

**A REVIEW OF SELECTED AERIAL PHENOMENON SIGHTINGS  
FROM AIRCRAFT FROM 1942 TO 1952**

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**ABSTRACT**

Sightings of so-called anomalous phenomena made from the air have the same fundamental features as phenomena reported by ground witnesses. This conclusion is based on a previous review of 69 cases from aircraft for the period 1975 to 1978 (reference 1). It is significant in that several prosaic explanations offered are either totally or partially eliminated because of it (e.g., radio controlled models, birds, balloons). The present review of an earlier period seeks patterns in the data that may be diagnostic in understanding something about the core identity of UFO phenomena. A total of 285 aircrew reports are reviewed for the period 1 January 1942 to 31 December 1952. It was found that 93 percent involved American and 7 percent foreign aircraft. Of the total 68 percent were military, 20 percent commercial, 11 percent private, and 1 percent unspecified. Twenty-nine cases (10.2 per cent) involved some form of electro-magnetic effect; they are reviewed in some detail. General statistics on temporal, spatial, and other factors are provided.

**INTRODUCTION**

A previous MUFON symposium paper (reference 1) gives five reasons for the author's continuing interest in the analysis of unidentified aerial phenomena reported by aircrew during flight. The present review is a continuation of an attempt to find pattern(s) of characteristics predictive and/or diagnostic of the phenomenon's basic nature. A total of 72 reports of 69 separate cases from 1975 to 1978 involving two or more aircrew witnesses in flight was presented at the 1969 annual MUFON convention in San Francisco. There it was concluded that the basic nature of the phenomenon (phenomena?) seen by aircrew was remarkably similar to that reported by ground witnesses representing an extremely wide range of occupations. Because many of the aircrew sightings took place at high altitudes, over extended periods of time, and during (airplane) travel at high velocities, a number of prosaic explanations could be readily eliminated. Among these explanations are birds, balloons, radio-controlled flying models, and kites. Meteors, and rocket launches and re-entries also are generally precluded because of the relatively long viewing durations and sometimes violent flight maneuvers displayed. It should be remembered that the space age did not begin in earnest until October 4, 1957 with the launch of Sputnik 1.

Of particular interest from the earlier MUFON paper were five cases of the 69 (7 percent) that involved some kind of electro-magnetic (EM) effect. They included: (1) abnormal deviations of a gyro - and a magnetic-compass in addition to a burnt-out automatic direction finding compass, (2) navigation and radio equipment malfunction, (3) temporary failure of the electrical system, (4) malfunctions in cockpit instruments, and (5) temporary but total failure of the weapons firing

system on an American built F-4 Phantom jet aircraft with wide frequency band jamming. Each of these events occurred when an unidentified phenomenon flew in the vicinity of the airplane. Other EM cases are presented elsewhere (references 2 - 6). All of the aircraft flying during the period reviewed here had some kinds of sensors, emitters, or other passive instrumentation on-board that could give clues as to the frequencies, magnetic field strengths, and power densities on the airplane allegedly produced by the phenomenon. It is the author's belief that a systematic search of the spectral frequency plot(s) of the aerial phenomena will be particularly helpful in understanding what the phenomenon is and also in enlisting the assistance of other professionals in such studies.

Finally, since almost all of the information reviewed here is historical and not particularly complete (obtained largely from USAF Project Blue Book files), the earlier restrictions of requiring two or more eyewitnesses and a combination of high altitude and low air speed or lower altitudes but higher air speeds were not applied. It is finally becoming an accepted truth in UFO studies that the validity and scientific usefulness of the evidence obtained is only as high as the reliability of the observer(s) and the care with which the data is dealt by the investigator(s). Witness reliability is influenced by many external (environmental) and internal (socio-psychological) factors each of which can contribute to the final perception and memory reconstruction of what took place (references 7,8,12). Unfortunately, much early UFO research was carried out by untrained people; much of the early U.S. Air Force "research" conducted under Project Sign and Grudge was haphazard in terms of both its quality and quantity. Because the present review covers this early period the data base is not as complete or useful as it otherwise might have been. Nevertheless, it is better than nothing and does form a base upon which to build explanatory models.

## **THE DATA BASE**

Appendix 1 presents a listing of the 285 cases found in the open literature for the period in question. A blank or question mark indicates that data was missing in the original report. An "L" in the column labeled "Time" stands for local time while a "Z" stands for Greenwich Mean time (also called "Z" or zulu time). "Loc" stands for the general location of the sighting (also refer to the latitude and longitude columns). "Flt." stands for the flight registration of the airplane where "U" = USA, "F" = foreign, "M" = military, "C" = commercial, and "P" = private. A "yes" in the EM column indicates the cases where some kind of EM effect was reported. Duration of the sighting is given in minutes (m) or seconds (s). A hyphen indicates a range of values. "Brief" and "few" is assumed to represent two.

### **Appendix 1 - Summary of Cases Reviewed**

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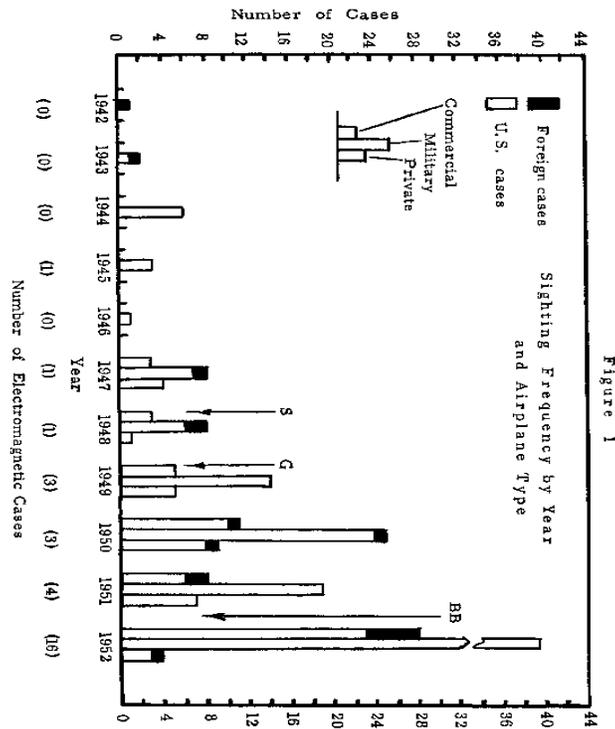
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## **RESULTS OF THE ANALYSIS**

## Sighting Frequency by Year and Airplane Type

How do the present 285 cases distribute themselves over this 11- year period? Figure 1 illustrates the answer. The now well publicized "flap" of 1952 took place within a longer period of activity which extended several years previously.



