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MOD Form 329 D

MINISTRY OF DEFENCE

PART I

Registered file number: AF 3459/75 PART I

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Date opened: 13. 5. 70

DOWNGRADED & RE-REG FROM AF/CX 80/70.

1. ATTENTION IS DRAWN TO THE NOTES ON THE INSIDE FLAP
2. ENTER NOTES OF RELATED FILES ON PAGE 2 OF THIS JACKET

DIVISION

FOR REGISTRY USE ONLY

1995.

SUBJECT

UNIDENTIFIED FLYING OBJECTS - POLICY AND POLICY STATEMENTS

Referred to	DATE	Referred to	DATE	Referred to	DATE	Referred to	DATE
S4f (AIR)	12.8.75						
S4f (AIR)	12.8.75						

CLOSED [illegible] MUST BE PLACED IN THIS FILE

MOD CS(RM)1 -8 JAN 1999 SECOND REVIEW

2001

AIR 2/19086

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1st Review Date

2nd Review Date

DOWNGRADING

(to be completed as necessary, and in any event when the file goes out of current use)

(i) This file may be downgraded to UNCLASSIFIED on .... *(insert date)*

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Date .... APPOINTMENT AND BRANCH ....

OR

(ii) Return for review on *(insert date)* ....

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(2971)P D. 187419 184m 5/73 P.I. Gp. 610

CLOSED

NO PAPER
MAY BE ADDED OR
ENCLOSURES
MUST BE PLACED
ON THIS FILE

Authority to Downgrade
Top Enclosure.
Pt II opened 12.8.75

Miss Jameson

I think you are right – we had better find out how important the RHC is.

I have rearranged the closing paras of your draft. Would you please send to type.

6 p5.

If, Heaven forbid, CS pronounces against us I don't think we can contemplate more than a selective release and even then I feel the fellow DUS must have because of the staffing implications

[signature]

5/6

Miss Jameson

How much of X can I reveal in a letter to the Royal Holloway College? ~~i.e. [illegible]~~

Do you know what Davis said about MOD policy in his TV talk? — I have in mind a letter which says openly that we don't investigate UFO reports beyond the national defence implication being our files per se would be of little value — then, we can't reveal the reports themselves because of the difficulties given at Y.

Can you put me on to an MOD scientist who can advise on the standing of the people at RHC and the validity of their investigations — i.e. do they fit the criteria in last para of Y?

Mr Dawson of DS8 is a scientist. He might be able to give you informal advice

[initials] 2/6

E.15 sent to CS(RBK)

LOOSE MINUTE

AF/421/S4f(Air)

RECORD OF MOD(Air) COMMITTEES

1. This branch is now responsible for the upkeep of a Committee Record Book for MOD(Air) committees.

2. We have been informed that you are concerned with the

If you are the Secretary of the Working Party/Committee, please tell us whether it falls within the terms of MOD Manual 2, Chapter 4, paragraphs 0405-0413 and, if so, provide the following information:

a. authority for setting up the committee;

b. terms of reference;

c. composition by section, branch or appointment;

d. whether the committee is:

(1) standing;

(2) ad hoc but likely to be in existence for some time;

(3) ad hoc but have a limited time in which to report;

e. date of last two meetings;

f. short title.

3. If you are not the secretary, it would be helpful if you would let us know, from the papers you hold, the branch responsible for providing the Secretary.

M E Kane

1973

M E KANE (MRS)
S4f(Air)
MB8243 6236MB

'B'

DRAFT

I am writing to thank you for your letter asking for information about unidentified flying objects.

The Ministry of Defence investigates UFO reports, which are received from various sources, eg members of the public, the police, Service units, etc, to see if there are any defence implications. Reports are examined in the Ministry of Defence by experienced staff. They do this with open minds. They have access to all information available to the Ministry of Defence. They call on the full scientific and professional resources of the Ministry of Defence and may, if necessary, call in expert advice from other Government and non-Government bodies.

Since the Ministry of Defence interest in unidentified flying objects is limited to the defence aspect investigations into the scientific significance of the phenomena are not carried out.

You will no doubt wish to know, however, that ~~investigations over a number of years have so far produced no evidence that UFOs represent an air defence threat to the United Kingdom. Reported~~ from experience over a number of years sightings are considered to ~~have~~ originated, in the main, from aircraft or the lights of aircraft being seen under unusual conditions, balloons and various meteorological phenomena as well as astronomical sightings, space satellites and space "junk".

'A'

DRAFT

I am writing to thank you for your report of an unidentified flying object seen on

We are grateful to you for advising the Department of this incident and your report will be examined in the Ministry of Defence to see if there are any defence implications. We cannot undertake to pursue our research, other than for defence implications, to a point where positive correlation with a known object is established, nor to advise you of the probable identity of the object seen.

You will no doubt wish to know, however, that investigations over a number of years have so far produced no evidence that UFOs represent an air defence threat to the United Kingdom.

Mr. Crowther -

This question was discussed on 27/3/74 by Mr. Crowther with DPS/US4S(RAF) who considered that US4S(RAF) would not wish to be consulted about this proposed change of procedure regarding cessation / categorisation. The drafts at A + B, as amended, were agreed by Mr. Cowell of your

You mentioned recently that because our interest in UFOs is limited to defence aspects and the fact that we do not now undertake to advise observers of the probable identity of the object seen, we should no longer attempt to categorise UFO reports; with our limited information, our somewhat haphazard allocation could be embarrassing should we be required to defend it in the context of a PE or PQ.

With this change in procedure in view, I have re-drafted the two standard letters, the draft at 'A' to be used to acknowledge the receipt of specific UFO reports, & the one at 'B' in response to enquiries about the MoD attitude to UFOs, for your agreement please.

Before we bring a new procedure into operation, however, you may wish to see the

correspondence /

correspondence, i the attached file, under which the present system of acknowledging reports but not identifying the object to the observer was agreed by USofS (RAF) (Encl. 9) following a submission by your predecessor at Encl. 7 which said we would continue to categorise reports where possible for our records.

2/3.

Roughly speaking, a space vehicle from Mars should overtake the earth from behind and one from Venus should be overtaken by the earth. Thus one could determine whether the path of approach was associated with the proper radiant point in space; here we use the term in the sense in which it used in connection with meteors.

Now to look at the evidence! A list of UFO's sighted between September 8, 1956 and December 31, 1963 was examined. Nine fais of 20 days were found in this interval, 5 for Venus and 4 for Mars. Circular paths were assumed for Venus, Earth and Mars in computing travel times for space vehicles, but no particular difficulty is encountered if one elects to allow for the eccentricities of the various paths. In table I below, the number of UFO's reported in each fai of 20 days is given, and is to be compared with the average number of UFO's per 20-day interval outside the fais, namely, 1.88.

TABLE I

Fai	Planet	Number UFO's
1956 Sept. 8-28	Venus	1
1956 Dec. 5-25	Mars	1
1958 Apr. 16 - May 6	Venus	1
1959 Feb. 10 - Mar. 2	Mars	2
1959 Nov. 18 - Dec. 8	Venus	0
1961 Mar. 26 - Apr. 15	Mars	1
1961 June 28 - July 18	Venus	1
1963 Jan. 29 - Feb. 18	Venus	2
1963 May 1 - 21	Mars	1
1956 Sept. 28 to 1963 Dec. 31 outside fais		242 in 2570 days.

Thus the evidence seems to indicate that Martians and Venutians have not been arriving in large numbers if at all. When one goes back to examine the direction from which the UFO's arrived, we find not a single case of the UFO coming in from the proper direction to indicate that it had originated on Mars or Venus.

Charles H. Smiley, Brown University

ARRIVING FROM MARS BY UFO?

In recent years there have been many reports of unidentified flying objects (UFO's), especially since the first Soviet Sputnik went up on October 4, 1957. From time to time the question has been raised as to whether the UFO;s might have come from Mars or Venus, perhaps bearing intelligent beings. Usually the answer to this question has been simply a guess which depended to a considerable extent on what the individual wanted to believe. Most scientists have been inclined to doubt that the UFO's came from Mars or Venus, preferring to credit the sightings to natural phenomena which are not as well known as they should be.

There is a logical approach to this question as to whether or not UFO's have come from Mars or Venus. It is well known that if some one on the earth wants to send a space vehicle to Mars or Venus, there are specific favorable times, times when a body can be launched so that it will travel along a minimum-energy orbit, arriving at the path of Mars (or Venus) just as that planet comes to the same point. For example, favorable times for launching a rocket to travel to Venus have been listed as Oct 27, 1965, June 5, 1967 and January 11, 1969, and for Mars, December 23, 1964, January 26, 1967 and February 28, 1969. (SPACE HANDBOOK, Gov't Printing Office 1959)

Of course, there are similar favorable times for launching a space vehicle from Mars (or Venus) to the earth, and for each of these launching times, there would be a corresponding arrival time at the earth. These favorable arrival times come at intervals of about 584 days for Venus and about 780 days for Mars. Actually, in each case, the interval is a close approximation to the synodic period of the planet; for Venus, the synodic period varies from 579.8 to 587.8 days, and for Mars, from 767 to 803 days.

One could then choose intervals of 20 days, say ten days on either side of a favorable arrival date, and look to see how many UFO's were sighted in each such "favorable arrival interval", here named fai, (Plural fais). If there were no increase in the number of UFO's in these fais, then it would be unlikely that any considerable number of UFO's had been arriving from Mars or Venus.

Some one is certain to raise the question as to whether or not a Martian or a Venutian would elect to travel in a minimum-energy orbit. Here I shall assume that intelligent beings from any part of the universe will choose to travel by means and paths that will minimize the expenditure of energy.

This fai approach to the problem can be carried a step farther. One can make a list of the UFO's observed in the fais, and look at the record of each to see if the UFO was observed traveling in the direction it would have if it came from Mars (or Venus) in a minimum-energy orbit.

Extract from Wernher von Braun's book First Men to the Moon, Copyright 1958, 1959, 1960 by Dr. Wernher von Braun, published by Holt, Rinehart and Winston of Canada, Ltd.

"Question: What is your opinion on 'U.F.O.'s'?"

"Answer: There is a rational and rather straight-forward explanation for the great majority of 'sightings of unidentified flying objects,' or 'flying saucers', as they are more familiarly called. During the last ten years, official U.S. investigators have tabulated about six thousand sightings.' They could account for all but two per cent as belonging to any of the following categories:

High-flying balloons of various kinds
High-flying aircraft illuminated by the sun after the sun had set on the ground
Nightly 'Fata Morgana' type reflections in the atmosphere of distant light sources on the ground
Artificial satellites of U.S. or Soviet origin
Meteorites and fireballs
Birds
The Planets Venus or Jupiter
Searchlights illuminating cloud layers
Hoaxes perpetrated by pranksters

