

A REVIEW OF SELECTED SIGHTINGS FROM AIRCRAFT

FROM 1973 TO 1978

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Introduction

There are five major reasons for reviewing sightings of anomalous phenomena from aircraft. First, pilots and other crew members tend to be educated, stable people who are taught to recognize a wide variety of meteorological and other aerial phenomena; they are also trained to be observant - to see and be seen during flight. As pilots accumulate more and more flight time they also have an opportunity to see and identify unusual illusory effects in nature (Minnaert, 1954; Wood, 1968). These factors tend to enhance their reliability as witnesses. This is not to say that pilots are not as subject to certain motion-induced (and other) visual illusions as observers on the ground but, rather, that pilots are more likely than not, to be good eye witnesses.

The second reason is the unique vantage point from which the sighting can take place. Aircraft flying high above the earth make it possible to view the aerial phenomenon below them, seen against the earth background. This is important in helping to establish the maximum distance to the phenomenon, a far more difficult task when the phenomenon is seen against a sky background. Not only this but pilots usually have available a wide field of view and they can quickly maneuver their aircraft to see in other directions as well.

Third, almost all commercial, military, and research aircraft and even some private aircraft are equipped with a wide range of on-board equipment helpful in detecting, reporting, and even analyzing certain characteristics of the phenomenon encountered. Radar transmitters and receivers, UHF and VHF radios, radio-magnetic and gyro-compasses, automatic direction finders, air temperature and pressure sensors, and other standard equipment can become important during aerial sightings. The rapid use of the aircraft's radio can also alert ground monitoring facilities to search the skies for the phenomenon over a broad geographic region and can request the visual search assistance of other pilots flying in the vicinity. The pilot can also request detailed weather information via the radio so as to determine if the phenomenon might somehow be associated with a particular weather pattern.

The fourth reason is namely that, particularly for commercial aircraft flying at high altitudes, the possibility that the phenomenon is a bird, prank balloon, or other deliberately contrived hoax launched from the air becomes smaller and smaller with increasing altitude.

The fifth reason for studying sightings by pilots is the fact that professional pilots have reputations at stake. What is the basis of this statement? It is that most commercial airlines conduct specially prepared screening programs for candidate air crews in order to try to eliminate those individuals who are psychologically unstable, those who are unable to cope with stress in an appropriate manner, those who can not assume a leadership role as their professional career continues, and those who cannot demonstrate an ability to make rapid, sound judgments in emergencies. And thus, by predisposition, selection, and training, pilots tend to possess such

traits as leadership, dominance, alertness, achievement, and consistency of behavior to mention a few. Maintenance of such a public and corporate image is very important. Therefore, if pilots do come forward with details of an airborne sighting it is reasonable to believe that they have, indeed, seen something very strange to them, strange enough to file a report and risk some degree of ridicule.

Certainly, the above is not to suggest that pilots are less (or more) likely to perceive illusory effects or misinterpret a natural phenomenon about which they may know little. Rather, it is reasonable to assume that pilots will be more likely to test a wide variety of hypotheses concerning the sighting before making their report and, if a particular hypothesis is reasonable they will probably not make a formal report.

To help improve the chances of obtaining reliable sighting details of truly anomalous aerial phenomena only sightings by two or more persons on-board the aircraft were analyzed here. And, to help reduce the chances that the phenomenon (or object) was a weather or research balloon, a bird, or meteor, the duration of the sighting was taken into account. In general, the lower the sighting altitude (i.e., the altitude of the phenomenon) the longer the duration had to be to be included here.

Troy Challenger and the author reviewed a total of more than 300 sightings from the air for the period 1947 to 1959 (1979). The present review is meant as a continuation of this earlier review. The interested reader should also consult the following articles involving pilot sightings from the air (Greenawald, 1977; Ruppelt, 1956; Shanklin, 1955; Wichman, 1971; Wilkins, 1954; Zeidman, 1978; Zigel, 1968).

The objective of this paper is to present the results of a review of aerial sightings predominately by pilots for the period 1 January 1973 through 31 December 1978.

(NICAP site note: The following is a partial text file (first few columns: Date, Time, Location) created for use with the Global Sighting Information Database search engine on the NICAP site. The full and correct page representations of Table 1, pages 116, 117, & 118 can be found as large GIFS on the active links provided at the beginning of each page chart below.)