[Better Version of Figure 1, Number of Electromagnetic Cases \(Click Here\)](#)

The filled bars represent foreign aircraft and the clear bars American. Each year has as many as three vertical bars. They are: (left) = commercial, (center) military, (right) private. It may be noted that while the number of U.S. sighting reports tended to rise over this period no such rise is seen for the foreign aircrew data. A Chi square analysis (footnote 1) showed that there were significantly more domestic sightings than foreign

$$x^2 = 24; df = 10; p < 0.01$$

The proportion of foreign to U.S. sighting reports switched to a more equitable balance for the 1975 to 1978 period (reference 1, page 131).

Project Sign was officially created on 22 January 1948 (see point "S" in Figure 1). It was the first USAF study of UFO phenomena conducted by the Air Technical Intelligence Center of the Air Materiel Command located at Wright-Patterson AFB, Ohio. It was replaced in both name and (most) personnel on 16 December 1948 by Project Grudge (see point "G" in Figure 1). As Jacobs (reference 9) points out, many personnel in Project Sign who "...leaned toward the extraterrestrial hypothesis" were replaced by others with no such bent. Jacobs continues, "Instead of seeking the origin of a possibly unique phenomenon, as Sign had done, Grudge usually denied

the objective reality of that phenomenon. In this way Grudge shifted the focus of its investigation from the phenomenon to the people who reported it." Despite the fact that reporting a UFO was not made mandatory until 29 April 1952 when AF 200-5 was issued, there was a continual rise in the number of sighting reports from US aircrew during both Project Sign and Grudge. No doubt the increased publicity surrounding the Air Force's involvement in the subject contributed to the rise as did the often spectacular nature of the phenomenon.

A comparison of the number of "unidentifieds" from a Project Blue Book official press release of February 1966 (reference 10) for the period 1947 to 1952 is given in Table 1 with the number of cases uncovered during the present review. Clearly, the author included more cases in the unidentified category than did Project Blue Book officials for 1947 through 1951. A non significant Product-Moment correlation of  $r = 0.71$  was found between the present distribution of six frequencies for 1947 to 1952 and the corresponding distribution for 1973 to 1978 (reference 1). These two distributions were statistically different from each other

$$x^2 = 5.1; df = 11; p < 0.05.$$

**Table 1**  
Comparison of Number of "Unidentifieds"  
from Project Blue Book and the Present Review

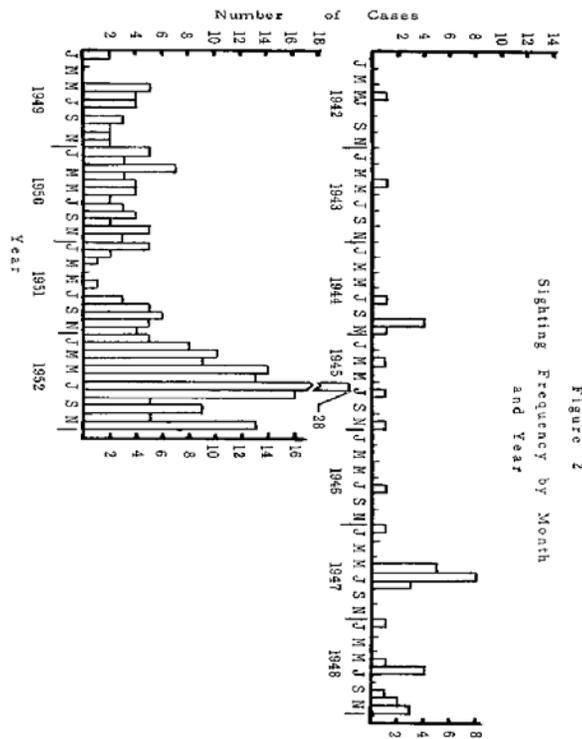
Year	Project Blue Book Total No. Reports	No. UFOs (%)	Present Review
1942			1
1943			2
1944			6
1945			3
1946			1
1947	122	12 (9.8)	17
1948	156	7 (4.5)	13
1949	186	22 (11.8)	24
1950	210	27 (12.8)	45
1951	169	22 (13.0)	34
1952	1,501	303 (20.2)	137
Totals	2,344	393	283

### Sighting Frequency by Month and Year

Several previous reviews have suggested a consistent "month" effect with certain months producing more sightings than others. No such pattern was found in a previous analysis of pilot

sightings for the period 1947 to 1959 (reference 11). A sighting shift phenomenon was found, however, such that during summer months most sightings occurred in northerly latitudes (37-degrees to 49-degrees) and during winter months most occurred in southerly latitudes (25-degrees to 36-degrees). But what about the present data base?

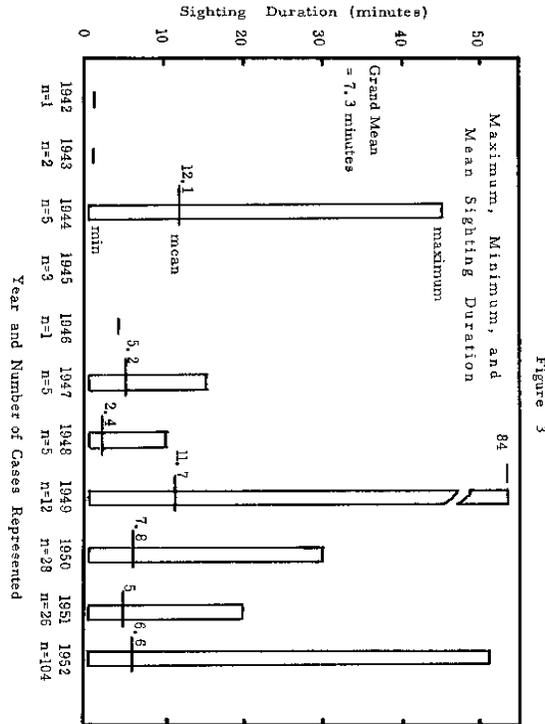
Figure 2 provides a month by month frequency plot of the number of sighting reports over this eleven-year period. The monthly totals added across all eleven years are: (Jan) = 19, (Feb) = 13, (Mar) = 18, (Apr) = 13, (May) = 24, (Jun) = 29, (Jul) = 46, (Aug) = 28, (Sep) = 17, (Oct) = 20, (Nov) = 23, (Dec) = 27, (no month cited) = 6. The sighting report frequency appears to be fairly consistent over the twelve months of the year with but a small increase in the May - June period.