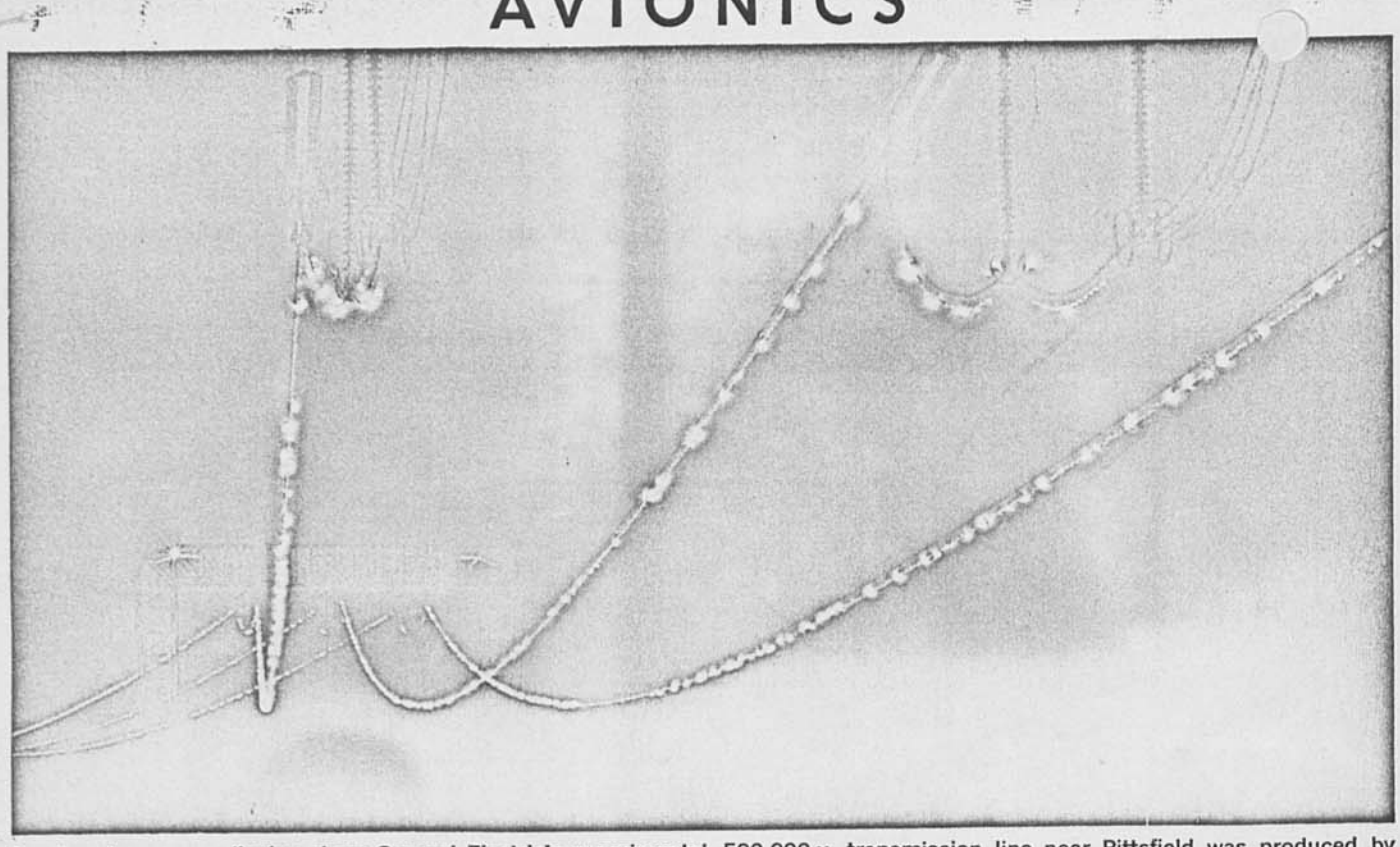
Even the most ardent believers in flying objects of extra-terrestrial origin will usually concede that most reported 'sightings' can be traced back to one of these sources. But it is that unaccounted two per cent that makes enthusiasts cling tenaciously to their conviction.

I cannot account for the mysterious two per cent, either. But a lifetime spent with testing of guided missiles has taught me to be extremely careful with eye-witness accounts on rocket firings running into some in-flight trouble. Of three experienced observers questioned after a typical mishap, one swore that he clearly saw a part coming off before the rocket faltered; a second hotly denied this but claimed that the missile oscillated violently before it veered off the course; while the third trained observer saw neither a part coming off, nor an oscillation, nor any veering off the course but insisted that the rocket was flying perfectly steadily until it was abruptly ripped part by an internal explosion.

Such contradictions in the eyewitness accounts of old rocket men are by no means an exception; we are almost invariably confronted with this situation. Yet we are dealing here with experienced observers who not only had seen many firings, but who had the great advantage of being mentally prepared for the imminent test.

For this reason I am highly skeptical about the objective of any 'sighting' report of a fleeting, mysterious object in the sky submitted by an equally surprised and unexperienced observer. And those unaccounted two per cent of U.F.O.'s absolutely fail to raise my blood pressure. To me, ninety-eight per cent is a mighty good batting average. I wish we could account for ninety-eight per cent of what we observe in many other fields of human endeavor! Yet, ever since the Middle Ages it has not been customary for science to call on ghosts or witches — or little green men from Mars — whenever we are confronted with a phenomenon for which we do not yet have a satisfactory answer.

To those who, either through personal observation or through hearsay based on other people's accounts, still insist that objects of extra-terrestrial origin are roaming through our atmosphere, I can only saw that I have never seen such an object and cannot believe in their existence until I do."



Spectacular corona display along General Electric's experimental 500,000-v. transmission line near Pittsfield was produced by application of more than 120% of rated voltage. Corona also is induced by dirt, salt crystals or other foreign particles on the line or insulators. An extremely high voltage gradient can develop across these, exceeding breakdown voltage of air.

Plasma Theory May Explain Many UFOs

By Philip J. Klass

Washington–Luminous plasmas of ionized air, a special form of "ball lightning" generated by electric corona that occurs on high-tension power lines under certain conditions, may explain many sightings of lower-altitude "unidentified flying objects." It is related to St. Elmo's fire, sometimes seen on or near aircraft in flight.

If this theory is correct, it would explain the increasing frequency of UFO sightings in recent years when there have been growing numbers of very high-voltage power lines. Also there has been increasing atmospheric pollution whose contaminants may play a catalytic role in the phenomenon.

Descriptions contained in a recent book, "Incident At Exeter." appear to support this theory. John G. Fuller, its journalist author, interviewed dozens of persons who reported seeing UFOs in the vicinity of Exeter, N. H., approximately a year ago.

Fuller expresses the belief that top Air Force and government officials know that the UFOs are extra-terrestrial spacecraft but have successfully kept this a secret for nearly two decades to prevent national panic. But a much more plausible scientific explanation emerges when the Exeter sightings are analyzed.

Most of the UFO sightings in the Exeter area occurred along or very near to high-tension power lines, according to the author. The same is true of two other sightings he investigated in western Pennsylvania and others reported at the time of the Northeast power blackout last November. Fuller speculates that the extra-terrestrial spacecraft may be attracted to the power lines as a source of energy for refueling their propulsion systems.

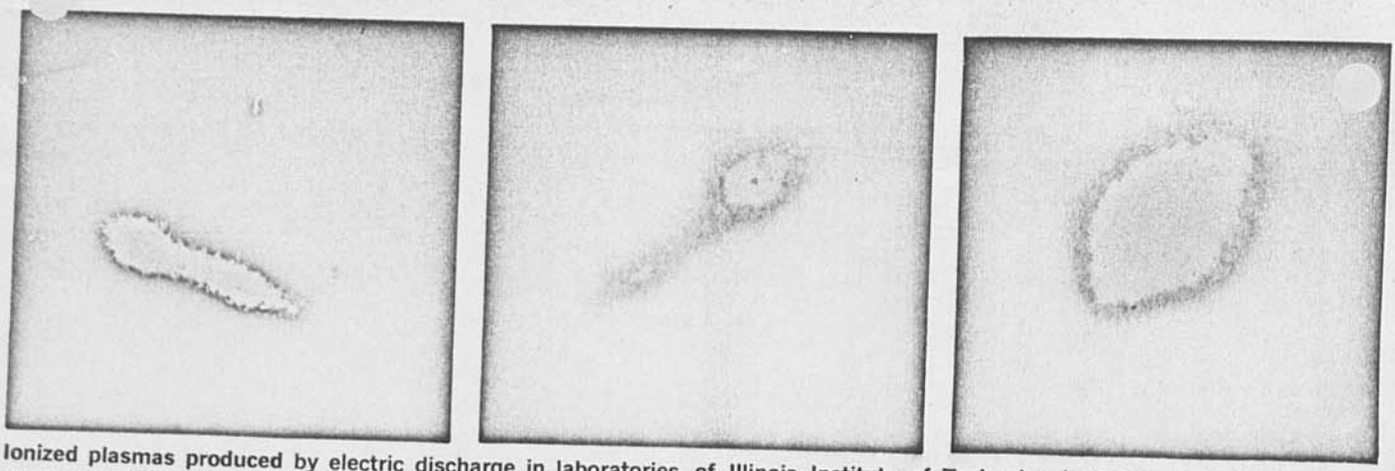
Electric corona, which this writer believes is the mechanism that triggers one form of "ball lightning" under suitable conditions, is a moderately well understood phenomenon. But most scientific investigations of corona have been aimed at devising means of suppressing it, rather than gaining fundamental theoretical understanding.

Ball lightning, most frequently reported during or immediately following a thunderstorm, is poorly understood. Until recent years it attracted little scientific attention, having been treated by many as an "old wives tale." But in the late forties and early fifties, ball lightning attracted the attention of several top Soviet scientists, including Academician Peter Kapitsa.

Five years ago, several U. S. laboratories began to investigate the phenomenon, motivated in part by its possible application to anti-ICBM defenses (AW&ST Dec. 4, 1961, p. 52). These included the Bendix Research Laboratories, the Illinois Institute of Technology's Research Institute and Raytheon's advanced development group.

There is a striking similarity between the reported characteristics of ball lightning and the UFOs sighted by dozens of persons in the Exeter area, as reported by Fuller, who used a tape recorder to insure accurate observation details. For example:

- Color: Ball lightning is multi-colored, but red is the most predominant color reported, followed by intense bluish-white and green. A vast majority of the sightings reported from Exeter said the object was red, while the remainder were either bluish-white, green, or a combination of all of these.
- Shape: Ball lightning normally is either spherical or ellipsoidal with many reports of a doughnut-shaped or ring configuration. The Exeter sightings were mostly round, oval-shaped or dome-shaped.
- Sound: Ball lightning is often ac-



Ionized plasmas produced by electric discharge in laboratories of Illinois Institute of Technology's Research Institute several years ago show some of the characteristic shapes of UFO sightings. However, these pictures were made with extremely short film exposure times of 0.2-0.5 microsec., far briefer than the Lucci photo (below).

companied by a sizzling or hissing sound. Exeter sightings reported that the UFO sometimes made a soft humming or hissing sound.

■ Dynamics: Ball lightning has been reported as hanging motionless at times, yet able to move up, down and horizontally at extremely high speeds. It appears to move by rolling and gliding, often along electrical conductors or structures and frequently exhibits a spinning motion. The Exeter sighting reports said the objects often hovered over a fixed location, frequently power lines, often rolled or bounced along, sometimes exhibiting a spinning motion and would then appear to zoom off at great speed and disappear from sight.

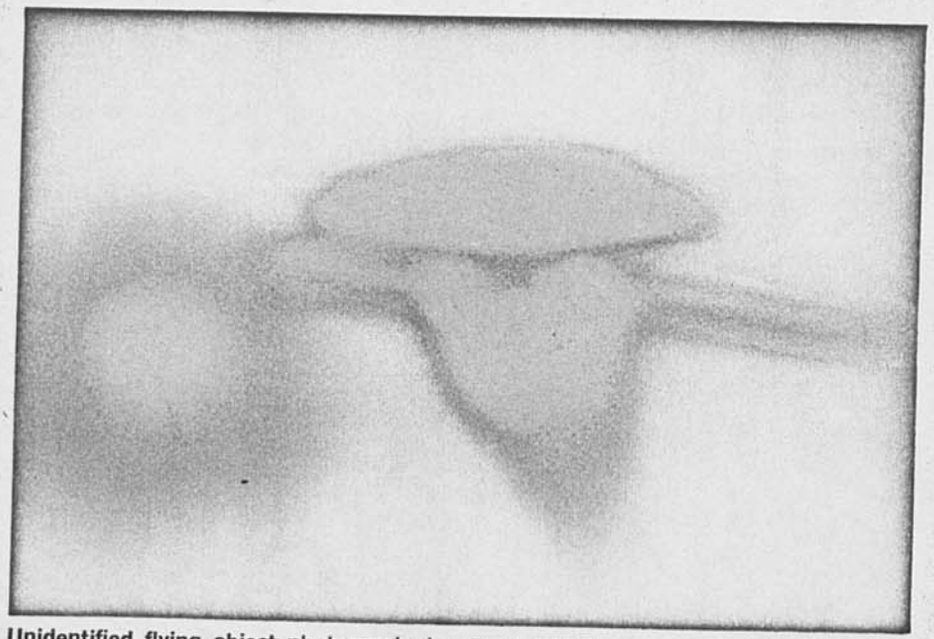
■ Lifetime: Ball lightning reports indicate that they can have a lifetime ranging from several seconds to many minutes. Observers at Exeter reported that objects remained in view for a few seconds or as long as 15 min.