[Table 1, Full page 116 \(Click here\)](#)

(1973)

Date/Time/Location

Feb 2 - 0220 - New Zealand

Feb 12 - 2130 - England

Apr 12 - 2230 - Missouri

May 17 - 2337 - S. Atlantic

May 18 - 0216 - N. Atlantic

May 19 - 1855 - Turkey

May 20 - 0415 - England
Jul 16 - 1830 - Spain
Oct 18 - 2310 - Ohio
Oct 19 - 2035 - Ohio
Nov 8 - 1640 - Bolivia
Nov 12 - 0830 - Toronto

(1974)

Jan 26 - 0259 - Lisbon
Mar 13 - ???? - Argentina
Mar 17 - 1130 - Taiwan
Apr 2 - 0930 - Argentina
Jul 14 - 1600 - Quebec
Jul 15 - 0900 - Ontario
Oct ? - Day - Texas
Oct 10 - 2210 - Newfoundland
Oct 11 - 0415 - Newfoundland
Nov 16 - 2105 - New York
Nov 23 - 1800 - New York
Nov 24 - 2100 - New York

(1975)

Jan 15 - 1808 - Japan
Jan ? - 0300 - Mid Pacific
Apr 13 - 2245 - Spain
Jun 8 - 1530 - Manitoba
Jul ? - ???? - Indonesia
Jul 4 - 2200 - New Jersey
Jul 6 - 1700 - Pennsylvania
Sep ? - 0330 - Atlantic Ocean

[Table 1, Full page 117 \(Click here\)](#)

Partial text only

Sep 28 - 2000 - Argentina
Oct 28 - ???? - Yugoslavia
Nov 22 - 1750 - S. Carolina
Nov 22 - 0740 - Arizona

(1976)

Feb 25 - 1915 - England
Feb 25 - 1915 - England
Mar 11 - night - Spain
Jun ? - 2130 - Michigan
Jun 24 - 1115 - Ontario
Jul 22 - 2300 - India

Jul 30 - 1930 - Portugal
Jul 30 - 2100 - Portugal
Jul 31 - 2004 - Rhodesia
Aug 20 - 1100 - Arizona
Sep 19 - 0130 - Tehran
Sep 19 - 0215 - Lisbon

(1977)

Jan 21 - dusk - Colombia
Mar 21 - 2050 - Los Angeles
Apr 14 - 0200 -: Luxembourg
Aug 7 - 0343 - Cairo
Sep 4 - 2250 - Montana
Sep 22 - 0525 - Texas
Oct 26 - 1720 - Japan
Oct 27 - 1735 - Sardinia
Dec 12 - 1425 - Tennessee
Dec 22 - 2340 - N. Atlantic
Dec 22 - 0200 - N. Atlantic
Dec 27 - 2254 - N. Carolina

(1978)

Jun 11 - 1300 - Los Angeles
Jun 24 - 2245 - Wisconsin
Jul 4 - 1515 - Los Angeles

[Table 1, Full page 118 \(Click here\)](#)

Partial text file only here

Aug 27 - 1340 - Massachusetts
Aug 28 - 1243 - West Germany
Dec 21 - 0336 - New Zealand
Dec 21 - 2400 - New Zealand
Dec 30 - 0012 - New Zealand

Notes:

1. The following abbreviations are used: F = foreign; U = USA (registration); C = commercial; P = private; M = military.

2. Altitude/range are in feet unless otherwise noted (e.g., ft feet). k = one thousand. The term "near" simply indicates that the original report stated directly or implied that the phenomenon was estimated to be relatively near the aircraft.

3. The value before the slash represents by Y = yes or N = no whether ground radar made contact with the UFO. The value after the slash indicates whether radar on board the aircraft made contact.

4. A ? indicates that the report did not contain this information. Use of the term indicates that the author's estimate of the encounter was less than 15 seconds.

5. This sighting was reported by the same pilot who reported the November 16, 1974 event, presumably following the same flight path.

6. An asterisk indicates that the value is only approximate. The value supplied is derived from details available in the original report.

7. This period of multiple sightings extended until 2130 (for a total of 5.5 hours).

6. This sighting of December 12, 1977 occurred in three parts, taking place at approximately 1425 (duration - 2.5 min); 1526 (duration -0.25 min); and 1527 (duration - 2 min).

TABLE 2
Summary of Cases Involving Electromagnetic Effects

Date Details of E-M Effect(s)

02-02-73 "About thirty yards from the aircraft was a ball of intense bluish-white light, much like a welding arc, that was twenty to forty feet in diameter, and stayed with his aircraft for about twenty to twenty-five seconds. The Automatic Direction Finding Compass, and both the gyroscopic compass and magnetic one, went haywire and spun at a speed of about twelve revolutions per minute. All directional equipment remained non-functional until he passed over the Wanganui area.

07-14-54 A foreign military pilot flying at 35,000 feet altitude over the Charlevoix region, N.E. of Quebec city reported sighting a triangular shaped object about 5,000 feet above his altitude. "He reported having lost radio contact and experienced troubles with his navigation equipment while flying ...close to the "Balloon." (Note: The story had been circulating during the event that the object was a balloon, however the National Research Council in Ottawa placed the case in "Non-Meteorite Sighting File No. 74- 052.").

07-00-75 American 747 aircraft crew near Indonesia reported temporary electrical failure as a UFO came along side the aircraft.