[Figure 2, Sighting Frequency by Month and Year \(Better Version\)](#)

### Sighting Duration

Another parameter of interest is the maximum, minimum, and mean duration of each sighting. Of course many things can influence this parameter in both directions (see reference 12, chapter 10). It was assumed here that the number of temporal estimates which were longer than the actual event would tend to average out the number which were shorter than the actual event; i.e., the mean ought to be fairly representative of its "actual" value. Figure 3 presents these data. The top and bottom of each bar represents the maximum and minimum sighting duration, respectively with the mean shown by the short horizontal line and numeric value (in minutes). The grand mean duration of 7.3 minutes is less than the grand mean duration of 8.5 minutes found for the 1973 to 1978 period (reference 1).



[Figure 3, Year and Number of Cases Represented \(Better Version\)](#)

For an airplane traveling at 150 miles per hour a period of 7.3 minutes corresponds to more than 18 miles of travel in straight, level flight (neglecting winds). Of course not all airplanes included here continued flying straight and/or level. Many pilots turned to be able to keep the phenomenon in sight or follow it (them). Various so-called "natural" phenomenon such as ball lightning and meteoritic passage through the atmosphere normally do not last even half as long as 7.3 minutes! These relatively long viewing durations make possible careful observation of the phenomenon by the aircrew.

The frequency distribution of measured or estimated sighting duration has been re-plotted in Figure 4 as a histogram (along with comparable duration data from reference 1. Dashed bars are for the present review and solid for the 1973 to 1978 review period. These two data sets differ significantly at the  $p < 0.001$  level of confidence according to a

$$X^2 \text{ value of } 37 \text{ (df = 13).}$$

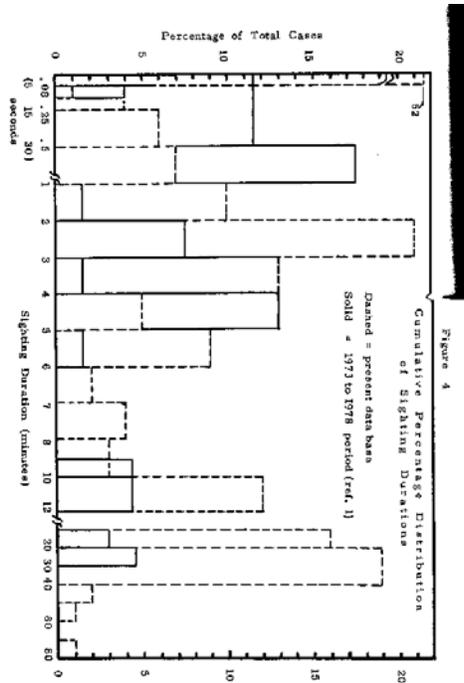
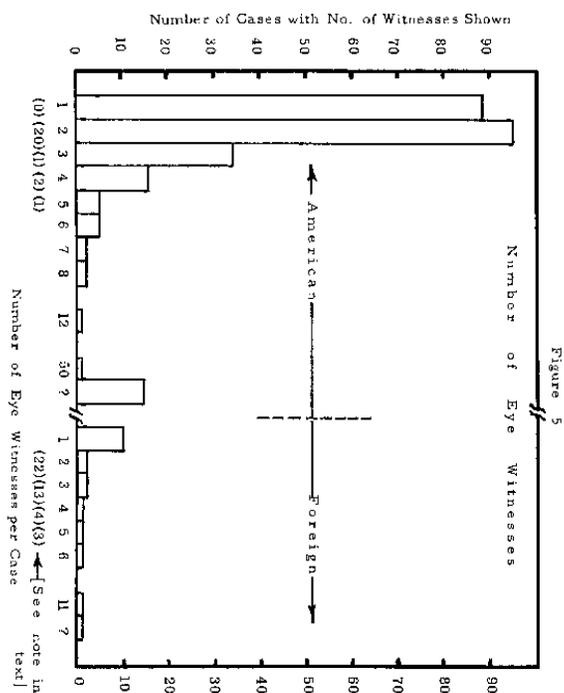


Figure 4. Sighting Duration (minutes) (Better Version)

### Number of Eye Witnesses

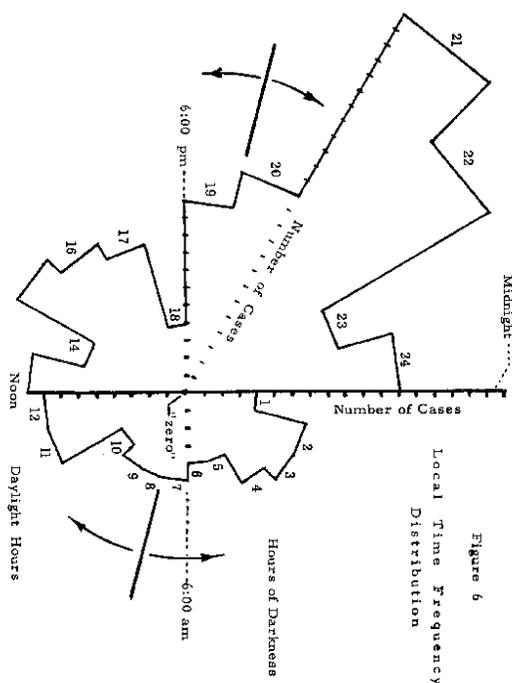
It is instructive to know how many eye witnesses were involved if for no other reason than to gain an idea of the approximate reliability of the overall data base. In general, the more eye witnesses involved the more potentially useful information is available to the investigator, particularly when the eye witnesses are pilots and other highly trained and motivated air crew members. Figure 5 presents a histogram giving the number of cases (vertical axis) involving the number of eye witnesses shown along the horizontal axis. The large numbers of cases involving two or more witnesses is (largely) due to the high proportion of cases involving commercial and military airplanes. Numbers in parentheses beneath each eye witness number category are the corresponding number of cases from the 1973 to 1978 period review out of a total of 69. (Note: three cases in the previous review were unspecified in terms of duration)



