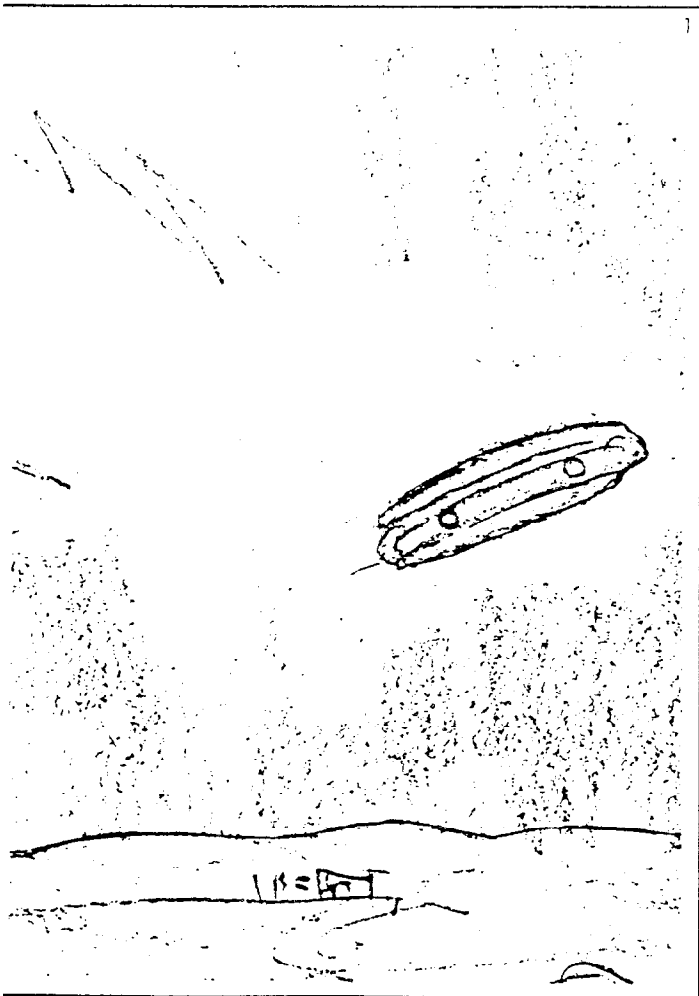


July 15, 1968; Nr. Columbus, Indiana Abt. 3 a.m.; UFO emitted beam like searchlight to ground; also narrower red beam or ray.

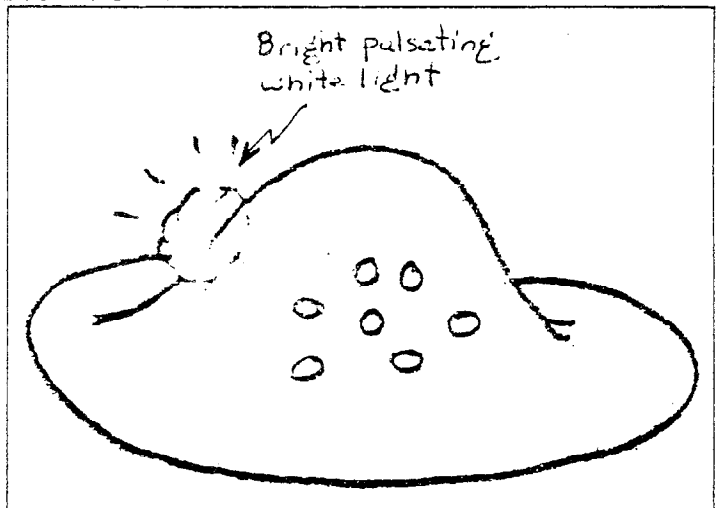


February 16, 1967; Nr. Kingman, Arizona 11:43 p.m.; UFO illuminated ground, joined two other objects as it flew away. three red and one green body lights