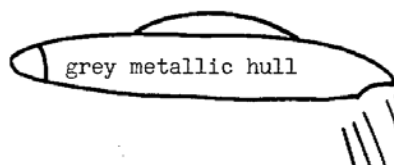
10-28-75 Foreign DC-9 aircraft were followed by "glowing UFOs" between Zagreb and Belgrade, Yugoslavia. "...some disturbances in the functioning of some instruments on (the) jets" was reported.

09-19-76 Foreign military jets (F-4 Phantom) weapons systems jammed during approaches to the UFO, a commercial aircraft's radio was also "jammed." The military aircraft malfunctions occurred within a 15 to 20 mile range. During an interview with Lt. Gen. Azarbarzin, Deputy Commander in Chief of Operations, Imperial Iranian Air Force, Thran on 1-4-77 he is quoted as saying, "...this technology they were using for jamming was something we haven't had before and we don't have it. It doesn't exist because it was a very wide band and this jammer could jam different bands, different frequencies at the same time. It's very unusual."

Figure 1
Appearances of Phenomena
(ordered by common features)
Pages 119-128

Category: Angularly Large, Sources with Definite Shape

10-18-73. Drawing by pilot (L.C.). Constant red light on front, green light on rear moves as a spotlight does.



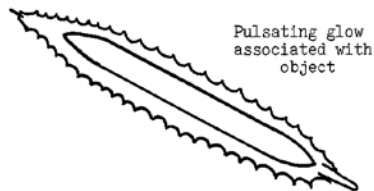
Drawing by crew chief (R.Y.).



06-08-75. Drawing by pilot (L.A.G.). Object disappeared in "cloud of smoke"



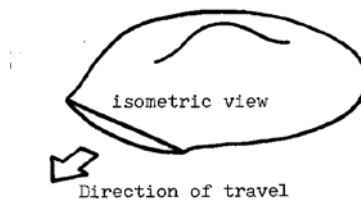
12-12-77. Drawing by passenger (R.S.). Object No.3. Pulsating glow associated with object.



12-22-77. Drawing by UFO investigator (D.R. Tucker, Project VISIT).



Estimated width: 60'. Thickness: 20'.



07-16-73. Drawing by artist after pilot's description. Looked like a rugby ball in a vertical position with its lower end cut off, top half was greenish; bottom half shaded from orange to reddish; light emitted from bottom.



Estimated height: 20m, width: 10m

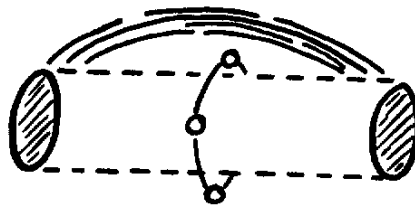
10-19-73. (No drawing available) Private pilot reported seeing a "huge (size of two story house) glowing green glob of light in a rough pyramid shape" which "swooped alongside his plane from nowhere." This object "changed shape and would pulsate; as it dimmed, radar contact was lost, as it brightened, radar contact was re-established."

11-08-73. (No drawing available) Foreign commercial pilot reported seeing a small, luminous top-shaped object with small window openings.

07-22-76. (No drawing available) Foreign commercial pilot reported seeing an object at his altitude of 35,000 feet which resembled a "dirigible gondola, with four very large windows, each about 25 feet apart." It was estimated as being "... much larger than (their) DC-10." Intense illumination was seen inside the "windows."

09-22-77. (No drawing available) American commercial pilot reported seeing "no distinct shape...but it appeared to be elongated with a row of brightly illuminated "windows" running front to rear."

09-19-76. Drawing by Mehrabad (Tehran) airport control tower, night shift supervisor (H.P.) from the ground.



Object 1. Hazy-yellow-blue arc. Elliptical disc of pulsating whitish-blue light (at ends) Estimated length: 8m, thickness: 2m.

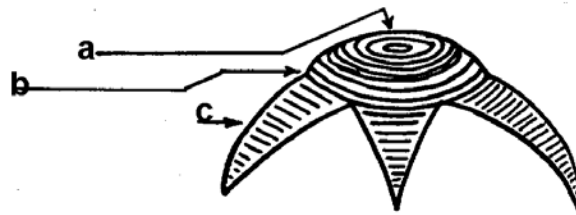
Main body invisible.

One round red light circling the main body, and pausing very briefly every quarter-turn. "...it took about a second or two to make a full circle."

The entire object "oscillated like a see-saw--with the two ends describing 20 degree arcs."
(viewed for 5 mm).

Object 2. Same witness (H.P.) then saw about two miles farther south a "circle of blue color - probably about six meters in diameter ." (viewed for about 3 mm)

Object 3. Same witness (H.P.) then saw object change shape to appear ".. like a fan with sometimes three, sometimes four, drooping and tapered blades." Glowing red core ("a"); Green ring ("b"). Dark orange extension ("c") as though flowing out of the green area. Became more yellow than orange toward each tip. Witness is certain that there was only one such extension which kept revolving to create an illusion of four and sometimes three different extensions, each extension was estimated to be about 2m long. Extension outlines were fuzzy.