[Figure 5, Number of Eyewitnesses per Case \(Better Version\)](#)

### Local Time Frequency Distribution

What time of day did these sightings occur? Figure 6 gives the answer using a 24-hour clock notation, that is, all 24 hours of the day are shown around the circumference of an imaginary circle. Midnight is at the top and noon at the bottom. The number of tick marks measured outward from the center of the figure give the number of cases that occurred within each hour. The largest number of cases in the present review took place between 8:00 and 9:00 pm and the second largest between 9:00 and 10:00 pm local time. A two-hour long peak frequency was also found for the 1973 to 1978 period but was shifted one hour later. In addition, a secondary peak (involving 6 cases) was found between 2:00 and 3:00 am local time for the 1973 to 1978 period but not here. All six of them were reported by foreign aircrews. It is possible that flight schedules of commercial aircraft may well have changed between the present and earlier reviews.



[Figure 6, Local Time Frequency Distribution \(Better version\)](#)

A Chi square analysis was performed on the present hourly frequency data compared with the corresponding hourly frequency data for the 1973 to 1978 period. They did not differ significantly

$$X^2 = 25; df = 23$$

Another analysis showed that there is no statistically significant difference between the number of sightings reported during am hours as with pm hours

$$X^2 = 13; df = 11.$$

Finally, an analysis of the number of sightings occurring during predominately daylight hours (i.e., 8:00 am to 7:00 pm) with predominately nighttime (darkness) hours (i.e., 8:00 pm to 7:00 am) showed that significantly more sightings occurred during nighttime

$$X^2 = 40; df = 11; p < 0.001.$$

### Electro-Magnetic Effect Cases

Among the 283 cases reviewed were 24 (8.5 percent) that involved some form of EM disturbance, malfunction, or other effect. Table 2 summarizes these interesting cases by category.

**Table 2**  
Summary of Electro-Magnetic Cases

EM Effect Reported	Date	No. Cases	(Percent)	
Aircraft Radar Contact only (no visual)	1-18-50	4	15.4	
	1-21-51			
	3-24-52			
	12-24-52			
Aircraft and Ground Radar Contact only (no visual)	1-22-52	2	7.6	
	8-6-52			
Aircraft Radar Contact and Visual Contact by Aircrew	9- -50	5	19.2	
	9-17-51			
	10-18-51			
	3-26-52			
	12-10-52			
Ground Radar and Visual Contact by Aircrew	6-26-43	9	34.6	
	3-23-52			
	5-26-52			
	7-28-52			
	Summer 1952			
	8-9-52			
	Autumn 1952			
	12-6-52			
12-15-52				
Aircraft Engine Stopped while in-flight	7-23-47	3	11.5	
	6-16-48			
	6- -49			
Aircraft Engine Trouble	8-28-45	2	7.6	
	7-24-49			
Aircraft Radio Transmission Jamming	9- -50	1	3.8	
		<b>Total =</b>	<b>26*</b>	<b>99.7</b>

Note: Two cases fall into two different categories, viz., 6-16-48; 9- -50.

[Click Here for Readable Copy of Table 2, Summary of Electro-Magnetic Cases](#)

Following is a synopsis of each of these 24 cases grouped by general category.

### Aircraft Radar Contact Only (no visual)

12 January 1950 2325 Hrs (local) 24<sup>00</sup>'N 85<sup>20</sup>'W Gulf of Mexico

A USAF B-29 was flying at 10,000 ft altitude when three radar paints were made. The radar screen "blips" orbited the B-29 with velocities estimated up to 3,000 mph. One blip traveled across the screen in 15 to 20 seconds (100 mile range setting). Two more blips then appeared and joined the first. A blip would enter the screen on one side, pass through the center (where it was lost temporarily) and then emerge on the opposite side, Blips were also seen on the 20 and 50 mile range settings. The main blip would hover in one location for from 5 to 15 seconds. The total sighting lasted about 30 minutes. The radar was jammed for about 10 minutes while in the vicinity of the Texas border.

21 January 1951 1620 Hrs (local) 36<sup>00</sup>' N 84<sup>22</sup>' W Oak Ridge, Tenn.

A USAF F-82 jet fighter flying at 7,000 ft. altitude established a radar contact over the Oak Ridge X-10 Atomic energy project plant. Initial contact was at about 10 miles, One of two aircraft made a lock-on approach at 4.5 miles where the unidentified EM source descended below the aircraft's beam. When the nose was dropped the target was once more acquired. Two other passes were made over the plant area. (Note: On 16 January 1951 at 1645 Hrs five people driving in the control zone security area reported seeing an "unusually brilliant object.")

The Air Force Material Command analysis of this incident concluded that the radar return was probably due to refraction to the ground (and back) of the airplane's radar beam by a temperature and/or moisture duct which was located at about the same altitude as the jet interceptor. Weather records for 21 January 1951 at 2100 Hrs showed a 6-degree inversion between 2,000 and 5,000 ft altitude (below the aircraft flying at about 7,000 ft) and another 3-degree inversion existing between 8,000 and 11,000 feet altitude. Air temperature near the ground was 58-degrees F and dew point of 19-degrees. Winds were very low.

March 1952 0845 Hrs (local) 34<sup>0</sup>30'N 121<sup>0</sup>30'W off California coast.

A U.S. Air Force B-29 navigator and radar operator viewed a radar return from an unidentified source for from 20 to 30 seconds while flying at 25,000 ft altitude and 200 mph, at a point 60 miles west of Point Conception, California. The radar return was calculated to be moving at about 3,000 mph on the APQ 13 set and was at about 25,000 feet altitude. Although visibility was unlimited nothing was seen.