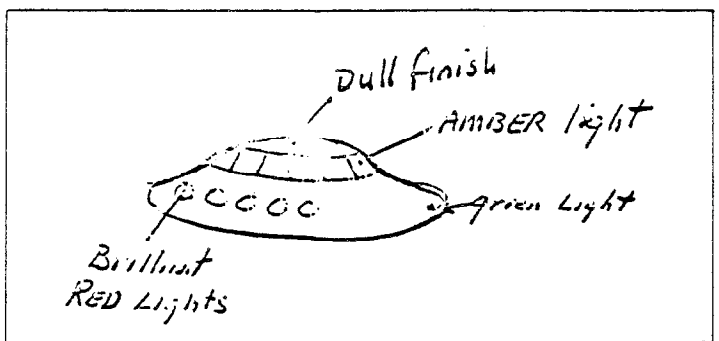
"PORTHOLES" AND BODY LIGHTS



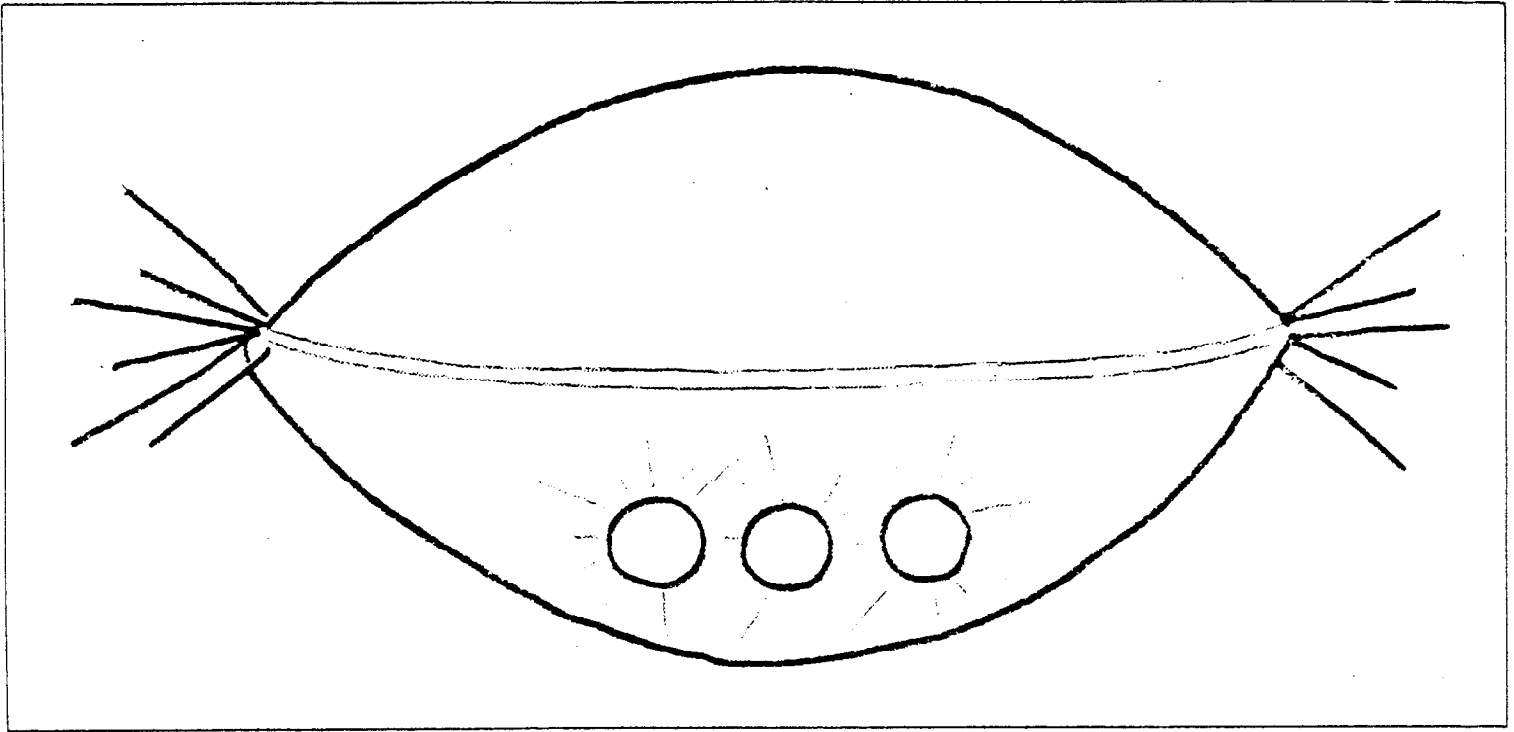
August 19, 1968; Oxon Hill, Maryland 8:25 p.m.; UFO approached, hovered, disappeared upward into clouds, visible several minutes