■ Size: Ball lightning has been reported in sizes up to 15 ft. in diameter. Exeter observers estimated the size of objects sighted at from the size of a basketball to as much as 200 ft. in diameter.

This apparent size discrepancy is explainable in several ways. All but two of the sightings reported at Exeter by Fuller were made at night and one of the two occurred at dusk. The absence of visible landmarks for size comparison would make it difficult for a layman to estimate size accurately, especially when the object could induce fright in the observer.

Additionally, the type of ball lightning triggered by electric corona may be a lower-energy plasma of larger size than that usually induced by lightning discharges.

Electric corona is a luminous plasma caused by ionization of the air surrounding a transmission line or one of its insulators. When electric corona first occurs, it briefly resembles a small stroke of lightning. The corona can remain fixed or can travel along the power line until cooled and extinguished by external forces.



Unidentified flying object photographed over high-tension power lines near Beaver, Pa., in August, 1965, by James Lucci with full moon visible to the left of UFO, is believed to be a form of ball lightning induced by electric corona discharge. Photo was taken using film with ASA speed of 100, lens opening of f/3.5, set at infinity, and exposed for 6 sec. Film development time was 12 min.

So long as a transmission line and its insulators are clean and suitably designed, corona does not normally occur. But if small particles of dust or salt crystals, for example, become affixed to the line or insulators they can trigger the corona, according to Darrell Shankle, manager of field research in Westinghouse Electric's electric utility operations. The reason is that an extremely high-voltage gradient develops across the dust or salt crystal which exceeds the breakdown voltage of air.

Even flying insects that alight on the line can trigger a corona. For example, during the months of August and September a very high-voltage transmission line in West Virginia experiences frequent coronas caused by "flying spiders" that are carried by the winds and alight on the lines, according to Shankle.

Transmission lines near the ocean are also susceptible to corona because salt crystals deposit on the lines and insulators, according to A. F. Rohlfs, manager of high voltage development for General Electric at Pittsfield, Mass.

Exeter is located only 10 mi. from the ocean. The power lines of the Exeter and Hampton Electric Co., which were involved in the sightings, run right down to the ocean beach beyond Hampton. The company's chief engineer, Stanley Sawyer, says that corona occurs more frequently "when there is not much rain to clean off the lines."

A check with the U. S. Weather Bureau shows that conditions during the summer of 1965 preceding the Exeter sightings in September were especially conducive to corona in that area because it was an extremely dry summer.

For example, during the months of

July, August and September the Exeter area received barely more than half of its normal rainfall. During these three months, there was only 6.0 in. of rain, compared to the average of 10.8 in.

When corona first occurs, it usually has a bluish color which can then take on the color of a lightning strike, according to experts on the subject. But the presence of sodium-chloride (salt) on the line could give it a pronounced orangish-red color from the sodium with a touch of green due to the chlorine.

This suggests that some of the Exeter sightings could have been no more than a corona discharge traveling along the power line. Here are some of the first-hand observations described by Fuller in his book:

- Meredith Bolduc: "This thing was coming up the power lines toward the road . . ."
- Mrs. Jerline Jalbert: "We see it regularly along here. Always seems to be somewhere near the power lines."
- Mr. Heselton: "Just the other night, some other people saw it along another section of the power lines."
- Mr. A. Reid Bunker, Sr. "We were under the high-power lines . . . when at 10:45 p.m. we saw an object approach . . . It had red lights most, and sort of green and white lights . . ."

First Sighting

The first Exeter sighting on Sept. 3, 1965, that triggered many subsequent reports, made by a teenager and subsequently witnessed by two policemen, was located near the 34,500-v. transmission line of the Exeter and Hampton Electric Co. The line is mounted on wooden poles approximately 29 ft. above the ground. In total there were 73 instances, Fuller writes, where persons reporting UFO sightings near Exeter used the words "power lines" or "transmission lines" or referred to locations near power lines.

During the period in which Fuller was researching the Exeter incident, he visited Beaver, Pa., near Pittsburgh, to check UFO reports. One night sighting during the previous month near high-tension power lines had been made by 17-year-old James Lucci and two friends and Lucci had managed to photograph the object (see photo, p. 49).

When Fuller and Lucci visited the area of the sighting and he was asked to pinpoint its location, the youth responded: "I'd say it was right up there, directly over the wires, not more than fifty or sixty feet."

A sighting was made three days later in the same general area by Donald de Turka from his yard. His house, Fuller reports, was "down the street from a section of high-voltage transmission line."

The Northeast power blackout provided an unexpected opportunity for additional evidence that indicates a relationship between electric transmission lines, and associated power distribution apparatus, and the type of object sighted near Exeter and Pittsburgh.

A private pilot, Weldon Ross, was approaching Hancock Field at Syracuse, N.Y., for a landing "at almost the exact moment of the blackout. As he looked below him, just over the [345,000 v.] power lines near the Clay, N.Y., substation, a huge red ball of brilliant intensity appeared."

This particular substation initially was reported to be the "crux of the difficulty," Fuller writes.

Same Report

A total of five persons reported the same phenomenon, including Robert C. Walsh, deputy commissioner for the Federal Aviation Agency in the Syracuse area, according to Fuller.

On Nov. 26, Fuller reports that a power failure in St. Paul, Minn., coincided "with the appearance of objects overhead giving off blue and white flashes . . . Fifteen minutes later a resident on Hogt Avenue reported a 'blue-glowing' UFO as all house lights and appliances in the area went dead."

Fuller hints at foul play by extra-terrestrial spacecraft by claiming that scientists have not been able to explain the causes of the Northeast power blackout or the simultaneous proximity of the UFO sightings.

Engineers working with large-area power distribution networks concede that the complexity of such systems makes it difficult to pinpoint readily a specific faulty circuit breaker. But no competent expert has publicly advanced the idea that the blackout resulted from external causes.

Voltage Surges

During conditions of such power network instabilities, there are voltage surges at some points in the network. These higher-than-normal voltage conditions would induce very large corona discharges.

The leakage current during corona contains harmonics in larger than usual proportions, creating an inductive effect which aggravates network instability. But only to this extent could the corona or corona-induced ball lightning have contributed to the blackout problem, according to several experts.

The marked resemblance between many of the Exeter sightings and reported observations of ball lightning appears significant, as well as their frequent appearance on, along or near high-tension power lines under atmospheric conditions likely to produce corona discharges along the lines.

The only unresolved question is the mechanism by which the corona dis-

UFO-Ball Lightning Observations Compared

CHARACTERISTICS	EXETER UFOs	BALL LIGHTNING
Color	Usually reddish-orange and/or bluish-white, sometimes green.	Multi-colored, with red dominating or bluish-white.
Shape	Round, oval or dome-shaped	Spherical, ellipsoidal or doughnut-shaped.
Movement	Often hovering or moving up/down slowly. Also moves horizontally at slow or high speed.	Sometimes hangs motionless or moves vertically and horizontally at slow or high speed.
Dynamics	Often seems to move with rocking or undulating motion. Sometimes appears to be spinning.	Appears to bounce or roll in horizontal direction. Sometimes exhibits spinning motion.
Sound	No sound, or slight humming or hissing.	Sometimes exhibits a sizzling or hissing sound.
Lifetime	From several minutes to up to half an hour.	From few seconds to many minutes.
Size	Difficult to estimate by most observers during night sightings, but those given range from basketball size to 200 ft. in diameter.	Daytime sightings (in brighter ambient light) usually are a few inches in diameter but have ranged up to 15 ft.

charge expands into a larger plasma with ball lightning characteristics. Present limited knowledge of both phenomena complicates this problem. But the similarity of electric corona discharge and natural lightning discharge which is known to induce ball lightning would seem to support strongly the theory presented here.

Despite long years of experience with corona, the experts disagree even over the effect of temperature, barometric pressure and humidity in inducing corona. The reason is that power line corona is difficult to duplicate realistically for study under controlled conditions. To do so would require construction of a huge facility, large enough to house a long transmission line within a chamber so that barometric pressure and temperature could be varied while a variety of atmospheric contaminants were introduced.

There is considerably less scientific information available on ball lightning, although a number of conflicting theories have been advanced to explain it. Several years ago Dr. J. Rand McNally, Jr. of the Atomic Energy Commission's Oak Ridge National Laboratories made an informal survey of 1,962 persons in the laboratory. Surprisingly, he found that 110 of them, or 5.6% of the total sample, had observed ball lightning at some time. Usually it was associated with a conventional stroke of lightning, but not always.

Analyzing the returns, McNally concluded that ball lightning can originate randomly in space but is most often seen in proximity to wires or structures. It is usually airborne or partially airborne, moving randomly in space or along electric conductors. It often exhibits rolling, tumbling or spinning motions.

Small-diameter ball lightning has been reported inside houses and other buildings. Recently an Air Force Strategic Air Command flight crew reported seeing it inside an aircraft during flight, AVIATION WEEK & SPACE TECHNOLOGY was told by a scientist working in the field.

Many of the ball lightning sightings reported by persons surveyed by McNally occurred on or near power lines.

Many different theories and mathematical models have been advanced by scientists here and abroad to explain the basic mechanism which generates ball lightning and the internal-external forces that enable it to survive for extended periods.

Within recent months two Westinghouse Electric research laboratory scientists, Dr. Martin A. Uman and Dr. C. W. Helstrom published a mathematical model that predicts many of the unusual properties of ball lightning. The Westinghouse research was partially funded by the Office of Naval Research.

This theory suggests that ball lightning is a luminous, high-temperature region of air having high electrical conductivity that has been heated to the required temperature by a stroke of lightning under suitable conditions. When cloud-to-ground lightning currents are symmetrical through the ball,

it hangs stationary in air, but if these currents become unsymmetr[illegible] the ball will move.

The lightning ball will disappear quietly if the internal electric currents gradually fade away, according to the Westinghouse scientists' theory, but it can also collapse with a bang if the current drops sharply.

One scientist who has worked in the field for some time, Carsten M. Haaland, says that none of the proposed models fully explains the phenomenon and that it is possible to find flaws in all theories proposed so far. Haaland, currently employed by AEC's Oak Ridge National Laboratory, previously conducted experiments in ball lightning when he was a member of the Illinois Institute of Technology's Research Institute.

Using relatively crude discharges in air produced by exploding wires, Haaland was able to create small ball lightning for brief intervals (see p. 49).

Haaland believes that there are at least two different types of ball lightning, perhaps more, which would explain why none of the theories advanced to date explains all sightings.

Most theories on ball lightning hold that some external source of energy is needed to sustain the plasma for more than a few seconds. Haaland pointed out, in support of the proposed new theory, that the electromagnetic lines of force from high-tension lines extend for a considerable distance and could supply such energy. The Exeter lines are at a relatively low height (29 ft.) above the ground.

Another scientist working in the field, who declined to be quoted by name, was asked if he could positively exclude the possibility that power line corona could generate ball lightning. He re-

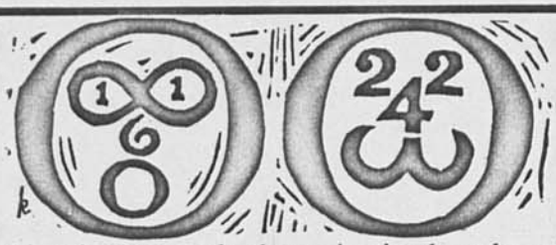
Transmission Grating

Washington—Tiny, low-cost transmission grating which can be used to view UFOs to determine if they are balls of ionized air, as a new theory predicts, can be obtained from two scientists employed by the Westinghouse Research Laboratories.

The transmission grating, roughly the size of a 35-mm. color slide, is small enough to fit into a man's wallet. If the object when viewed through the grating shows an intense red line rather than a full color spectrum, it is a plasma.

Readers interested in obtaining a grating and instructions for its use should send $1, to cover fabrication and mailing cost, to Drs. J. L. Moruzzi/Martin Uman, 579 Lucia Road, Pittsburgh, Pa. 15221. The gratings are being made by the scientists in a home workshop. It is not a Westinghouse sponsored effort.