The official USAF conclusion was "unidentified" even though some conjecture was given to radar reflections off a part of the aircraft and/or machine gun bullets which were fired for practice during the sighting.

December 1952 1215 Hrs (local) 33<sup>0</sup>00'N 96<sup>0</sup>15'W Dallas, Texas

The crew of a USAF B-36 reported radar contact with an unidentified EM source while flying at 40,000 ft altitude about 80 miles northeast of Dallas, Texas. The return occurred intermittently over 30 minutes at a range of from 2,000 to 4,000 yards within +/- 30-degree azimuth and -5 to -15-degree elevation angle (relative to level). Indicated air speed was 180 mph. The radar set was type AN/APG-41. The returns were photographed with a type ANO/15 camera and C-15 type film.

This event occurred during and after practice intercepts were made on the bomber by two F-84 interceptors (made to check out a new type of gun radar). Both radar sets on the B-36 showed the return at the same location. Radar interference was experienced for 30 minutes after the two jets had left the area. When the B-36 changed heading or climbed or dove the radar return remained in the same location.

### **Aircraft and Ground Radar Contact (no visual)**

22 January 1952 0020 Hrs (local) 64<sup>0</sup>30'N 149000'W Alaska

An Alaskan ground radar site first detected an unknown object traveling away from their location at about 1350 to 1500 knots. An Air Force F-94 jet interceptor was scrambled to investigate and its on-board (type AN/APG-33) radar also locked on. The unknown reversed its course, returning toward the ground site. The ground radar tracked the F-94 near Nenana (near Fairbanks). The first airborne contact was of two returns ahead and about 500 feet below the aircraft's altitude of 30,000 feet. One return was bright and the other faint. Contact was lost at 200 yards range. About 60 minutes later the aircraft made a second contact dead ahead and at the same altitude as

the aircraft; rate of closure was 100 knots. The pilot did not see anything during either pass. The aircraft was checked for radiation on 23 January 1952 with negative results. The ground site used a pulse repetition rate (PRR) of 600 and was set to MTI operation (a mode that cancels out fixed ground clutter from being displayed on the screen).

The F-94 radar observer said, "All during this flight, I had picked up an occasional mutual inductance line on the scope, but it would appear at different positions in azimuth and for only one sweep. I attributed this to a possible malfunction of the set and ignored it."

Since contact was lost each time the ground radar unit switched to short range, an Air Force radar expert said the return was probably caused by some kind of "freak weather." Note case: 21 January 1951 near Oak Ridge, Tennessee.

6 August 1952 0025 Hrs (local) 35<sup>0</sup>48'N 139<sup>0</sup>54'E Japan

An F-94B jet interceptor was scrambled from Johnson AFB, Japan because of an unidentified contact with an airborne object from ground radar (type AN/CPS-1; AN/CPS-4) of the 528th AC & W Group. The unidentified aerial return was tracked making a right-hand (circling) orbit over Tokyo Bay. No height information was available. The unknown was also detected on the APQ-33 on-board radar, however, nothing was seen visually. All radar sets were (later) checked and found to be in working order. The weather was exceptionally good at the time with winds at 5,000 feet altitude at 20 knots at 2000. Cloud cover was 3/10ths at 14,000 feet.

### **Aircraft Radar Contact and Visual Contact by Aircrew**

? September 1950 0700 Hrs (local) 40<sup>0</sup>N 127<sup>0</sup>E Korea

The pilot of a U.S. Navy night combat fighter aircraft reported seeing two huge shadows traveling over the ground below him at a high rate of speed. He was flying at 10,000 feet altitude just before sunrise and estimated the shadows were moving about 1,000 mph. Then they both stopped suddenly and backed up and appeared to vibrate or jitter. He looked up and saw two apparently solid objects with a silver, mirror surface above him. He readied his guns and his radar screen bloomed (became very bright) indicating some form of jamming. Turning down the set's sensitivity had no effect. when he tried to radio his ship a strange buzzing noise was heard. He stated, "Each time I switched frequencies the band was clear for a moment then the buzzing began." Using the radar screen's initial image size and indicated range as indicators, he judged their diameters to be at least 600 or 700 feet. Both were described as looking like a coolie's hat with oblong ports emitting copper-green light which gradually shifted to pale pastel colors. A shimmering red ring encircled the top portion of each object. A jet black circle was also seen on the bottom of each object. During the entire period when the objects seemed to jitter the black circle appeared to remain stationary.

Note. It may be significant to point out a closely similar sighting investigated by the author which took place on 4 July 1981 at 1645 Hrs (local) over Lake Michigan, USA by a commercial aircrew. The main eyewitness was an ex-Navy combat fighter pilot in Korea.' (Reference 13).

17 September 1951 0420 (Z) 61<sup>0</sup>30'N 68<sup>0</sup>50' W West of So. Greenland tip

A USAF B-36 crew flying at 18 000 feet altitude over the Atlantic ocean reported radar (jamming) interference on their APQ-24 set. The alleged source of interference was an "unidentified aircraft" at 28 miles away. The anti-jamming system was activated "...but there was no change in the jamming pattern on the radar scope." Fifteen minutes later radar interference was received coming from the right side of the aircraft through a horizontal arc of 1200. The unknown source was tracked at a velocity of 238 knots. Several aircrew members had seen running lights which were "...not standard...all were white with twin white tail lights." The electronic countermeasures (ECM) officer picked up carrier waves on 867, 849, 822, 991, 730, 715, and 730 megaHertz. "Frequencies in the 700-800 and 900 megacycle group are unexplainable since no radar stations, U.S. or Canadian, are known to exist in the area within range of the B-36... there are no aircraft assigned to the NEAC area that have night lights as described...or (that) fly at the altitude and airspeed indicated."