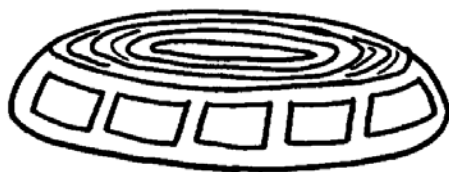


Object 4. The same witness (H.P.) and many others at control tower also witnessed seeing a fourth object or change in shape of the same object. Main part was orange-red ("a"). Corner glowed red ("b"). "While stationary, the UFO seemed like a beehive of activity: rhythmically glowing oscillating, and emanating lights that rotated around it."

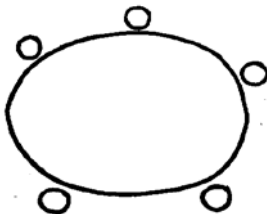


"Every few minutes the UFO would also change positions- seemingly disappearing from the observers at the control tower, and almost instantaneously reappearing at another spot in the sky miles away."

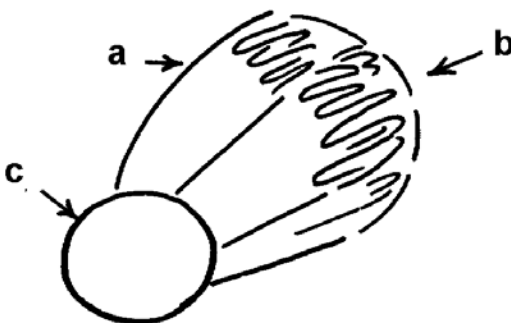
9-19-76. Drawing by first officer (A.P.) An intensely white, fluorescent light was emitted by the object. It left a non-continuous, sparkling trail.



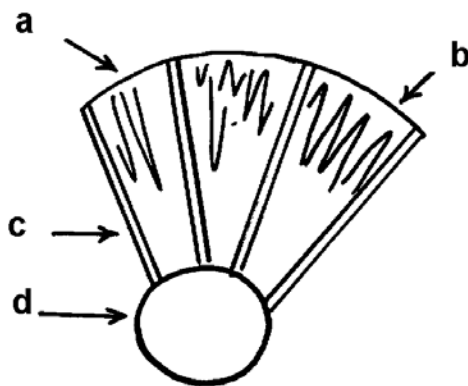
Drawing by pilot (Anon.). Horizontal oval of primarily white light but with a "constant blend of different shades of colors appearing across the surface." Outline was diffuse. Estimated width: 15'. Apparent angular diameter: 0.25 deg. Five small, distinct red lights located at edge.



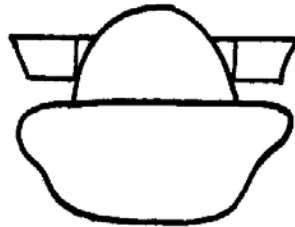
12-27-77. Drawing by pilot (R.A.). Curved edge ("a"); silver ("b"), white light ("c").



Drawing by observer on board helicopter (H.D.). Rounded top ("a"); silver ("b"); four ribs (maybe more) ("c"); white light ("d").



7-4-78. Drawing by pilot (F.P.H.). Hemispheric dome was bright chrome. Base was dull gray. Protrusions from dome rotated "back and forth" rapidly - the eyes could see the motion. "UFO was very close and clearly defined in clear air and skies." Estimated width of base: 36". Total height: 36"



6-11-78. Drawing by pilot (F.W.W.) "...solid metallic aircraft of ovoid shape having a definite axis about which it moved... symmetrical in shape with a continuous highly reflective surface with no visible seams, markings, bolts, rivets, lights or protrusions of any kind." Estimated width: 2' to 3'. Thickness: 1.5' to 2.5'.



5-20-73. (No drawing available) Foreign commercial pilot reported seeing a "...silver oblong body, hanging vertically.

2-2-73. (No drawing available) Foreign commercial pilot reported seeing a "... ball of intense bluish-white light, much like a welding arc.. .twenty to forty feet in diameter." It stayed with his aircraft for about 20 to 25 seconds.

4-12-73. (No drawing available) American private pilot (and passenger) reported seeing a "circular-shaped UFO that was bright white which became tinged with orange at times and "seemed to give off heat waves."

12-30-78. (No drawing available; 16mm color film 10 fps obtained for approx. 7 minutes) Film image shapes vary from circular. to oblate spheroid to thick streaks (both curved and straight) to complex closed polygons.

Colors on color film are typically yellow-white with occasional small areas of green and red.

9-4-77. (No drawing available) American commercial pilot reported seeing an oval UFO "...about 150 feet in diameter, flying at an altitude of 15,000 to 18,000 feet.... It was pulsating from a circular shape toward oblong, and giving off a reddish-green glow speckled by throbbing white, green and red lights on its side."

10-27-77. (No drawing available) Foreign military pilots in three separate aircraft reported seeing an orange circular UFO within 1000 ft. of one aircraft.