PROBLEMATICAL RECREATIONS 341



Show, with a simple example, that an irrational number raised to an irrational power need not be irrational. —*Contributed*

ANSWER TO LAST WEEK'S PROBLEM: Let BC be the side opposite the 20° angle and D the point 10" from A on side AB. Construct triangle ADE congruent to ABC with ED||BC. Join EC. Then triangle AEC is equilateral and angle DEC = 40°. Triangle EDC is isosceles and angle EDC is 70°. Thus the stripe makes an angle of 150° (or its supplement) with the edge.

plied: "I wouldn't reject this possibility, because a conventional smoke-ring is an interesting example of a pl[illegible] held together under the proper conditions by a combination of internal and external forces which are difficult to explain scientifically."

This seems an appropriate analogy because not every instance of corona along power lines generates ball lightning. The presence of salt vapor near Exeter would increase the conductivity of the air, and vaporization of the salt crystals deposited during the dry summer could provide a mechanism for increasing current flow and air temperature once corona occurred. Other contaminants in the air at Exeter and at other locations could provide similar catalytic action.

A spokesman for the National Investigations Committee on Aerial Phenomena (NICAP), quoted by Fuller, says that UFO "sightings seem to concentrate in small geographic areas during any wave. But the concentration area will shift around." This indicates that when the required combination of atmospheric conditions exists, the phenomenon occurs repeatedly.

It seems more than coincidence that only one of the dozens of Exeter UFO sightings reported by Fuller occurred in broad daylight. This prompted one police officer who was interviewed by Fuller to ask: "Where does it go in the daytime?"

It is possible that the necessary atmospheric conditions, including air contaminants, do not occur until the cooler night air arrives. Another possible explanation is that the luminous plasma of ionized air usually is too faint to be easily visible in daylight, although it could appear quite bright in the dark.

In the photograph taken by Lucci near Pittsburgh, using a 6-sec. exposure, the UFO appears to have about the same brightness as the full moon alongside it.

Westinghouse's Dr. Martin Uman suggests several possible tests which can be made in the presence of a UFO sighting to confirm or deny the ball lightning theory. If it is an electrical discharge, it should generate radio noise. At least several persons interviewed by Fuller reported that their automobile radios had briefly become inoperative when the object came near.

If the object is viewed through an inexpensive prism or transmission grating it should be possible to ascertain whether the object is a solid spacecraft or a form of ball lightning, Dr. Uman points out. If the object is a solid, the viewer will see a continuous spectrum, but if it is a form of ball lightning he will see instead a number of individual color lines, including intense red radiation due to the presence of hydrogen and blue due to nitrogen in the air.

Mr. Pedrazzi

UFOs

1. Attached is a request from the Royal Holloway College, University of London, to be allowed to look at our UFO reports.

2. In the past, we have received from time to time, similar requests from individuals and these have always been refused on the grounds that although the reports may themselves be unclassified, correspondence between the Department and members of the public is treated as confidential and thus documents cannot be made available without either the reports being edited to preserve the anonymity of the reporter or our obtaining the observer's permission to release the information. We also point out that the reports would need examination to ensure that no classified information was

enclosed carelessly/

inadvertently disclosed & explain that the extensive time and effort needed for those tasks would not be justified & that UFO records therefore remain closed to public scrutiny until they become available under the Public Record Acts i.e. after 30 years.

3. However we have also stated to members of the public and also to MPs. that a request by a major scientific organisation of high standing with strong reasons for obtaining access to our reports would be considered on its merits. This view was taken in 1970 when the MoD position concerning UFO investigations was reviewed following the USAF announcement in December 1969 of the termination of their Project Blue Book (which was a special US unit set up to

investigate reports of UFOs) and preserve by an M.P. about the destruction of reports and access to UFO records. It was agreed in 1970 that policies and procedures should remain unchanged except that all reports would be retained (up to that time reports received before 1962 had been destroyed as being of a transitory interest, the explanations being of a mundane nature). In saying that applications for access to our records from a major scientific organisation could be considered on their merits, it was noted that, up to that time, no requests from such scientific bodies had been received, and in view of the negative findings of the Colorado University Scientific Study on UFOs it seemed unlikely that any reputable scientific organisation would ask for access to our UFO records in the foreseeable future.

4/ The first approach on this London University request was made in a telephone call from Mr. Stenhoff who told me that he had spoken to Mr Davis (one of your predecessors) when Mr. Davis took part in a BBC 2 television programme on UFOs at Banbury in January 1974 who told Mr. Stenhoff that an application for access to our reports by a scientific organisation would be considered on its merits. Mr. Stenhoff was therefore making his request on this basis; I therefore told ~~him~~ him that the University would have to submit a case for consideration but I did not encourage him to hold out much hope that it would be agreed.

5/ The letter from the University hardly presents "strong reasons" for seeing

over/

as a result of which we merely acknowledge receipt of reports & advise reporters that they would be examined in MOD to see if there are any defence implications, but that we could not advise them of the probable identity of the object seen.

c/ At that time we continued to categorise reports, where possible, into probable identity groups, for our own records, and any correspondent

d/ who asked for the Dept's views on UFOs was given an analysis by years of probable identity of objects reported. In March 1974, Mr. Crowther discussed with AHS/USAS a further possible reduction in UFO work, viz. that we should cease to attempt to categorise reports - it was felt that with so limited information

and/

and somewhat haphazard allocation of identity it could be embarrassing if we were required to defend the analysis in the context of a PE or PQ. This further change in procedure was agreed.

d. We hold, either at Archives or here, all reports received since 1962 & also letters in the correspondence files which would constitute reports. However, the majority of these reports are, I consider, of such a sketchy nature ~~that~~ as to be useless for a scientific study or as material for a scientific conference!! We always maintain, of course, that our interest being only in defence, we have never undertaken any scientific studies. But any examination of the papers in S4 custody could, I feel, lead an outside body to the conclusion that the reports are given very little investigation, or lead to questions

about/

about the nature of our investigations - questions which we would not wish to get involved in - an attitude which could lead to allegations that we were covering up information when we always maintain a correspondence that the MoD view on UFOs is quite straightforward & we do not suppress facts. It might also be thought that we do little to allay fears arising as in para 6a.

7. While I consider, for the reasons given in para 6 that a general release of our papers from 1962 should be resisted, I feel that we could equally find ourselves in some difficulties if we appear to be anything but co-operative with a body such as the University of London when they no doubt feel that they were led to believe that a request from a body of their standing would be looked on favourably. Apart from a straight refusal they

the alternatives open to us seem to be

a. To accede to the request,

b. Select, say, 2 months reports & send them to the University to demonstrate the nature of the reports, i the hope that they would realize that our papers were of no scientific importance. This still leads us open to the questions I foresee in para 6.

c. Tell the University that only about 7% of reports received have been thought to be attributable to meteorological & natural phenomena, supplying one or two examples & hope that a sight of these would discourage them from pursuing their request.

8. Action under any of the above alternatives leaves us open to the questions I foresee at para 6, but, more importantly for S4E

a lot of additional work, which I cannot see being completed within any reasonable time with our present staff. Any of the alternatives would mean that the papers would have to be edited by us to ensure anonymity & also for the security aspect. This would be a mammoth task & the University would have to be told of this & that the work would, of necessity, have to take a low priority & we could not say when it could be completed. I would hope that this in itself would discourage them from pursuing the request. However, you may feel that the difficulties for us complying with the request are sufficient to justify a refusal of the application.

9. You will wish to consider our line of action.

A J Janes.
2/6/75.

Note.

Sqn. Ldr. Davies STCOC phoned regarding the monthly return by STCOC of their results of UFO investigations which now invariably show 'nil'. He suggested that, for the future, the monthly return should cease and they would only send us any positive information they had.
I agreed to this change in procedure.

G J James
S4F(Air)
7/8/75.

P.S. He mentioned that if any report received by them was more than 24 hrs. old it was very difficult for them to make a radar check. GJJ.

Miss Jamieson
Thank you – a most useful survey.
I agree. think we should not pursue the AHB idea – particularly a consultant who'd find the clerical labour beneath him. I also agree think we cannot cope with the editing with our attenuated staff.
Noting X of para 4 I agree no further action should be taken or pursued
7/8/75

Mr. Pedrycz.

1. We spoke about ACS(G)'s suggestion at the last sentence of E16 of this file, that AHB might employ a consultant to edit our UFO reports in order to preserve anonymity & to exclude any classified material.

2. The task would involve the examination of reports received from the beginning of 1962 until the present time. These total approx. 2600 reports (filed in individual folders, the bulk of which are held in Archives). In addition some 19 or 20 general correspondence files which contain letters from the public & which were regarded as reports, sometimes the subject of protracted correspondence, would require examination. Some of these letters probably contain more intelligent material than a lot of the other reports & the files would need careful scrutiny to extract the relevant enclosures. Each report or letter would/

would have to be copied with the name & address of the observer blanked out. The geographical location of the sighting would have to be inserted instead, otherwise the report would be useless. Any classified material would also have to be excluded, but this is not thought to amount to very much.

3. At first sight the idea of asking AHB to undertake this task is very attractive, but on further consideration I feel it would be very difficult to justify the use of any staff (either AHB or S&F) on this work, & so far as AHB is concerned the work seems to be inappropriate to a "consultant", falling more in the category of a "clerical chore".

4. ACS (G) may well be right in saying that sooner or later the data will have to be sanitised.

panicised and it would indeed be an ideal situation if we were able to have the task completed in anticipation of a successful application for access to our UFO records. But the statement about possible access to a major scientific organisation was made in March 1970, and five years have elapsed before we even received an application which gave us any cause for thought, during which time other increasing pressures on other aspects of S&T work & the need for economies resulted in less time being spent on UFO work which is now given a relatively low priority of importance. The idea of employing a C.O. on the job of editing UFO reports (as part of normal duties) during these five years would NOT have been entertained.

5. At the present time we are no more certain of receiving an application for access from a scientific body of high standing than we were five years ago.

On the other hand, we are certain that defence expenditure is to be drastically cut & this must inevitably result in further staff cuts. In these circumstances there seems to be even less justification for embarking on the formidable task of editing UFO reports. In the present climate of cuts & economies, it seems possible that, even if an application worthy of approval were to be received, the 1970 ministerial ruling could be reversed, and the Dept. refuse to engage in extra work to assist a scientific project which would go beyond our purely defence interest.

6. In view of our experience with the Royal Holloway College we have slightly amended our procedures for holding UFO reports. From the beginning of August 75 we will hold a file containing a duplicate copy of all reports received with the necessary items blanked out. Thus, if at some future date, we

forced to disclose any of the reports, a certain number will already be prepared.

7. Do you agree that no further action should be taken to edit the 1962 - July 75 reports?

SofS (Air)

5/8/75.

(620

LOOSE MINUTE

AF/CX 80/70

AFOR

REVISION OF AIR FORCE OPERATIONS ROOM STANDARD OPERATING PROCEDURES-
REPORTS OF UNIDENTIFIED FLYING OBJECTS

References:
A. MOD AFOR SOP No 502.
B. AFOR/92 dated 22.7.75.

Our suggested amendments to Ref A are as follows:

Information

Amend paras 1, 2 and 4 to read:

Para 1. S4f(Air) co-ordinate detailed investigation into reports on Unidentified Flying Objects, consulting Ops (GE)2(RAF), DI 55, DI 50, Science 3 and STCOC. and correspond with the public on the subject of UFOs when required.

Para 2. Circulation of reports on UFOs is S4f(Air) responsibility during normal working hours, and AFOR responsibility outside normal working hours. Reports may be received by telephone message or by signal message.

Para 4. The above mentioned reference gives considerable detail on the stages of investigation of UFO reports, and information should be passed to S4f(Air) as early as possible.

Para 3 - No change.

Action by the Duty Operations Officer

Para 5. Amend S4f(Air) telephone extension numbers to read 'Ext 7035/6020'.

Para 6. - No change.

Annex to SOP 502 - Report of an Unidentified Flying Object

Item B. Amend to read:

Description of Object (No. of objects, size, shape, colour, brightness, sound and smell).

Item R. Presumably 'ADOC' should read 'STCOC'.