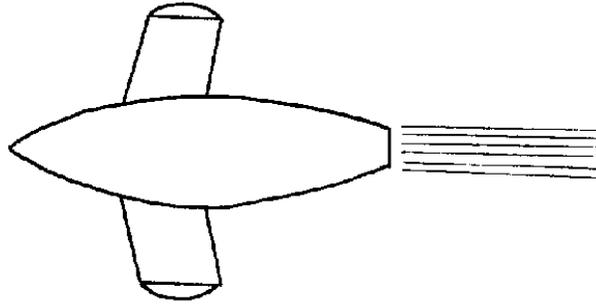
One day later two other B-36 aircraft left Goose Air Base (Labrador) enroute to Resolute, NWT. The first aircraft was flying at an altitude of 18,000 feet and 210 knots airspeed. Its ECM operator detected a shifting carrier wave and identified it on each of the following frequencies: 867, 849, 822, 991, 730, 715, and 730 megaHertz. Nine minutes later "...very powerful signals were picked up on (the) 38 to 42 and the 48 to 57 megaHertz" band. The second aircraft was flying 20 minutes behind the first. Its ECM operator reported detecting a signal of 240 megaHertz with a one microsecond pulse duration. At 0000 Hrs (Z) a continuous signal of the "tracking" type was picked up on 53 megaHertz. Its pulse duration was 1 microsecond. From 0000 Hrs to 0100 Hrs signals were picked up on 37.5, 43.5, 44 to 58, 58.5 to 63, and 89.5 to 92 megaHertz. At 0100 Hrs (Z) an "image signal" was identified on a frequency of 180 megaHertz.

The official Air Force conclusion was "aircraft" and "Not a UFO report."

18 October 1951 0333 (Z) 35<sup>0</sup>48'N 123<sup>0</sup>16'E Tsingtao, China

The waist gunner and rest of the crew of a Navy PBM-Mariner type BD-5 aircraft reported sighting a "...long conically shaped flame." They were flying at 5,000 feet altitude 140 miles from Tsingtao, China over the Yellow Sea. The length of the flame varied during the 16 to 22 minutes-long sighting. On board radar also detected the phenomenon. When the pilot turned toward the phenomenon it veered away, maintaining an almost constant separation. The flame was an orange-red hue. When it grew longer it changed to a white-orange hue. The crew could still see it after radar contact was lost "...until the estimated range became three or four miles." Its "hull" was estimated to be 60 feet long with a "wing" shape (as viewed through binoculars) with a dihedral at the tips. It flew at a high (25-degree) angle of attack. It accelerated slowly at first and then more rapidly, finally being lost to radar at 22 miles range. Its calculated velocity near the end of the encounter was 530 knots.

Witness sketch of object:



26 March 1952 2030 Hrs (local) 31<sup>0</sup>10'N 103<sup>0</sup>30'W Texas

A flight of four USAF B-50D aircraft were flying from Ft. Stockton to Pecos, Texas at 8:30 pm at 27,800 feet altitude. Aircraft no. 9299 of the 509th Bomb Group was maintaining its rearward relative position to the lead aircraft by means of its radar (set on 2 mile range). The radar observer picked up a return for five minutes on a reciprocal scope face position as the lead aircraft which then suddenly disappeared from its one mile range position. Nothing was seen visually at this time. At 10:13 pm the radar observer saw the return "move rapidly" toward the lead aircraft. He quickly called the right (side) scanner who subsequently saw something like red and green running lights during a 10 - 15 minute-long period of observation. The object was also seen by the crews of the lead and number 4 aircraft visually and on radar.

10 December 1952 1915 Hrs (local) 47<sup>0</sup>20'N 118<sup>0</sup>40'W Washington state

Both crew members of an Air Force F-94 interceptor flying near Odessa, Washington between 26,000 and 27,000 feet altitude reported seeing six round, reddish-white objects with 2 "windows" traveling at about 240 knots. They flew in formation and then suddenly reversed direction. They dipped instantaneously as they headed almost head-on toward the aircraft. They were detected on the ARC-33 radar during the 15 minute sighting. At first they hovered and appeared as dim reddish-white lights in the clear, moonless, dark night sky. They disappeared suddenly at one point.

The official Air Force conclusion was "possibly research balloon."

### **Ground Radar and Visual Contact by Aircrew**

16 June 1948 time not known location not known within Soviet Union

A Soviet Air Force aircraft allegedly experienced engine failure and electrical system failure when a light beam struck him. It seemed to come from a "mysterious apparatus" at an estimated range of 5.6 miles. The pilot was temporarily blinded by the conical ray of light. Ground radar first sighted the unidentified object which was described as a cucumber shape by the pilot.

23 March 1952 1805 Hrs (local) 46<sup>0</sup>20'N 120<sup>0</sup>25'W Washington state

A U.S. Air Defense Command Alert F-94 aircraft was scrambled at 6:33 pm as a result of the ground radar contact of an airborne object some 20 miles south of Yakima, Washington. The radar operator on the aircraft first detected the unknown at 22,500 feet altitude and a second contact was made at 10-degrees above a level line of sight when they were at 25,000 feet. The pilot reported seeing a large "ball of fire" on two occasions which would "...build up and then fade out" over a 45-second long period. Its size and shape were not discernible. It was red with no tail or exhaust. The F-94 was traveling at 360 knots while the unknown was tracked during one eight-minute period traveling at 78 knots toward the SE. Winds were to the SE at 80 to 100 knots.

The official USAF conclusion was "unidentified." This is interesting in that they might well have relied upon a balloon explanation in light of the data on local winds.

26 May 1952 0320 Hrs (local) location not known exactly North Korea

(Incident a)

The crew of an F-94 interceptor was informed by ground radar of an unidentified on its tail. After making a 180-degree turn the radar operator locked onto an object at 7,000 yards range. As the separation range diminished both crew members saw a "brilliant white light straight ahead." It then performed a steady climbing turn and "accelerated at a tremendous speed drawing away from the F-94 which now had cut in its after-burner." Radar contact was lost after 15 seconds. A later equipment check found the radar system to be in perfect condition.

(Incident b)

The same aircrew (later) reported making seven passes on a UFO with very similar features as in incident a (above) except that nothing was seen visually. The F-94 was traveling at about 250 knots when the object quickly and constantly accelerated away. The object traveled from 6,000 to 25,000 yards in about 14 seconds (calculated velocity of 2,777 mph). The radar was set to long range so it was not possible to gauge the size of the object accurately. A slight image fading occurred as the radar lock was broken. Page 4 of USAF Report 52-85 indicated that the calculated distance covered by the object is (sic) approximately 68,500 feet. Acceleration is 650 ft/sec or approximately 20 "G" acceleration (which is far more than the human body can stand for more than a fraction of a second). Its final velocity was 9,450 ft/sec or about 5,580 knots (6,420 mph).