12-22-77. (No drawing available) American commercial pilot and co-pilot reported seeing a circular UFO with predominantly white lights. "There was a red blinking light on top of the thing with all those twinkling, silvery-white lights on around the middle... there was darkness between the red light on top and the white lights around the middle, and then darkness below the lights again.... and there was another red blinking light on the bottom of it. About every dozen or so lights around the middle, there was a reddish-purple one, and in between THEM, (sic) there was a blue one. But they were all blinking off and on intermittently."

This UFO then emitted a neon-green smoke ring from its bottom side which descended to the ocean's surface and "submerged! We saw the glowing green circle of water where it went in, and then the glow disappeared!.... Seconds later, two more green rings dropped out. The second one dropped away and submerged like the first one, but the third one dropped down and then shot straight ahead to disappear toward the coast."

"... the big UFO paced us for about twenty minutes, then all of a sudden the lights around the middle began going out in clusters -- not in banks of say, six or eight in a row, but six or eight separate individual lights at the same time..." "The top and bottom blinking red lights went out too with only scattered blue lights around the middle still blinking."

Finally, "... we could faintly see the silhouette of... like two inverted shallow soup bowls put together. Then very faintly just above the mid-lateral line we could see a soft subdued green glow emanating (sic) from what appeared to be trapezoidal shaped windows.. you know... wider at the bottom than at the top.

"Just about the time our eyes got focused on the windows, the thing assumed an overall bluish corona. Then it took off straight ahead like a cut cat, leaving nothing in front of us but a blue streak in the sky."

7-6-75. (No drawing available) American commercial pilot and co-pilot reported seeing a "...very dark rust" colored disc that at times appeared "almost black."

3-11-76. (No drawing available) Foreign commercial pilot reported seeing "an object which emitted a strange, intense light which seemed to come out from windows or similar openings, for to each luminous spot corresponded a dark one," It disappeared immediately after becoming intensely white.

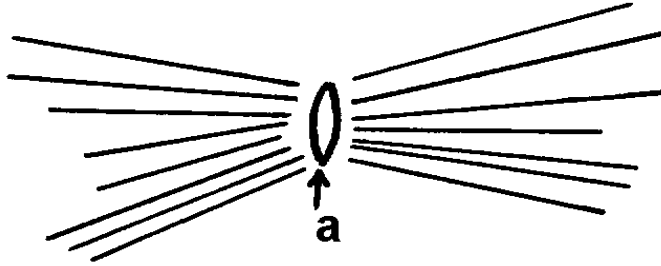
8-20-76. Drawing by commercial aircraft passenger (J.S.). Object was seen near the ground, "reflecting sunlight brightly." A round shadow was seen on the ground beneath the object... the shadow then merged with the object. Reddish-brown spot ("a"), silvery, shiny disc ("b").



5-19-73. Drawing by pilot (E.M.). Bright light at center ("a"); a trail of paler light ("b"). Glare (as seen on horizon).



As seen on at Zenith. Bright light at "a".



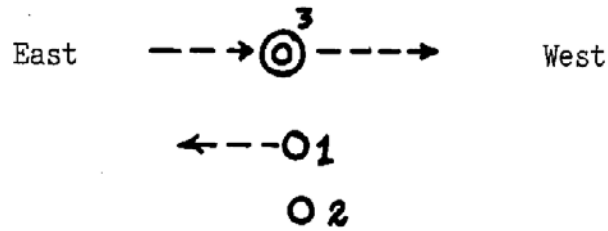
7-4-75. (No drawing available) Private pilot and passenger reported seeing the outline of a craft of light coloration and oval or cigar shape that appeared "...quite large." As it accelerated out of sight it "...changed brightness slightly."

Category: More Than One Object with Finite Angular Size

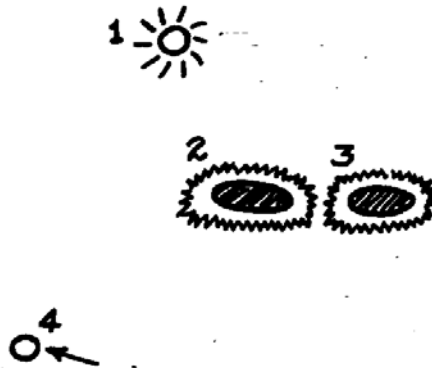
3-17-74. Drawing by pilot (W.K.) "While I was watching objects 3, 4, and 5.. with my binoculars (along with two other crew members)" another object (number 6) dropped out the bottom of number 4. Object number 6 dropped down "...approx. 2,000 feet and then shot out to join up with no. 5." They all disappeared since we passed under them in about the opposite direction. The objects were sharply outlined and reflected the daylight.



8-28-78. Drawing by pilot (P.C.). Two small, round objects 1 & 2 were seen motionless ahead and above the aircraft. The captain "then noticed a circular halo-shaped object 3 approach from the East." It passed "very close" to the two round objects and continued. "As it passed, one of the round objects (number 1) accelerated to the East very rapidly and was soon lost to sight. "All these objects were very high up, but quite clear. They all shown white."