6 Aug 75

MISS G J JAMIESON
S4f(Air)
Room 8235 7035 MB

E19

MINISTRY OF DEFENCE
Main Building Whitehall London SW1A 2HB

MOD (AFOR) (RAF)

Telephone 01-218-6117/8

Your reference

Our reference AFOR/92

To: S4F AIR

Date 22nd July, 1975

REVISION OF AIR FORCE OPERATIONS ROOM STANDARD OPERATING PROCEDURES

1. Many of the Standard Operating Procedures used by the Duty Operations Officers in AFOR are in urgent need of review or amendment.

2. It is requested that you check those SOP's which are sponsored by your Department and advise AFOR, by completion of the attached certificate, of the action that needs to be taken.

G J CLARK
Squadron Leader
for Officer in Charge
Air Force Operations Room

MOD FORM 195

With the Compliments of

MINISTRY OF DEFENCE

AIR FORCE OPERATIONS ROOM (RAF.)

(E18

COPY NO

SOP NO 502

PAGE NO 1

MINISTRY OF DEFENCE

AIR FORCE OPERATIONS ROOM

STANDARD OPERATING PROCEDURE NO 502

REPORTS OF UNIDENTIFIED FLYING OBJECTS

Reference: AFOR/92/500, ~~Es 27B and 28~~ AL/3

Annex : Report of an Unidentified Flying Object

Sponsor : S4f Air

See E57-58 D/S4(Air)8/1

INFORMATION

1. S4f(Air) co-ordinate detailed investigation into reports on Unidentified Flying Objects, consulting Ops(GE)2(RAF), DI55, ~~DI50~~, Science 4 3, and ~~ADOC~~ STCOC, when necessary. + S4f(Air) ~~reply to those originators that request a reply.~~ correspond with the public on the subject of UFOs when required.

2. ~~The initial investigation~~ Coordinate of reports on UFOs is S4f(Air) responsibility during normal working hours, and ~~AFOR(RAF)~~ AF Ops responsibility outside normal working hours. Reports may be received by telephone message or by signal message.

3. Copies of all UFO reports received in ~~AFOR(RAF)~~ AF Ops, and reports of ~~AFOR(RAF)~~ AF Ops initial investigation, are circulated to S4f(Air), Ops(GE)2(RAF), DI55, ~~DI50C~~, Science 4 3, and ~~STCOC.~~ UKRADOC.

4. The above-mentioned reference gives considerable detail on the stages of investigation of UFO reports, ~~and except in cases where a field investigation is necessary the aim is that S4f(Air) is provided, within 10 days of the initial report, with the information on which to base the reply to the originator.~~ + information should be passed to S4f(Air) as early as possible.

ACTION BY THE DUTY OPERATIONS OFFICER

5. During Normal Working Hours. Refer telephone calls reporting UFOs to S4f(Air), Ext 7035/~~2122~~ 6020. No action is required on signal message reports.

6. Outside Normal Working Hours.

a. Reports Received by Telephone. Complete the pro-forma at the Annex to this SOP. Dispatch it through the Registry.

b. Reports Received by Signal Message.

(1) Ensure that the message has been circulated to the staffs detailed at para 3 above.

(2) Complete para R of the pro-forma at the Annex to this SOP and insert on the pro-forma, the signal message reference to which the investigation refers. Dispatch it through the Registry.

ANNEX TO
SOP 502

REPORT OF AN UNIDENTIFIED FLYING OBJECT

A.	Date, Time & Duration of Sighting
B.	Description of Object (No. of objects, size, shape, colour, brightness, sound, smell)
C.	Exact Position of Observer Location, indoor/outdoor, stationary/moving
D.	How Observed (Naked eye, binoculars, other optical device, still or movie)
E.	Direction in which object first seen (A landmark may be more useful than a badly estimated bearing)
F.	Angle of Sight(Estimated heights are unreliable)
G.	Distance(By reference to a known landmark)
H.	Movements(Changes in E F & G may be of more use than estimates of course and speed)
J.	Met Conditions during Observations (Moving clouds, haze, mist, etc)
K.	Nearby Objects (Telephone lines, high voltage lines, reservoir, lake or dam, swamp or marsh, river, high buildings, tall chimneys, steeples, spires, TV or radio masts, airfields, generating plant, factories, pits or other sites with floodlights or night lighting)
L.	To Whom Reported (Police, military, press etc)
M.	Name & Address of Informant
N.	Background of Informant that may be volunteered
O.	Other Witnesses
P.	Date, Time of Receipt

Q.	Detailed Met Report. (AFOR to Obtain)
R.	ADOC Assessment . (Check radars, ATCCs etc) 1. Aircraft. 2. Ranges. 3. Gliding . 4. Balloon. 5. Air Sea Rescue Activities.

.....

Squadron Leader
Duty Operations Officer
AFOR(RAF)

Date.....

Copies to:

S4f(Air)
STCOC
Ops(GE)2(RAF)
DI 55
DI 50C
Science 43
File AFOR/92/502

From: Mr J A Peduzie

(E 17)

MINISTRY OF DEFENCE
Main Building Whitehall London SW1A 2HB
Telephone 01-218 (Direct Dialling)
01-218 9000 (Switchboard)

Mr Mark Stenhoff FRAS
Royal Holloway College
Egham Hill
Egham
Surrey
TW20 0EX

Your reference

Our reference
AF/CX 80/70

Date
30 July 1975

Dear Mr Stenhoff

E 13

I apologise for the delay in answering your request for access to the Ministry of Defence files on Unidentified Flying Objects - the more so as I must send a disappointing reply.

We have given a good deal of thought to this proposal but I am forced to the conclusion that two difficulties stand in the way. Firstly, the correspondence between the Department and members of the public on this subject has always been treated as confidential, and the reports could not be made available unless every single piece of paper were edited to remove the identity of the observer, or his written permission were obtained to divulge the information he had provided. This in itself would be a formidable task and, while I have every confidence in your assurance that the anonymity of witnesses would be respected, I cannot evade responsibility for inadvertent disclosure.

More importantly, the files would have to be expurgated of Ministry of Defence commentaries. For obvious reasons, we have to satisfy ourselves that reports of UFOs have no implications for the defence of the country and our advisers naturally draw on classified information where this might be relevant to a specific report under discussion. Here again there is a chance that something might slip through and this is a risk I cannot afford to ignore.

I am very sorry I cannot be more helpful but I can assure you we have not treated your request lightly.

Yours sincerely

J A Peduzie

(C16

LOOSE MINUTE

S4(Air) (Mr Peduzie)

Copy to:- DCS(RAF)

UFO RECORDS

Reference: AF/CX 80/70 dated 6 June 75. (E15

1. DCS(RAF) has asked me to reply to your minute at reference.

2. The Royal Holloway College 'team' which comes in practice from RHC, King's College, London and National Physical Laboratory, seems to be a group of academics drawn together by an interest in UFOs. It would be difficult to distinguish it from any other group of academics which might be drawn together by a common interest, of which there could be many, and therefore I do not believe that it can be described as 'a major scientific organisation of high standing'. For this reason I suggest that the request be turned down.

3. I also have some reservations about the objective of the study. It is described as 'obtaining data concerning rare atmospheric events, such as "ball-lightning".....for use as material for a scientific conference on little-understood aerial phenomena". Dr Christopher Evans is an applied psychologist who has written books on topics such as scientology, Subbud and other fringe activities, and who also appears frequently on TV and radio. It therefore appears that the study might range more widely than the brief description suggests. In any case you would require more information before it could be called 'strong scientific reason' for undertaking the work.

4. However, I believe that sooner or later somebody will break this confidentiality barrier, and the data will have to be sanitised. Have you considered asking the Air Historical Branch whether they could employ a consultant to do this?

see E21.

11 June 75

J E A HARRISON
ACS(G)RAF

(CX

LOOSE MINUTE

AF/CX 80/70

PS/CS(RAF)

See ~~16~~.

UFO RECORDS

1. I attach a copy of a letter from Royal Holloway College, University of London, in which they seek access to our UFO records.

2. We are not infrequently asked by outside bodies or individuals for permission to examine our UFO reports. Up to now these have all been refused on the grounds that all correspondence between MOD and members of the public is regarded as confidential and could not be made available to public scrutiny unless the reports were edited to preserve the anonymity of the reporter or the observer's permission were obtained. It would also be necessary to examine all the records to ensure that no classified information used in the course of investigating reports was inadvertently released. The time and effort in this task would be formidable and up to now we have taken the general line that reports should remain closed until they became available under the Public Record Acts after 30 years.

3. Ministers have announced, however, that an applications for access would be considered on its merits if it came from a major scientific organisation of high standing which had strong reasons for examining our records. The question is whether this concession should be extended to the Royal Holloway College, who are well aware of the Ministerial undertaking. I do not think our files would help them - the MOD investigations go no further than the defence implications - but the raw material could I suppose have objective value.

4. I should be grateful for your views on the standing of the Royal Holloway College team as a "Major Scientific Organisation" and whether the relevance of the UFO reports to their enquiries can be construed as a "strong reason".

5. I am sure we can rely on your objective advice. My heart quails at the thought of the massive editing that might have to be done and, with our overtaxed resources, I would not wish to embark on it unless in your view it has a demonstrable scientific value.

6 Jun 75

J A Peduzie

J A PEDUZIE
S4(Air)

MINISTRY OF DEFENCE
Main Building Whitehall London SW1A 2HB

Telephone 01-218 (Direct Dialling)
01-218 9000 (Switchboard)

(E14)

Mr Mark Stenhoff FRAS
Royal Hollway College
Egham Hill
Egham
Surrey
TW20 0EX

Your reference

Our reference
AF/7464/72, CX 80/70

Date
28 May 1975

Dear Mr Stenhoff

I am writing to thank you for your recent letter about unidentified flying object reports: this is receiving attention and we will write to you again on this subject as soon as possible.

Yours faithfully

H E MACKEY

Royal Holloway College University of London

Egham Hill
Egham
Surrey TW20 OEX
Egham 6371

please reply to
Mark Stenhoff FRAS

613

Department S4f(Air)
MINISTRY OF DEFENCE
Whitehall, London SW1

Dear Sirs

Further to Mark Stenhoff's recent telephone conversation with Miss Jamieson of your Department, we are writing to request that we be permitted to have access to the Department's files on Unidentified Flying Object reports, in the hope that data might thereby be obtained concerning rare atmospheric events, such as "ball-lightning".

The data would be used as material for a scientific conference on little-understood aerial phenomena. Should you require further information, please let us know.

This request is made on the understanding that we would respect the Department's policy of witness anonymity. You may wish to impose further restrictions, although we would prefer to be unhampered by such so far as possible.

Thank you in anticipation of your consideration of this request.

/cont'd...

Yours faithfully

Mark Stenhoff

Mark Stenhoff (Department of Physics, Royal Holloway College)

Paul Davies

Dr Paul C W Davies (Department of Mathematics, King's College, London)

Dr Christopher R Evans

ROYAL HOLLOWAY COLLEGE
(University of London)
Egham Hill, Egham
Surrey TW20 0EX
1975 April 10

Miss Jamieson
Dept S4f (Air)
Ministry of Defence

Dear Miss Jamieson

Further to our telephone conversation of today's date, I shall write as you suggested in about two weeks' time when I have had the opportunity to discuss the subject of the "UFO files" with my colleagues.

Meantime, many thanks for your help.

Yours sincerely

Mark Stenhoff

[Mark STENHOFF, F.R.A.S.]

AMD/130/26/2

LOOSE MINUTE

(E11

DI 55/40/9/1

Miss G J Jamieson
S4f(Air)
Room 8235 MB

UFO REPORTS

1. I have examined your UFO report 557/10/20 and have the following comments.

2. The time of the sighting is within 3 minutes of the time of "nautical twilight" for that day. The sky also seems to have been cloudy. In late October there could well have been a layer of ice crystals in the atmosphere which might have produced an halation effect from the sun's rays. The net result is the appearance of a "false sun" such as is frequently seen in Arctic regions when the sun is just below the horizon. It often appears "diamond shaped".

3. Thank you for referring to the change in procedures. I propose that, under these circumstances, we should no longer receive UFO reports routinely. Any reports which are difficult to categorise could perhaps be sent to DI 55b on a monthly basis, as has in fact been happening. We would also welcome receipt of your statistics at whatever period you prepare them.