The official USAF conclusion was "Possible malfunction of airborne radar set."

20 July 1952 0100 Hrs (local) 39<sup>0</sup>25'N 78<sup>0</sup>00'W West Virginia

An Airway Traffic Control Center (ATCC) controller at Washington, D.C. National airport radioed the crew of a Capital Airlines flight soon after its takeoff. At an altitude of about 4,000 feet the crew witnessed two or three unidentified objects traveling at a high rate of speed about nine miles ahead of their DC-4. ATCC requested them to investigate. From three to five minutes later the objects were about five miles ahead of the aircraft and were on radar. From one to three

seconds later another DC-4 aircraft passed them in the opposite direction. From four to five minutes later the copilot saw one bluish-white object moving in a steep 25-degree dive moving from NE to SW at a "tremendous rate of speed." The DC-4 was then at 6,000 feet altitude over Charlestown, West Virginia. Both pilots then saw a "brilliant bluish white flash" pass them at a tremendous speed. They then saw another brilliant bluish white light appear where the previous light had disappeared. It moved rapidly from their right side to their left along an arc 30-degrees above the horizon.

Note. This incident took place during a six hour-long period of very intense UFO activity in the vicinity of the nations' Capital. A TV electrical engineer in Cumberland, Maryland reported unusual TV interference within a few hours of this case.

Summer 1952 night exact location not known Florida

The crew of a U.S. Strategic Air Command B-29 aircraft of the 809th Air Base Group, MacDill AFB, Florida was asked by field radar to investigate a ground radar contact at 40,000 feet altitude and traveling at 400 knots. At about midnight the captain sighted a "glowing white light shaped like a football" while flying at 20,000 feet. As the aircraft was turned to chase it, it accelerated quickly out of sight. No other data was available. The weather was clear and calm with no temperature inversions.

9 August 1952 2057 Hrs (local) 38<sup>0</sup>W 127<sup>0</sup>E Korea

A pilot in the First Marine Air Wing was flying at 15,000 feet altitude near grid position K-3 Korea when he reported sighting a "moving ball of fire with a stream of flame." It was at an estimated altitude of about 10,500 feet. Ground radar sweep time was ten seconds. The unidentified screen image length was equivalent to about two miles and was curved. Its calculated velocity would have been about 1,600 knots on the controller's Plan 12 scope.

The official USAF conclusion was a "meteorite." Note, a meteor was seen at about this time and locale by ground personnel.

Autumn 1952 2200 Hrs (local) 40<sup>0</sup>12'N 74<sup>0</sup>45'W New Jersey

The crew of an Eastern Airlines Martin 404 commercial aircraft were flying over Trenton, New Jersey at from 7,000 to 9,000 feet altitude at about 10:00 pm when they reported sighting a yellowish navigation-type light at about ten miles away. They asked ground radar for confirmation of any unscheduled traffic and ground radar locked on to it. Both the aircraft and the unknown were traveling at about 260 mph. As it approached them it looked like an incandescent yellow elliptical shape; it passed across their nose within about one mile and then suddenly began a 30-degree climb toward the SE gradually accelerating and changing color to a blue-white. Long Island radar confirmed its ascent and acceleration. The total sighting from the cockpit was from three to four minutes. No red or green navigation lights were seen.

6 December 1952 2325 Hrs (local) 20<sup>0</sup>18'N 92<sup>0</sup>4'W Gulf of Mexico

Six members of a USAF B-29 bomber flying at 18,000 feet altitude over the Gulf of Mexico 100 miles south of the Louisiana coast at 5:24 am sighted a series of blue streaks passing them in groups, generally front to rear. The sky was clear and visibility was unlimited. At 5:25 am one of the aircraft radar picked up a single return moving very fast. A second return was noticed at the edge of the screen. At about 5:32 am a third group of returns was picked up. One group had (apparently) taken up a pacing position about 40 miles behind the aircraft. This group suddenly changed direction and accelerated directly toward the aircraft (from behind). At an unspecified range they slowed and kept pace for about ten seconds. Then they suddenly accelerated off to one side. As the pilot looked at his radar screen an unidentified image 0.5 inch diameter was seen. A group of smaller objects merged into the larger image. Then they all flew off at over 9,000 mph. Contact was broken off at 5:35 am. There were from 20 to 25 objects in all passing within about 20 miles of the aircraft.

The official USAF conclusion was "unknown."

15 December 1952 2315 Hrs (local) 53<sup>00</sup>'N 60<sup>40</sup>'W Labrador

Pilots of a USAF T-33 and an F-94B reported sighting a bright red and white light after being vectored to a given location by ground control approach (GCA) personnel. The light had no definite shape and was seen during a 25 minute period. The F-94B attempted an intercept without success traveling at 375 mph. Ground radar tracked the unknown for 40 miles at an altitude of from 1,500 to 2,000 feet. The unknown was within 15 miles west of Goose Air Base, Labrador.

The official USAF conclusion was "unknown."

### **Aircraft Engine Stopped While In-Flight**

23 July 1947 daytime exact location not known Eastern USA

A private pilot flying at 6,000 feet altitude reported first sighting a very bright ray of light coming from above his altitude. Then his engine began to "...perform peculiarly. It coughed and sputtered spasmodically." He administered carburetor heat without success. His engine stopped but, much to his utter amazement, he claimed that his aircraft maintained its level attitude. When he checked his air speed it was at zero He felt "...an odd prickling, electric-like sensation coursing through my body." Then he saw an object above him and to his left; a strange "wraith-like craft." It had a projecting flanged rim; either side had "streamer-like portholes." It hung motionless about 1/4-mile away and appeared a metallic hue. He then switched both magnetos to on and his engine came to life. Then the aircraft nosed into a stall and picked up speed. (Reference 14).

16 June 1948 time not known location not known within Soviet Union

(Note. This case has been reviewed (above) in the section dealing with "Ground Radar and Visual Contact by Aircrew").