7-30-76. Drawing by pilot (D.W.) Pilot reported seeing light 1 for 8 minutes, object 2 appeared 2 min later and 3rd at same time. Object 1 was "incredibly bright." As we were looking a long cigar shaped object or sausage shaped brown affair appeared below it and to the starboard side of it, it just materialized...and then another one appeared next to it. 1: "Very large bright headlamp". 2 & 3: First object appeared. Second object (30-sec later).



: Second smaller bright object appeared about here.

First officer (C.T.) said that, "...its shape (number 1) was very difficult to discern. Rather like an enormous headlamp in the sky. It was not a star, planet or satellite." "Whilst watching this light an incredible occurrence was witnessed. At a much lower level, a large rectangular object suddenly materialized. It had the appearance of a thick, foreshortened condensation trail. The periphery was of a vapor appearance and colored, probably by the setting sun. The center was very dark, solid looking, somewhat cigar like and appeared stationary." About 30 sec later object 3 appeared "...just behind the first....I was under the impression that a third one appeared underneath the second (object 3) but couldn't swear to it. Another light then appeared (object 4); seven o'clock to the headlamp, but was lower on the horizon, not so intense and may be unrelated to this situation."

Category: Miscellaneous Descriptions Involving Perceived Shape

1-26-78. (No drawing available) Foreign commercial pilot and crew reported seeing from 10 to 15 orange glowing saucer-shaped objects flying in precise formation. The separation distances were maintained throughout the approx. 60 second-long sighting.

4-2-74. (No drawing available) Foreign commercial pilot and four other crew members reported seeing an extremely bright round, somewhat flat object. An estimated 70 passengers on board also saw it.

7-14-74. (No drawing available) Foreign commercial pilot reported seeing a luminous triangle while at an altitude of 33,000 feet.

7-15-74. (No drawing available) Foreign commercial pilot and other passengers reported seeing a bright, silver-white cigar or triangular-shaped object above their aircraft. The object appeared to change from red to orange and yellow to blue.

10-??-74. (No drawing available) American commercial pilot and passenger reported seeing a bright white rectangular object seen against the clear blue sky. It finally accelerated upward out of sight after remaining visible for about eight minutes.

8-27-78. (No drawing available) American private pilot and passenger reported seeing a bright, reflective silvery-white oval or sphere, partly translucent, with no protrusions. Object appeared to darken as it neared the aircraft.

Category: Continuously Visible Single Point Sources - White

| | | |
|----------|----------|----------|
| 05-18-73 | 11-24-74 | 07-30-76 |
| 11-12-73 | 04-13-75 | 01-21-77 |
| 03-13-74 | 09-??-75 | 04-14-77 |
| 11-16-74 | 09-28-75 | 04-23-77 |
| 11-23-74 | 11-22-75 | |

Category: Continuously Visible Single Point Sources - Colored

05-17-73 Very bright, blue-white with a red tail.

10-10-74 Greenish light, followed aircraft for 25 minutes.

11-22-75 Greenish-white light and orange sparks trail - changed to ragged patch of orange - changed to flowing orange "embers"- changed to darkness over 4.5 minute duration.

06-24-76 White light with a greenish tint traveling at about Mach 1.

07-31-76 Orange object seen "low on NW horizon."

10-26-77 Four or five "fireballs" seen falling into Pacific Ocean.

12-21-78 Brilliant white with intermittent reddish tinge. Two or three lights followed aircraft for about 10 minutes.

03-21-77 Bright orange with blue flames trailing behind.

Category: Flashing Point Sources - White and Colored

02-12-73 Two white flashing lights, one on top of the other, accelerated vertically out of sight.

10-11-74 Object had red and white flashing lights. Object "pulled along side the aircraft for about 5 miles as aircraft descended 5,000 feet."

01-?? -75 Dull white source flashed on and off "sharply" for three minutes. Disappeared suddenly.

02-25-76 White light with a tint of red, hazy outline, flashed at 5 second intervals. (FP)

02-25-76 Brilliant white, rapidly flashing, sharply defined. (FC)

Data Base

A total of 72 sighting reports of 69 separate cases or an average of 11.5 sightings per year involving relatively long durations and two or more eye witnesses of the UFO were found in my own files and in reports sent to me by numerous foreign and domestic investigators. Of these, 72.2 percent involved commercial, 19.5 percent involved private and 8.3 percent involved military pilots. Table 1 summarizes these cases which includes the basic "objective" sighting

data, i.e., radar (ground sites on-board) and electromagnetic (E-M) effects on-board the aircraft. (1)

Six cases were found involving some type of electromagnetic effect on-board the aircraft. The basic details of these six cases are given in Table 2. One report (4-13-75) was too abbreviated and in Spanish to afford enough details to include here.