J. Walton

27 Jan 72

DR J WALTON
for ADI/DI 55

ET

10

LOOSE MINUTE

AF/CX 80/70

DI55b (Dr Walton)

I should be grateful for any comments you can make concerning the UFO sighting reported in the attached folder 557/10/20. Enquiries made by STCOC of Air Defence Radars have proved negative.

2. You will wish to know that US of S (RAF) has agreed the change of procedures in dealing with correspondence from the public concerning UFOs, proposed in S4(Air)'s loose minute AF/CX 80/70 of 16 December, and reports received after 1 January 1972 will be acknowledged by S4F(Air) in the form of the attached letter. You may wish to consider whether we should periodically forward any of the reports to your branch for perusal.

20 January 1972.

Miss G J Jamieson
S4F(Air)
MB Ext: 7035

9.

MINISTRY OF DEFENCE S4f(Air)
Main Building, Whitehall, LONDON S.W.1
Telephone: WHItehall 7022, *ext.*

Our reference: AF/CX80/70
Your reference:

7th January 1972

Sir

UNIDENTIFIED FLYING OBJECTS

Reference A: AF/X58/64/S4f(Air) dated 29 March 1967

In Reference A guidance was given on the action to be taken by units on receipt of reports of unidentified flying objects.

I am directed to inform you that approval has now been given for a change of procedure in dealing with correspondence with the public about reported UFO sightings. All reports will be examined as heretofore so that defence implications, if any, may be investigated. However, with the limited resources now available to deal with correspondence from the public on the subject of UFOs, the Department can no longer undertake to advise observers of the probable identity of the object seen. It is therefore necessary for Item Q, which asks if a reply is requested, to be deleted from the form on which reports are made. All reports received by units should, as in the past, be forwarded to AFOR for normal circulation action.

Reports will be acknowledged by S4f(Air) to the observer with a short pro-forma letter.

Any enquiries from the press should, as before, be referred to the Ministry of Defence Press office.

It will be necessary to continue to categorize reports where possible for the Department's records of UFOs and the monthly summary currently prepared by HQ Strike Command (STCOC) will therefore still be required.

I am Sir

Your obedient Servant

G J Jamieson

MISS G J JAMIESON

To: Air Officers Commanding-in-Chief
Strike Command
Air Support Command
Maintenance Command
Training Command

Copies to: AFOR
DPR(RAF)
DST1
Ops(GE)2c(RAF)
ATSA2-Mr Rice

Reference AF/PS ~~26/70~~ 14/6

E9

Mr. Cliffe

Miss Jamieson — for file

S4(Air) (Mr Davis)

Copy to: DUS(Air)
D of Ops(A Def & O)(RAF)
D of Ops(S)(RAF)
DST1
DR Met O
DPR(RAF)

3/1

UNIDENTIFIED FLYING OBJECTS - SUGGESTED NEW PROCEDURES

US of S(RAF) is content with the change in procedures proposed in your minute reference AF/CX 80/70 dated 16th December 1971, and with the Proforma Letter as amended by DUS(Air) (attached).

Newham Beaumont

(N.J. BEAUMONT)
PS to US of S(RAF)

31st December 1971

CODE 18-78

E 8

DRAFT PRO-FORMA LETTER

I am writing to thank you for your report of an unidentified flying object seen on .....

We are grateful to you for advising the Department of this incident and your report will be examined in the Ministry of Defence to see if there are any defence implications. We cannot undertake to pursue our research, other than for defence implications, to a point where positive correlation with a known object is established, nor to advise you of the probable identity of the object seen.

You will no doubt wish to know, however, that ~~the great majority~~ simple explanations are found for the great majority of UFO reports, ~~turn out to have mundane explanations~~, the most common single source being aircraft or the lights of aircraft seen under unusual meteorological conditions. Other common sources have proved to be astronomical sightings, space satellites or space junk, balloons, unusual cloud formations or aircraft condensation trails. Investigations over a number of years have so far produced no evidence that UFOs represent an air defence threat to the United Kingdom.

E7.

LOC MINUTE

AF/CX 80/70

PS/US of S(RAF) [through DUS(Air)]

Copies to: AUS(O)(Air)
D of Ops(A Def & O)(RAF)
D of Ops(S)(RAF)
DST1
DR Met O
DPR(RAF)

UNIDENTIFIED FLYING OBJECTS - SUGGESTED NEW PROCEDURES

1. When the USAF announced in December 1969 the termination of project Blue Book (which was a special US unit set up to investigate reports of UFOs) the MOD position concerning UFO investigations was reviewed. It was decided early in 1970 that our policies and procedures for dealing with these reports should continue unchanged. (Flag C on AF/PS 26/70 attached).

2. In accordance with this procedure UFO reports are currently circulated, either by S4(Air) or AFOR, to STCOC, Ops(GE)2(RAF), STCIC and DI55. When it is concluded that there is no defence implication it is our current practice to make an assessment of the identity of the object from available information; where the report is not likely to have originated from an aircraft movement advice may be sought from Met 09 if a meteorological balloon might have been involved, or from the Royal Observatory if a star or planet might have been the source. We do not pursue our enquiries to a point where a positive identification is established, nor do we re-examine our conclusions if the observer disagrees with them. We do not investigate anonymous reports, nor, normally, reports forwarded by UFO associations on behalf of third parties.

3. One of the factors leading to the decision in 1970 to continue to deal with UFO reports in this way was the need to answer questions from the public which might arise from a real anxiety about national security. However, recent publicity given to the subject of UFOs by the press and television has resulted in an increased volume of reports from the public. During the three months August to October this year, 118 reports were received compared with 56 in the same period of 1970. 23 were received within three days of the showing on television on 26th October of an alleged UFO filmed at Enstone in Oxfordshire, which has since been the subject of a Parliamentary Enquiry. Since the end of October a single Banbury resident has sent to the Department 84 separate reports of UFO "sightings" in the Banbury area. There is now pressure for a responsible MOD official to appear on a BBC TV programme to discuss UFO reports and MOD procedures for handling them.

4. All letters and telephone calls during working hours concerning UFOs are at present dealt with by a single HEO in S4(Air) who is occupied almost whole time on other work. Outside working hours calls are dealt with by AFOR and actioned by S4(Air) the next day. With the limited

res rces available in this Division, especially since the recent establishment cuts, it is recommended that time and effort should no longer be expended in dealing with UFO reports beyond their circulation as detailed in para 2, so that air defence implications, if any, may be examined. Members of the public would be advised that their report will be examined for this purpose but that we cannot undertake to identify the object seen. A pro-forma letter would normally be used on the lines of the draft attached to this minute.

5. If US of S(RAF) approves this proposed change in procedure S4(Air) will notify RAF Commands that individuals who report UFO sightings should no longer be asked whether they wish to be advised of our findings. We would continue to categorize reports where possible for our records and to retain the records of reports in the manner agreed in March 1970.

A. N. DAVIS

16 Dec 71

A N DAVIS
S4(Air)

DRAFT PRO-FORMA LETTER

I am writing to thank you for your report of an unidentified flying object seen on .....

We are grateful to you for advising the Department of this incident and your report will be examined in the Ministry of Defence to see if there are any defence implications. We cannot undertake to pursue our research, other than for defence implications, to a point where positive correlation with a known object is established, nor to advise you of the probable identity of the object seen.

You will no doubt wish to know, however, that the great majority of UFO reports turn out to have mundane explanations, the most common single source being aircraft or the lights of aircraft seen under unusual meteorological conditions. Other common sources have proved to be astronomical sightings, space satellites or space junk, balloons, unusual cloud formations or aircraft condensation trails. Investigations over a number of years have so far produced no evidence that UFOs represent an air defence threat to the United Kingdom.

E.6.

Reference D/DSTI/126/6

Head of S.4 (Air) ✓

Copies to: AUS(O) (Air)
D of Ops(A Def & O)RAF
D of Ops(S)(RAF)
DR Met O
DPR (RAF)
ADI DI 55

UNIDENTIFIED FLYING OBJECTS - SUGGESTED NEW PROCEDURES

Reference AF/CX 80/70 dated 9th December 1971.

I have no comments.

15 December 1971

DSTI

E5

Reference..

Note.

Gp. Capt Scott, D.D. Ops(R)(RAF) who is administratively responsible for AFOR telephoned on 15/12/71 to suggest that para. 4. of the draft loose minute to PS/USofS(RAF) should include a reference to the fact that calls after duty hours are dealt with through AFOR and actioned by S4F(Air) the next day. He thought this would strengthen our case.

As regards the draft pro-forma letter he suggested that the word "air" should be deleted from line 3 of para 2 before "defence implications". In line 5 of para 2 he thought we should insert after "research" "other than for defence implications" & delete sentence "I regret that we are unable to extend our investigations beyond our defence interest".

[signature]

E4.

LOOSE MINUTE

AF/CX 80/70

AUS(O)(Air)
D of Ops(A Def & O)(RAF)
D of Ops(S)(RAF)
DST1
DR Met O
DPR(RAF)

UNIDENTIFIED FLYING OBJECTS - SUGGESTED NEW PROCEDURES

I attach a self-explanatory draft minute which, subject to your comments, I propose to send to PS/US of S(RAF). In the absence of any comment from your Directorate by 1700 hrs on 15 December I shall assume your concurrence.

A N Davis

9 December 1971

A N DAVIS
S4(Air)

LOOSE MINUTE

AF/CX 80/70

PS/US of S(RAF) /Through DUS(Air)/

Copies to: AUS(O)(Air)
D of Ops(A Def & O)(RAF)
D of Ops(S)(RAF)
DST1
DR Met O
DPR(RAF)

UNIDENTIFIED FLYING OBJECTS - SUGGESTED NEW PROCEDURES

1. When the USAF announced in December 1969 the termination of project Blue Book (which was a special US unit set up to investigate reports of UFOs) the MOD postion concerning UFO investigations was reviewed. It was decided early in 1970 that our policies and procedures for dealing with these reports should continue unchanged. The authority of the then US of S(RAF) was recorded in the papers associated with Parliamentary Enquiry AF/PS 26/70, which were circulated to copy addressees under loose minute AF/X58/64 dated 24th March 1970 (not to AUS(O)(Air).

2. In accordance with this procedure UFO reports are currently circulated, either by S4(Air) or AFOR, to STCOC, Ops(GE)2(RAF), STCIC and D155. When it is concluded that there is no defence implication it is our current practice to make an assessment of the identity of the object from available information; if the report is not likely to have originated from an aircraft movement advice may be sought from Met 09 if a meteorological balloon might have been involved, or from the Royal Observatory if a star or planet might have been the source. We do not pursue our enquiries to a point where a positive identification is established, nor do we re-examine our conclusions if the observer disagrees with them. We do not investigate anonymous reports, nor, normally, reports forwarded by UFO associations on behalf of third parties.

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4. All letters and telephone calls during working hours concerning UFOs are at present dealt with by a single HEO in S4(Air) whose primary responsibilities are as follows:-

Co-ordination of RAF aspects of MOD War Book.

Co-ordination of NATO Alert measures with Government War Book.

Supervision of clerical work of Air Force Board and Standing Committee.

At present the MOD War Book is being entirely rewritten in line with the NATO Alert system and the HEO is concerned almost whole time with this work.

5. With the limited resources available in this Division, especially since the recent establishment cuts, it is recommended that time and effort should no longer be expended in dealing with UFO reports beyond their circulation as detailed in para 2, so that air defence implications, if any, may be examined. Members of the public would be advised that their report will be examined for this purpose but that we cannot undertake to identify the object seen. A pro-forma letter would normally be used on the lines of the draft attached to this minute.

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DRAFT PRO-FORMA

I am writing to thank your for your report of an unidentified flying object seen on .....

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You will no doubt wish to know, however, that the great majority of UFO reports turn out to have mundane explanations, the most common single source being aircraft or the lights of aircraft seen under unusual meteorological conditions. Investigations over a number of years so far have/produced no evidence that UFOs represent an air defence threat to the United Kingdom.

CX88/70.