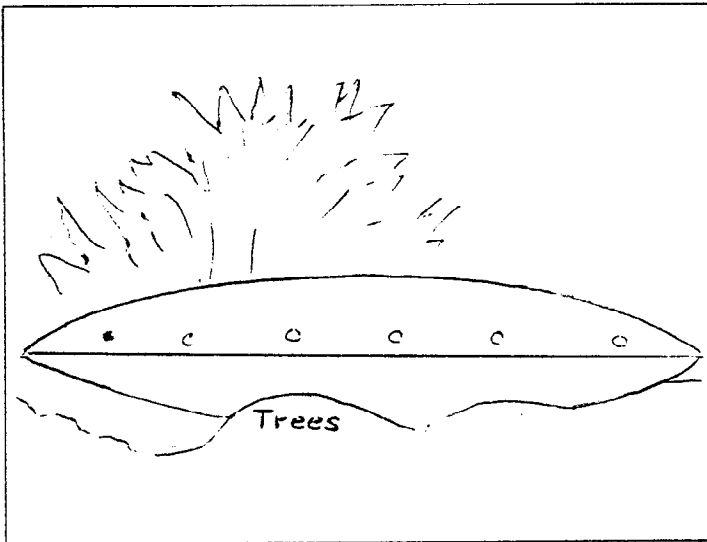
April 12, 1968; Cape Neddick, Maine 11:15 p.m.; UFO seen passing below moon during total eclipse. Body dull red-orange; small red lights, bright pulsating white light on end.



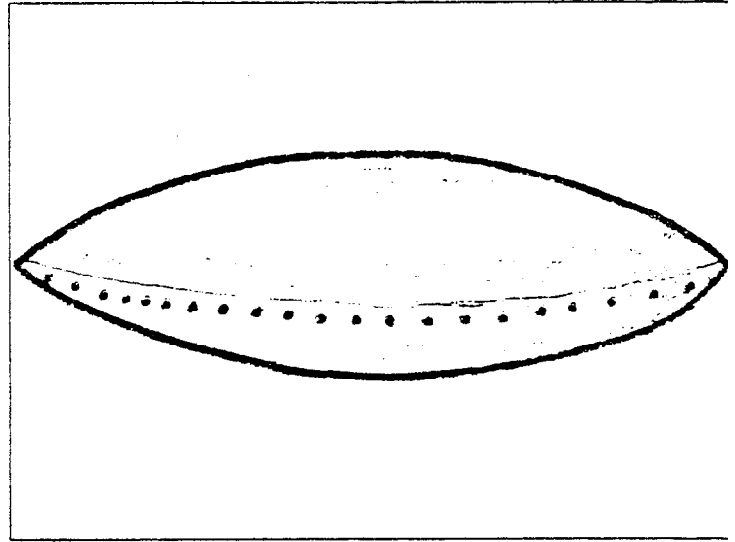
February 22, 1966; So. Kingston, N.H. 9:05 p.m.; UFO maneuvered for 35 minutes; six witnesses; "falling leaf" motion noted.



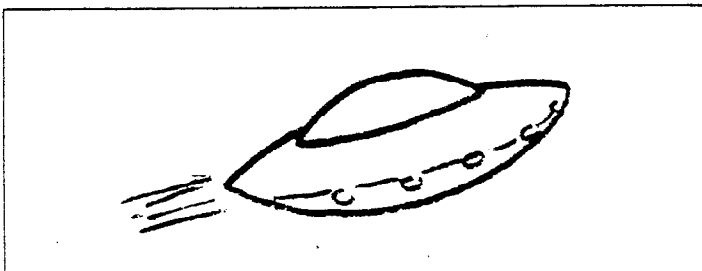
March 22, 1966, Hillsdale, Michigan; UFO sighted in midst of Michigan wave. Yellow light emanated from central band; other lights red, white and green.



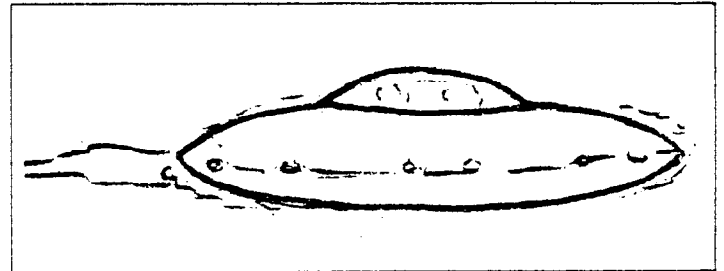
July 26, 1965; Hartshorne, Oklahoma 7 p.m.; UFO hovered 4-5 minutes just above treeline in front of one tall tree, then "whisked away." Upper part silver, lower gray-red; spots like indentations.