A number of subjectively determined characteristics were also reported for these sightings. Both verbal descriptions as well as drawings of the phenomena were available in some instances. The many hundreds of pages of original documents have been abbreviated and grouped by common features in Figure 1 (pages a - j) for cross comparison.

Data Analysis

The distribution of sightings by year and foreign or domestic aircraft registry is given in Figure 2. The total number of sightings appears to be relatively constant except for 1978. Perhaps this is because not all of the available reports for 1978 have yet been submitted. There also appears to be a small increase in the number of American aircraft involved.

That there tends to be a small increase in the total number of sightings from the air as the year progresses with a dominant peak occurring in July is illustrated in Figure 3. These monthly frequencies may be compared with those given on pages 33 - 38 of Hall's (1964) review of military, commercial, and private pilot sightings for the period August 1944 to March 1963 (224 months). A total of 112 sightings are listed (2) in Hall's review for an average of two sightings per month in comparison to an average of one sighting for each of the 72 months covered in the present review. The numbers in parentheses for each month in Figure 2 represent the percentage of all 112 sightings in Hall's review for comparison purposes. The peak (i.e., maximum) frequency of sightings in July is evident in both sets of data as it was in the U.S. Air Force's Project Blue Book, Special Report No. 14 (Davidson, 1971) covering the period June 1947 through December 1952 and including about 4,000 UFO sighting reports. While the relatively large sample size represented in the Air Force graph indicates a more symmetrical distribution of sightings around the July - August peak months, the criterion that was used to place sightings into the "in sufficient information" category in the first place is open to question for reasons that are beyond the scope of the present paper.

[Figure 2. Number of Sightings By Year & Registration Classification](#)
[Figure 3. Number of Sightings by Month & Registration Classification](#)

The present data were also analyzed by duration of the sighting. Figure 4 presents these findings by year. The top of each bar is the maximum and the bottom the minimum duration in minutes with the mean shown by a short horizontal line and number (in minutes). While the means are relatively long and may surprise some readers, comparison may be made to other research on the same subject by Davidson (1971) and Vallee and Vallee (1966, pg. 178) which indicates roughly comparable durations for sightings predominantly from the ground. A direct comparison among these three sets of duration data is not possible since each investigator used a different method of compiling data. It is valid to say that the present sighting durations tend to be of shorter duration

than either those of the Air Force's Special Report 14 or those presented by Vallee and Vallee. These comparative duration graphs are given in Figure 5.

What time of the day did the present group of sightings occur? The answer is illustrated in Figure 6 using a 24 hour clock and plotting the frequency of the sightings' local time within one-hour intervals. It may be seen that the largest proportion of sightings occurred between 2100 and 2500 hours with a second "peak" occurring between 0200 and 0300 hours.

The major "peak" extending between 2100 and 2500 hours local time in Figure 6 corresponds to the major peak cited by Vallee and Vallee (1966) for Type III cases, namely, "...an unusual object of spherical, discoidal or elliptical shape stationary in the sky." However, no secondary "peak" is found for the 0200 to 0300 hours period in the data presented by Vallee and Vallee. In addition, a peak in the number of object sightings was found to occur between 2000 and 2300 hours in the U.S. Air Force study (Davidson, 1971; Fig. 41) and a much smaller peak at 1400 to 1500 hours. Thus, the present data appears to fall within the same general frequency of occurrence and time of day patterns as previously reported sighting data (primarily sightings from the ground). A previous analysis of aerial sightings (Challenger and Haines, 1979) has shown that these two frequency "peaks" are influenced by season of the year and by the latitude at which the sighting is made. Interested readers may also wish to consult other "time of day" data reported elsewhere (Ballester-Olmos and Vallee, 1971; Hynek and Vallee, 1975; Phillips, 1975) which include predominately sightings from the ground.

It is also instructive to compare the distribution of the various types of "objective" data with the subjective date. Objective data is any automatically or instrumentally derived data that occurs *without* the direct, continuous involvement of the human being. This is done in Figure 7 in the form of a Ven diagram. Numbers in parentheses represent the percentage of the total 72 sighting reports for each type of data indicated. These data were extracted from the "Radar" and "E-M" columns of Table 1 for each sighting for which there was a "Y" (yes). Referring to Figure 7 it may be seen that some form of objective data was found to occur on 21 (29 percent) of the 72 total sightings. Also, seven percent involved both on-board and ground radar of the aerial phenomenon and one percent involved both on-board radar contact and some type of E-M effect. Interestingly, in no instance was there the situation where an objective indication of a phenomenon was obtained without a visual sighting. These data may be considered as a continuation of other reported E-M effects accompanying UFO phenomenon reported elsewhere (Hall, 1964, Section 8) in which aircraft pilots reported such effects as engine failure, jammed radar, blocked radio transmission on various frequencies, "strange" radio signals received, ADF burnt out, etc. In the majority of such cases a high energy field seems implicated. Determination of the exact nature of the phenomenon would depend upon a careful study of extremely well documented cases where on-board sensing systems are affected in a way that may be "recalibrated" after the fact. For Instance, if an ADF coil is shorted out it is possible to trace each circuit segment to find out where the break occurred and the likely current density that would have been required to cause the damage. A detailed analysis of various E-M data associated with the New Zealand sighting of 12-30-78 is currently underway.