Reference AF/PS 207/71

E3

S4(Air) Mr Owens

Copy to: DI55

UNIDENTIFIED FLYING OBJECTS - PARLIAMENTARY ENQUIRY FROM SIR JOHN LANGFORD-HOLT MP

You may wish to have the enclosed copy of a reply which the Minister for Trade has sent to an enquiry from Sir John Langford-Holt MP about UFOs.

2. US of S(RAF)'s own letter of 14th May to Sir John, under the above reference, refers.

(I.H. MORGAN)
APS/US of S(RAF)

25th May 1971

CODE 18-78

E2

DEPARTMENT OF TRADE AND INDUSTRY
1 VICTORIA STREET
LONDON S W 1
01-222 7877

The Minister for Trade

Sir John Langford-Holt MP
House of Commons
SW1

21 May 1971

Dear John,

Thank you for your letter of 6 May about instructions, within the National Air Traffic Control Services, for dealing with reports of unidentified flying objects.

NATCS units have instructions that, in the event of a report concerning an unidentified flying object, they should obtain as much as possible of the information required to complete a prescribed report form. The details are to be passed by telephone to the parent Air Traffic Control Centre(ATCC), while the completed report form is forwarded to the Ministry of Defence. The ATCC is required to give the details without delay to the Military Aero-nautical Information Service.

These instructions were first issued in January 1968, and published in the Manual of Air Traffic Control. I enclose copies of the relevant pages from that Manual, which include the report form.

The NATCS does not keep statistics of these reports once they have been passed on in this way, but I understand that Antony Lambton has recently written to you about reports received by his Department during 1970. I would suggest that he may be able to supply similar information for earlier years should you so wish, and am copying this letter to him.

Yours ever

Michael,

Chapter 5:—(contd.)

5.5. Reporting of Unidentified Flying Objects

5.5.1. In the event of a report concerning an unidentified flying object being received by an ATS unit the following action shall be taken.

5.5.2. The ATSU receiving the report shall obtain as much as possible of the information required to complete the report form shown at Appendix " F " and pass all details by telephone to the watch supervisor at the parent ATCC (Scottish ATCC, Preston ATCC or London ATCC). The completed form shall be sent by the originating ATSU to The Ministry of Defence (AFOR), Royal Air Force, Main Building, Whitehall, London SW1.

5.5.3. The Watch Supervisor at the ATCC concerned shall pass all details without delay via the operational telephone network to the Military Aeronautical Information Service section at West Drayton, extension 8. If it is necessary to use the GPO network the information should be passed to Uxbridge 37144, extension 369.

5.5.4. Such reports shall be entered in the ATC log.

5.6. Reporting of Aircraft Incidents and Breaches of Regulations

5.6.1. Aircraft Incidents

An incident is an occurrence which, but for fortuitous circumstances, might have resulted in an accident, and may be caused by:

(*a*) Ground Organisation:
(i) equipment defects, faulty organisation and procedure, etc.;
(ii) personnel error, incompetence, negligence, failure to comply with instructions etc.
If it is thought that the cause of the incident may be attributed to ATC error, the ATCO i/c, or in his absence the watch supervisor or senior controller on duty, will ensure that written reports are made immediately by all ATC staff concerned and that a preliminary report is telephoned to the Divisional ATCO. Reports should comply with ATCI No. 8, para. 6.3.3.

(*b*) Aircraft—defects in the aircraft or its equipment, loss of control due to meteorological conditions, etc.

(*c*) Aircrew—negligence, incompetence, failure to comply with procedures and instructions, incorrect practices and errors of judgment, etc.

5.6.1.1. *Minor Incidents* (Form CA 163)

5.6.1.1.1. Minor incidents, such as errors in navigation, use of incorrect procedures, faulty radio operation etc., in which the safety of the aircraft or its occupants is not involved, shall be recorded on Form CA 163 Aircraft/Aircraft Radio Operation Fault Report. The completed form will be passed to the Air Traffic Controller i/c, the Centre Superintendent or the STO, as appropriate, who will review the circumstances and decide whether or not reference to the operating company is justified. A register of such incidents will be maintained showing the following information:—
(*a*) Station serial No.
(*b*) Operating agency
(*c*) Date of incident
(*d*) Aircraft registration
(*e*) Date referred to operator
(*f*) Brief details of incident
(*g*) Date reply received.
(*h*) Summary of explanation.

5.6.1.1.2. A copy of any Aircraft Operating Fault Report submitted to an operator will be forwarded to the DATCO for information.

5.6.1.2. *Incidents Involving Safety* (Form CA 1260)

5.6.1.2.1. Incidents in which the safety of an aircraft or of any person is threatened other than notifiable accidents and airmisses shall be recorded on Form CA 1260. Incidents of this nature which may in addition involve a breach of regulations will be recorded on this form and on Form CA 939. The completed form will be passed to the Aerodrome Commandant, the Centre Superintendent, the Chief Officer or the Aerodrome Licensee as appropriate, who will decide

(*Cha 5:—contd.*)

whether the matter can be dealt with locally or whether it should be submitted to higher authority for attention. His decision will depend on the degree of risk involved to other operations and to persons and property on the ground. Incidents recorded at ATCCs will normally be submitted by the Centre Superintendent to the Divisional Office for attention unless they can be dealt with locally without difficulty. Reports on all incidents on which local action has been taken will be forwarded to the Divisional Office for information.

5.6.1.2.2. A transcript of the R/T recording relating to the incident need not be made initially but one may be required later. Such R/T records will therefore be retained until the case is finally disposed of.

5.6.1.2.3. Incidents caused by unexpected weather and incidents calling for a statement of weather conditions will be referred without delay to the local meteorological office, or, where this office has only limited facilities, to the appropriate main or parent office.

5.6.1.2.4. Any incident which it is considered might give rise to public interest shall be reported without delay to the Board of Trade Press Office, 01-222 7877 Ext. 2231, or 2684 (or Night Duty Officer 01-222 7877).

5.6.1.2.5. Where an arrangement exists for form CA 1260 to be prepared in respect of "off paved area" incidents, the information to be provided by the ATSU will normally be:—

(*a*) aerodrome, time and date;

(*b*) aircraft type and registration ;

(*c*) direction and length of runway on which the incident occurred and, if this was not the runway in use, the fact should be noted. In the case of over-runs the state of the runway surface should be described, i.e. wet, dry, icy, etc.;

(*d*) particulars of the aircraft movement in question with a sketch plan to show its ground track, including the distances run off the paved surface and lateral displacement from the centre line of the runway or taxiway;

(*e*) wind velocity, temperature and barometric pressure. Visibility or runway visual range, weather conditions at the time, visual or radio approach procedure in use and details of obstruction lighting;

(*f*) State of unpaved surface at the time, including remarks as to the effect thereon of the season or recent weather.

5.6.1.3. *Ground Radio Fault Report* (Form CA 647)

5.6.1.3.1. When any telecommunications facility is alleged to be faulty by an aircrew member, details will be entered on Form CA 647 where held and forwarded to the STO for attention.

5.6.1.3.2. Notwithstanding satisfactory ground reports if a crew member of a subsequent aircraft confirms the reported fault, the procedure shall be as follows:—

(*a*) At ATCC's the STO after consultation with the Centre Superintendent will decide on one of the courses of action in para. 5.6.1.3.3.

(*b*) At aerodromes, the STO after consultation with the Air Traffic Controller i/c will decide on one of the courses of action below. The STO will advise the aerodrome authority of the action taken.

(*c*) At non-state aerodromes the report should be given to the aerodrome licensee.

5.6.1.3.3. The courses of action are:—

(*a*) To retain the facility in operation as fully serviceable.

(*b*) To retain the facility with specified limitations.

(*c*) To withdraw the facility from service.

APPENDIX "F"

REPORT OF AN UNIDENTIFIED FLYING OBJECT

A. Date, Time and Duration of Sighting
Local times to be quoted.

B. Description of Object
Number of objects, size, shape, colours, brightness, sound, smell, etc.

C. Exact Position of Observer
Geographical location, indoors or outdoors, stationary or moving.

D. How Observed
Naked eye, binoculars, other optical device, still or movie camera.

E. Direction in which Object was First Seen
A landmark may be more useful than a badly estimated bearing.

F. Angular Elevation of Object
Estimated heights are unreliable.

G. Distance of Object from Observer
By reference to a known landmark wherever possible.

H. Movements of Object
Changes in E, F and G may be of more use than estimates of course and speed.

J. Meteorological Conditions During Observations
Moving clouds, haze, mist, etc.

K. Nearby Objects
Telephone or high-voltage lines; reservoir, lake or dam; swamp or marsh; river; high buildings, tall chimneys, steeples, spires, TV or radio masts; airfields; generating plant; factories, pits or other sites with floodlights or other lighting.

L. To Whom Reported
Police, military organisations, the press etc.

M. Name and Address of Informant

N. Any Background Information on the Informant that may be Volunteered

O. Other Witnesses

P. Date and Time of Receipt of Report

Q. Is a Reply Requested?

Board of Trade
(118575)—9—10
7.3.69
A** 2

EMBASSY
OF THE
UNITED STATES OF AMERICA
OFFICE OF THE AIR ATTACHE
LONDON

E1

U-1397-70/AIRA TECH

23 June 1970

Mrs E
File Copy
(I don't think this is going further)

Mr. L. W. Akhurst
(S4f (Air))
MOD, Main Building
Whitehall, SW.1

Dear Mr. Akhurst:

E60

Reference is made to your letter of 25 February 1970 6/AF/X58/64 PT II. requesting information on how the United States is handling Unidentified Flying Objects now that Project Blue Book is closed. We have just had a reply from the Department of the Air Force and are enclosing the information which they provided. I hope this information will be of some assistance to you.

Sincerely,

Ward W. Hemenway

WARD W. HEMENWAY
Colonel, USAF
Assistant Air Attache

1 Encl

397

DEPARTMENT OF THE AIR FORCE
WASHINGTON 20330

OFFICE OF THE SECRETARY

We wish to acknowledge receipt of your recent inquiry. Please accept this form of response so that we may give you a reply without undue delay.

On December 17, 1969 the Secretary of the Air Force announced the termination of Project Blue Book, the Air Force Program for the investigation of unidentified flying objects (UFOs).

The decision to discontinue UFO investigations was based on an evaluation of a report prepared by the University of Colorado entitled, "Scientific Study of Unidentified Flying Objects;" a review of the University of Colorado's report by the National Academy of Sciences; past UFO studies; and Air Force experience investigating UFO reports during the past two decades.

As a result of these investigations and studies, and experience gained from investigating UFO reports since 1948, the conclusions of Project Blue Book are: (1) no UFO reported, investigated, and evaluated by the Air Force has ever given any indication of threat to our national security; (2) there has been no evidence submitted to or discovered by the Air Force that sightings categorized as "unidentified" represent technological developments or principles beyond the range of presentday scientific knowledge; and (3) there has been no evidence indicating that sightings categorized as "unidentified" are extraterrestrial vehicles.

With the termination of Project Blue Book, the Air Force regulation establishing and controlling the program for investigating and analyzing UFOs has been rescinded, and Project Blue Book records have been transferred to the Air Force Archives.

Attached for your information is the Project Blue Book sighting summary for the period 1947-1969. Also included is a listing of UFO-related materials currently available through publication outlets of the federal government.

Your interest in the United States Air Force is appreciated.

Sincerely,

JAMES H. AIKMAN, Lt Colonel, USAF
Chief, Civil Branch
Community Relations Division
Office of Information

Atchs

Encl 1

TOTAL UFO SIGHTINGS, 1947-1969

YEAR	TOTAL SIGHTINGS	UNIDENTIFIED
1947	122	12
1948	156	7
1949	186	22
1950	210	27
1951	169	22
1952	1,501	303
1953	509	42
1954	487	46
1955	545	24
1956	670	14
1957	1,006	14
1958	627	10
1959	390	12
1960	557	14
1961	591	13
1962	474	15
1963	399	14
1964	562	19
1965	887	16
1966	1,112	32
1967	937	19
1968	375	3
1969	146	1
TOTAL	12,618	701

UFO MATERIALS

UFOs and Related Subjects: An Annotated Bibliography. Lynn E. Catoe. Prepared by the Library of Congress Science and Technology Division. Library of Congress Card Catalog No. 68-62196. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, $3.50. GPO# D301.45-19-2:68-1656.