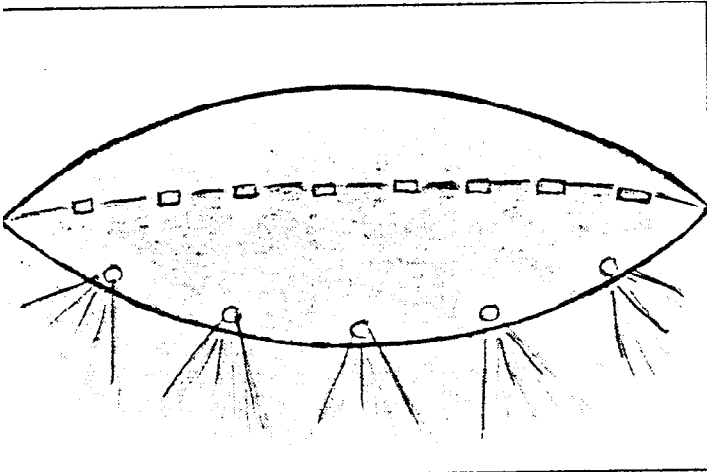
October 14, 1966; Nr. Newton, Illinois 6:45 p.m.; Yellow-orange UFO, blue line around center, red lights just under rim. Object illuminated ground, affected TV, other typical features.



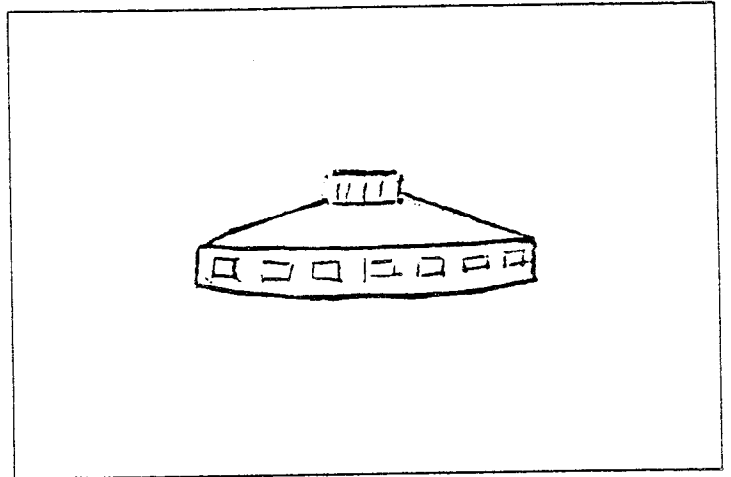
January 15, 1967; No. Granby, Conn. Abt. 5:45 p.m.; UFO emitted white shafts of light from "portholes."



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.

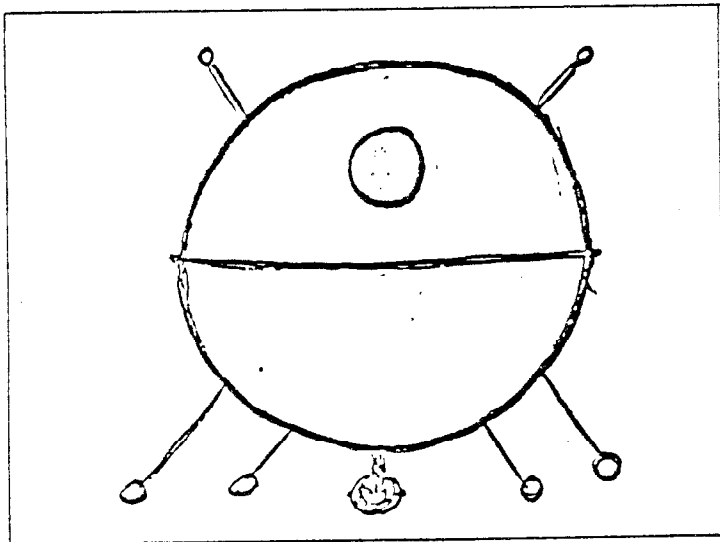


March 19, 1966; Big Rapids, Michigan 5:20 a.m.; UFO surrounded by bluish-white haze. Lights on bottom flicked on and off one at a time. Very similar object sighted 45 miles away at Grand Rapids March 17.