[Figure 4. Sighting Duration \(minimum, mean, maximum\) by Year](#)
[Figure 5. Cumulative Percentage Distribution of Sighting Duration](#)

[Figure 6. Time Distribution of Sightings \(1973-1978\)](#)

[Figure 7. Diagram of the Quantitative Distribution of Subjective & Objective Data](#)

Some general observations are in order concerning the shapes and other reported "subjective" features of these objects: (1) Of the 18 drawings analyzed, ten (55.5 percent) were symmetrical. This value is close to the 59.7 percent of symmetrical UFO drawings by 139 participants in a special UFO drawing test who indicated that they had seen a UFO (Haines, 1979 (b)), (2) The majority of these drawings were oriented with the long axis parallel to the earth's surface (assuming that the paper used for the sketch was oriented long dimension vertically), (3) In most of these verbal descriptions the object or source of light was clearly defined, and (4) Numerous descriptions involve one or more:

(a) Luminous rays emanating from the object: (10-18-73; 12-12-77; 9-19-76
Object 1, Object 3; 5-19-73; 7-16-73)

(b) Either steady or pulsating homogeneous luminance over the entire surface
of the object; (2-2-73; 4-12-73; 10-19-73; 1-26-74; 4-2-74; 7-14-74; 7-15-74;
10-??-74; 7-30-76; 9-19-76 Object 2, Object 4; 9-19-76; 10-27-77; 12-30-
78)

(c) Highly complex colored lights accompanying a main object: (2-12-73;
10-11-74; 9-19-76 Object 1, Object 4; 9-4-77; 12-22-77; 6-24-78)

(d) Passively reflecting object(s): (5-20-73; 3-17-74; 7-6-75; 8-20-76; 6-11-
78; 7-4-78; 8-27-78; 8-28-78)

(e) Some variation of "windows" and/or internal illumination seen within the
object(s): (11-8-73; 3-11-76; 7-22-76; 9-22-77; 12-22-77)

Referring to the descriptions of the phenomena given in Figure 1, it can be seen that these descriptions could be placed into one of six basic classifications: 3

- (1) Angularly large sources with a definite shape (27 cases)
- (2) More than one object with finite angular size (3 cases)
- (3) Miscellaneous descriptions involving perceived shape (6 cases)
- (4) Continuously visible single point source(s) - white (14 cases)
- (5) Continuously visible single point source(s) - colored (8 cases)
- (6) Flashing point source(s) - white and colored (5 cases)

It did not appear warranted to develop more categories than these.

Some General Observations

Perhaps the most general observation to be drawn from this review is that there are some patterns that emerge. As discussed, they are the same kinds of time of day and month of the year patterns that have been reported previously and which derive mainly from observers on the ground. Certainly, there is no particular reason why details of sightings from the air should differ significantly from sightings from the earth's surface. Another general conclusion is that private, military, and commercial pilots and passengers continue to see and report bizarre phenomena while flying; this occurs in many foreign countries as well as in America. Also, while some of the present sightings seem to involve passive, free-floating objects like balloons (e.g., 7-6-75 and 6-11-78) the majority do not. The appearance of the phenomena seems to fall within approximately the same broad range of perceived shapes as are cited in the UFO literature (e.g., Vallee and Vallee, 1966). This occurs in spite of the supposedly high observational capabilities of pilots outlined briefly in the introduction; this observation raises some intriguing questions concerning the validity of the sighting details. If one assumes that pilots are seeing and reporting the same phenomena as ground observers are seeing and reporting then one would expect the subjective and objective data obtained from the two observer groups to be similar (and with comparable range of features). Apparently this is what is occurring. If one assumes, on the other hand, that pilots are seeing and reporting a different sub-set of phenomena than are seen by ground observers one would expect some qualitative (and quantitative?) differences in the reports from the two observer groups. While a statistically reliable test of the similarity and differences of these two observer groups' reports must await a larger sample size made up of more valid data, it now appears reasonable to suggest that the aerial phenomena reported by pilots and passengers flying is very similar to the aerial phenomena seen from the ground.

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FOOTNOTES

1. One reason they are listed here is to invite comments and corrections from the reader, If you happen to know the explanation of any particular sighting please correspond directly with the author.
2. Only those dates for which the month is given are included here.
3. As is indicated in the drawings of Table 2, almost all of the drawings were by the pilot(s) involved. Every attempt was made to faithfully reproduce the original line weight, shading, orientation, and other features of the original drawing in keeping with recommendations made elsewhere (Haines, 1979) (b).

Source: MUFON 1979 UFO Symposium Proceedings, pages 113-140.