June 1949 time not known 20<sup>0</sup>N 90<sup>0</sup>W Mexico

The crew of a four engine USAF transport reported encountering an unusual object hovering at about 8,000 feet altitude above the Yucatan peninsula near the Tierras Calientes hills. The captain and others saw a "...light layer of vapor or whitish smoke hovering around it." It oscillated a number of times around its vertical axis and then suddenly began to move directly toward the aircraft. It seemed to narrowly miss the left wing and then circled the aircraft. The pilot nosed into a dive to an altitude of 3,000 feet and the object repeated its passes around the plane, "gleaming like a mirror in the sunlight." Then all four engines began to fire irregularly and "...the ailerons and the tail began to show signs of weakening." The pilot commanded his crew to bail out and as they did so they watched the object ascend vertically to its original altitude. The aircraft crashed into the swamp. (Reference 15)

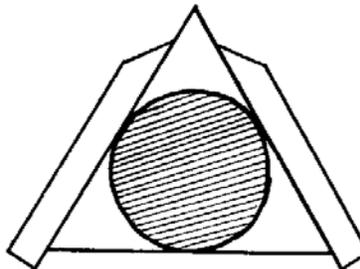
### **Aircraft Engine Trouble**

28 August 1945 time not known exact location not known Iwo Jima, Pacific

A U.S. Army Air Corp C-46, two engine aircraft experienced engine trouble and lost altitude during the period when three unidentified objects were seen nearby.

24 July 1949 1203 Hrs (local) 43<sup>0</sup>10'N 115<sup>0</sup>35'W Mt. Home, Idaho

The pilot of an American Piper Clipper aircraft flying at 19,000 feet altitude reported being passed by two rows of three objects each flying in perfect formation with a seventh object slightly to the rear of the others. When they passed they turned right about 1,500 feet ahead and 500 feet below his aircraft. Then they turned right again and passed his right side at a velocity estimated to be from 450 to 500 mph. They were all the same shape (see sketch below) with a delta shaped wing and a dark colored circle about 12 feet in diameter located midway between the tips of the object. Its top surface was perfectly flat and a shallow dome was seen on top about 2 to 5 feet high. Each object had a needle sharp nose and a flat tail. Some type of outer panels seemed to oscillate. They disappeared from full view suddenly. The wing to wing span was 35 to 55 feet. They had



no visible means of propulsion and the trailing edge of the wings were flat (not tapered).

As the pilot flew through the objects' flight path he expected some turbulence but there was none. His Lycoming 4 cylinder opposed engine was brand new but began to malfunction at this time. Upon landing a mechanic found all four spark plugs to have been shorted and burned out.

September 1950 0700 Hrs (local) 40<sup>0</sup>N 127<sup>0</sup>E Korea

A U.S. Navy night combat fighter was flying just before sunrise at 1,000 feet altitude over Korea. The primary details of this case have been presented above. When he attempted to radio his ship about sighting two huge unidentified aerial objects it was blocked by a "strange bussing noise." Each time he switched frequencies the band was clear for a moment and then the buzzing began again. No specific information is given concerning the frequencies used, output power, or other technical details.

Electro-magnetic effects on board aircraft due to the presence of some unknown airborne phenomenon nearby continues to be a challenge to the serious investigator. The above cases are to be added to the growing lists of such cases (References 1 - 6). A highly technically trained team of scientists and engineers must assess the best documented cases in terms of the most probable cause(s) of the effects reported. It must not be presumed that the Air Force has done this for the present set of cases. A great deal of detailed knowledge is now available concerning the electro-dynamics of the Earth's atmosphere and near volume of space. Atmospheric and plasma physicists are needed to deduce the possibility that microwave and shorter wavelength emissions from the Earth are playing some role in exciting on board sensors (cf. References 16 - 17). It seems reasonable to say that the state of technology in radiative transfer between 1942 and 1952 was not sufficiently advanced as to be able to produce all of the effects noted here, particularly engine malfunction. Of course another source of such interference lies on board the aircraft itself due to various electrical system static discharge problems, however, the rather precisely timed and frequency selective interference or jamming in some instances makes this explanation difficult to hold.

## GENERAL CONCLUSIONS

The present review of aircrew sightings has shown that there are a relatively large number of reports by highly credible and trained observers who have under their control, sensitive, tunable sensors of various kinds. It was shown that there was a rapid increase in the number of sightings up to 1952 by U.S. aircrew but not foreign. No particular month of the year stands out in terms of having more sightings represented. The distribution of sighting durations showed a tri-modal distribution with one peak at less than five seconds, a second peak at between two and three minutes and a third at between 20 and 40 minutes. It might be suggested that the longer modes probably represent fundamentally different phenomena than the shortest mode which are more likely misidentifications of some well known object which, with longer observation time, would be correctly identified. When an observer has two or more minutes to view something, however, this explanation is significantly more tenuous. With regard to the number of eye witnesses, well over half of the cases involved two or more witnesses which makes the well known hallucination hypothesis impossible.

Considering the fact that both this and the previous review (Reference 1) found that a predominant number of sightings occurred well after sunset raises interesting questions that are not related to sun-illuminated objects seen against the darkening sky background (see Reference 10, pp. 72 - 88). Future reviews should attempt to take into account air traffic density at different hours of the day; this was not possible here due to a lack of such records. The present distribution of sightings by time of day suggests that sky darkness may play a role in the increased frequency of sightings since the human eye will continue to increase in sensitivity for about an hour (or more) after entering darkness after which it will maintain a fairly stable sensitivity level. Of course this fact cannot then explain the rapid drop in sightings just after midnight when the sky brightness is still very dark.

The author requests that readers with further information on these and other aircrew sightings contact him directly.

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#### **FOOTNOTES**

1. The Chi Square tests the probability (p) that two data distributions are drawn from the same population. It is expressed in terms of a probability that there is no difference in the frequency distribution of the two groups. In this first use of the  $\chi^2$  statistic one group is the foreign cases and the other is the U.S. group. A p value less than 0.05 indicates that one would not expect to obtain the same results more than five times out of one hundred purely on the basis of chance.

**Source: MUFON 1983 UFO Symposium Proceedings, pages 13-44.**