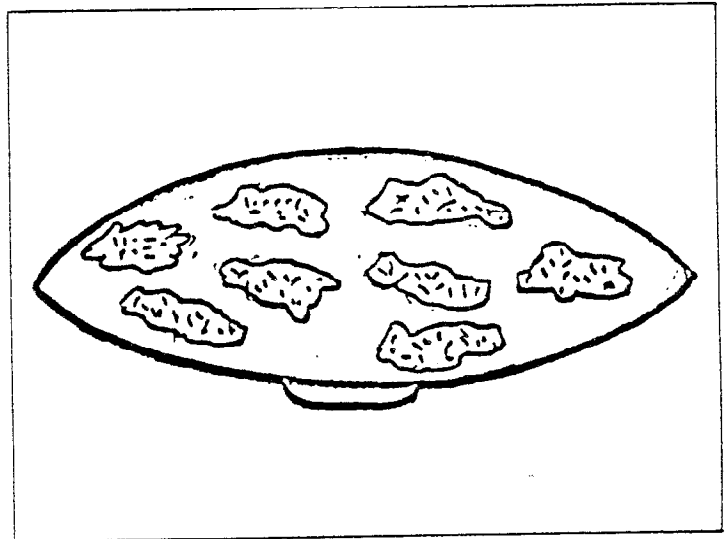


April 22, 1967; Tulsa, Oklahoma 8:10 p.m.; UFO sighted by several witnesses; lights or "ports" appeared to rotate.

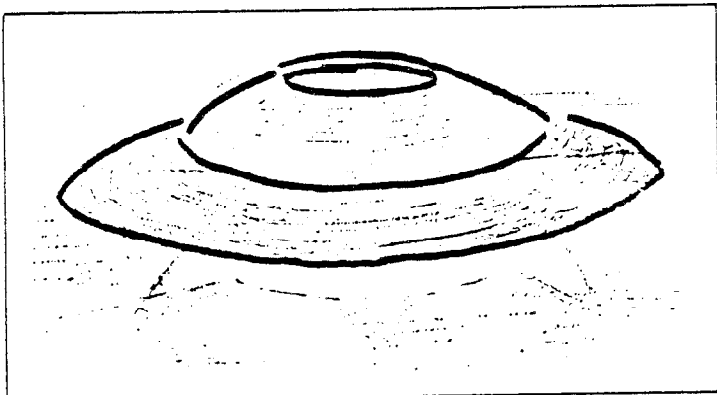
OTHER REPORTS OF STRUCTURED OBJECTS



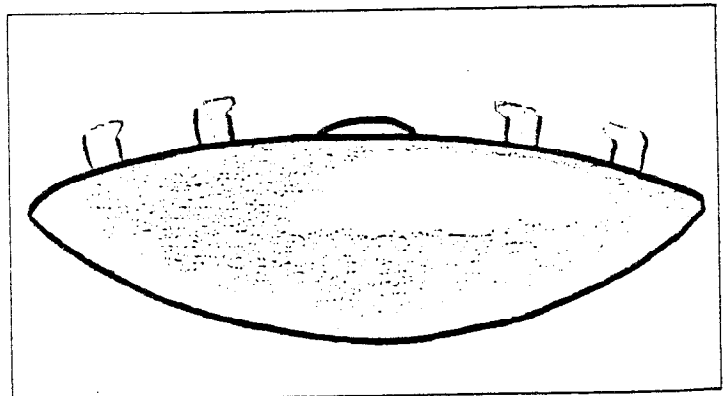
January 19, 1967; Dunbar, W. Va. 9:05 a.m. Merchant saw UFO hovering about 4 feet above Interstate 64, blocking roadway. Aluminum-colored UFO rose rapidly out of sight.



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; Vaucluse, 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,

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/

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:

9/ Sagan and Page., Ibid., p. xxvi.

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/

10/ Phillips, Ted, Jr. Unidentified Flying Objects: The Physical Evidence. New York, American Institute of Aeronautics and Astronautics, 1975. p. 6.

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.

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