Aids to Identification of Flying Objects. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, 36 p., 20¢ per pamphlet. GPO# D301.2:F67.

Scientific Study of Unidentified Flying Objects. Study conducted by the University of Colorado under contract F44620-67-C-0035. Three volumes, 1,465 p. 68 plates. Photoduplicated hard copies of the official report may be ordered for $3.00 per volume, $9.00 the set of three, as AD 680 975, AD 680 976, and AD 680 977, from the Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Springfield, VA 22151

Review of University of Colorado Report on Unidentified Flying Objects. Review of report by a panel of the National Academy of Sciences. National Academy of Sciences, 1969. 6 p. Photoduplicated hard copies may be ordered for $3.00 as AD 688 541 from the Clearinghouse of Federal Scientific and Technical Information, U. S. Department of Commerce, Springfield, VA 22151.

THE
UFO REGISTER

The Official Organ of
Data Research
CONTACT (U.K.)

VOLUME 1,
PART 2.

1970

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OX2 9PU

The

UFO REGISTER

A BI-ANNUAL JOURNAL FOR RECORDING AND DISSEMINATING
FACTUAL INFORMATION RELATING TO THE UFO PHENOMENON

DATA RESEARCH

Senior Research Officer – D. N. Mansell

Research Officers – F. Passey

A. Turner

R. Underwood

Editor – J. B. Delair

THE UFO REGISTER.

Volume one, Part two. December 1970.

CONTENTS.

EDITORIAL COMMENT.

Judging by the favourable reception everywhere accorded the first issue of this magazine, including a splendid review in the New Scientist for October 29th this year, it would appear that the UFO REGISTER has got off to a most promising start. Such a reception is naturally very gratifying, and Data Research wishes here to record its sincere appreciation of this support and encouragement. It is hoped that the UFO REGISTER will continue to evoke this kind of response by continuing to publish facts and analyses of validated data pertaining to the UFO phenomenon. Indeed, a comprehensive research programme oriented in exactly that direction is now well advanced, and future issues of this magazine will contain all significant results arising from these studies.

The present issue concentrates attention upon UFO reports dating from 1967. Detailed correlation of many hundreds of UFO sightings from all over the world for that year not only confirms the reality of the now famous British UFO "flap" of October 1967, but reveals that another though smaller one also occurred in August that year, and that the October affair persisted (in admittedly somewhat diluted intensity) almost into mid-November. Full details of these events are printed on pages 22-24 of this issue. The British flaps, if it is correct to term them as such, were, moreover, merely segments of a truly astonishing world-wide "wave" of UFO activity spanning almost the whole of 1967. The sheer abundance of UFO material collected for 1967, necessitated the evolution of a simple method whereby much diverse information could be accurately and effectively dealt with within the present format --- unfortunately limited to it present form for the time being --- and the number/letter identification system used on subsequent pages eventually materialized. Although possibly forebidding at first glance, this system is nonetheless quite straightforward and easy to operate, it defects, we feel, being more than offset by the range of data controlled by it.

A particularly interesting aspect of the 1967 UFO phenomenon concerns the large number of landings and, on several occasions, subsequent contacts between UFO occupants and human observers. Indeed, according to Vallee ("A Century of UFO Landings": Flying Saucer Review, vol.15, no:4, 1969, p.13), 1967 had the second highest number of alleged UFO landings on record --- 95 compared with 236 for the phenomenal year of 1954. It is, perhaps, relevant here to note that there were 91 UFO landings reported for 1965 and 88 for 1966.

The uneven world coverage of UFO reports highlighted by our correlations and analyses is both obvious and regrettable, and may in fact understandably engender criticism inasmuch that, while such lacunae exist in the records, analyses are inevitably incomplete and therefore not worth attempting or publishing. Such criticism would be wholly valid were it likely that the UFO picture for any former year could ever be made complete. It is our considered opinion that the "trail" for 1967 has now grown rather "cold" (and colder still for earlier years), and that the possibility of ever filling the extant

gaps is now extremely remote. This situation is unlikely to improve in the future. Owing to the very considerable interest already shown in the British October "flap" (vide Lloyd: Flying Saucer Review, vol. 14, nos:[illegible]nd 3), in the extraordinary UFO activity over the Potteries region during August and September 1967 (Stanway & Pace: "Flying Saucer Report - UFOs Unidentified, Undeniable", 1968), and in other 1967 "flurries" of UFO sightings from other parts of the world (e.g. M. Spohn Marling's "Across the USA with UFOs": Flying Saucers - UFO Reports (Dell), 1967, no:3), as well as the fact that, so far as we are aware, no published correlation of this scattered activity has yet appeared, it seems to Data Research that any correlation thus attempted can be justified on this basis alone and from the standpoint that, provided it is seriously undertaken, almost any correlation is better than none.

The marked gaps in the 1967 UFO record undoubtedly reflect the actual absence (even suppression in some countries) of active UFO-study groups in many countries, and, to a lesser extent, the very real lack of proper liaison between many of the groups that do exist. Reference to this deplorable and totally unsatisfactory state of affairs was also made in the first issue of the UFO REGISTER, and certain it is that it cannot be too heavily stressed again here. A proportion of the gaps, however, derive from the fact that only a relatively small percentage of the public witnessing UFO activities seem willing to report what they have seen or encountered. This, it is well known, stems from a general reluctance to "become involved" and from fear of ridicule. Until this attitude is eradicated, principally it is hoped through a general acceptance of Ufology as a respectable field of study in its own right, the UFO record for any particular area will never be complete, and all analyses ever attempted will inevitably remain imperfect. How many individuals, for example, saw but did not report UFOs during the great 1967 "wave" in such countries as Gambia, Afghanistan, Timor, or Chad? Few if any UFO reports ever emanate from these and other remote regions, yet it seems unbelievable that UFOs did not, at some time or another, visit those places during "waves" or "flaps" like those described on later pages. Only international co-operation between ufologists and UFO-study groups, and the widespread dissemination of useful UFO data, can hope to overcome and remove the present lack of proper world coverage of the UFO phenomenon. Increased liaison and exchange of UFO information between all existing UFO-study groups will be the initial step towards a solution to this problem, which, be it noted, need not exist at all.

Imperfect or otherwise, therefore, the present analyses disclose a UFO picture which, we venture to predict, will in time come to be widely recognized as one of the most important episodes in the annals of Ufology. The future will determine the merits of this prediction.

Finally, Data Research wishes to thank the numerous individuals who, shortly after and presumably as a result of the appearance of the first issue of the UFO REGISTER, sent us details of many previously unrecorded or unpublished UFOs observed by them during 1969. We intend

publishing a proper account of these in due course, and providing a means whereby this new evidence can be readily correlated with that already published for that year.

The Editor.

U F O C A T E G O R I E S.

UFO categories recognized and used by Data Research were defined in the last issue of the UFO REGISTER, but for the benefit of those unaquainted with that issue or to whom it is inaccessible these categories are repeated here. They are as follows.

Categories.	Definition of Categories.
A.	Genuine UFOs: reports containing abundant data enabling thorough investigation.
B.	Probable UFOs: data not 100% conclusive, but nearly so.
C.	Possible UFOs: data less than 75% conclusive, although on balance the known details indicate that the relevant phenomenon could have been a genuine UFO.
D.	Reports lacking insufficient data for positive identification either way. Most objects observed for 5 seconds or less are so classified.
E.	Rocketry and Space Capsule debris.
F.	Artificial Satellite (e.g., Telstar).
G.	Meteor.
H.	Fireball.
J.	Star.
K.	Planet.
L.	Parhelia, Aurora, Mirages, Temperature Inversions, or comparable natural effects.
M.	Aeroplane (including helicopters).
N.	Meteorological Balloon.
O.	High Flying Birds or Insects.
P.	Hoax, or Hallucination.

It should be noted that all British UFO reports are carefully checked against satellite trajectories, re-entry dates, burn-up times, aircraft movements, and weather-balloon release-dates obtained from the appropriate authorities. This vastly reduces the possibility of classifying identifiable artificial terrestrial objects as UFOs. For obvious reasons, only categories A, B, and C are discussed in the detailed analyses which follow.

U F O T Y P E S.

In order to differentiate concisely but adequately between the many UFO shapes reported during 1967/8, the following table describes and (for future reference) codes the various forms recognized by Data Research. These codes appear in many of the summaries and analyses detailed on later pages. The UFOs have been divided into common or comparatively common types and less common (or rare) types.

COMMON OR RELATIVELY COMMON TYPES.

Code.	Description of Type.
1a	Flat Disc: round, domeless.
1b	" " : multisided, domeless.
1c	" " : round, centrally domed. Domes variable in size.
1d	Dustbin-lid shaped: round, sub-pyramidal, mostly domeless.
2	Hatshaped: central cabin vertically cylindrical (but often rounded on top) encircled ventrally by a flat rim.
3a	Bowl or Dish shaped: round, domeless.
3b	" " " " : round, domed.
4	Saucer shaped: round, centrally domed. Domes variously shaped.
5a	Double Saucer: lightly convex round units joined peripherally.
5b	" " : markedly convex round units similarly joined.
6	Rugbyball shaped: domeless.
6a	" " : centrally domed. Dome usually very small.
7	Saturn shaped.
8a	Sphere or Globe: plain surfaced.
8b	" " " : surface panelled or segmented.
8c	" " " : tailed. Tails of various shapes and sizes.
8d	" " " : domed. Dome usually small.
9	Egg shaped.
10	"Round": either type 8a (or indistinguishable variants), or types 1a or 1c to 4 viewed full-face.
11	"Oval" of "Elliptical": either that shape, or types 1 to 5a viewed obliquely.
12	"Pyramidal": pitch to apex variable (probably a variant of 1d).
13a	Cone shaped (often described as bullet-like): one end rounded.
13b	" " : one end pointed.
14a	Rocket shaped: single or multi-finned.
14b	" " : finless.
15	Arrow shaped: length variable.
16	Torpedo shaped (including "sausage" shaped forms).
17a	Cigar shaped.
17b	" " : dorsally domed.
17c	" " : domed dorsally and ventrally.
18a	Cylinder shaped: diameter uniform throughout.
18b	" " : wholly or partially tapered.
18c	Funnel or Bell shaped.
19	Rodlike: usually very thin (possibly a variant of type 18a).
20	Bar shaped: lengths and thicknesses highly variable.
21.	Barrel shaped.
22	Bulb like or Pear shaped.
23	Humming- or Spinning-Top shaped.
24	Mushroom shaped.
25	Doughnut shaped: central "hole" of variable diameter.
26a	Ring shaped: single.
26b	" " : double or multiple.
26c	Coil or Spring shaped.
27a	Wheel shaped: spoked.
27b	" " : cogged. Objects described as jagged-edged discs are included in this category.
28	Spindle shaped.

29 Cross shaped: possibly a variant of type 14a.
30 Multi-armed: generally a small central globe having 3 or more radiating arms, often independently movable .
31 Tentacled: generally a small central globe with trailing or hanging flexible "arms".
32a Crescent shaped.
32b V-shaped or Boomerang shaped: coordinated lights moving in a V-like formation seem frequently to be the illuminated portions of an otherwise blacked-out V-shaped UFO.
32c D-shaped or Heel like.
32d Delta-wing shaped: occasionally with a short fuselage.
41a Flat Triangle: domeless.
41b " " : domed. Dome usually very small; position variable.
42 Diamond- or Lozenge shaped: nearly always domeless.
43 Oblong shaped: usually four dimensional.
44a Square or Rectangular shaped: flat.
44b " " " " : four dimensional.
45 Diffuse or Cloud Like: probably directly connected with one or more solid objects hidden within. Cases are known where solid objects entered or emerged from erratically but independently moving cloud-like masses.
46 Globular Lights: Probably solid objects obscured by luminosity.
47 Starlike: Probably solid objects obscured by luminosity.
48 Flarelike.
49 Tadpole shaped.
50 Squiggly shaped: highly flexible objects, often altering shape continuously. Objects like those noted on p.15 of vol.1, pt.1 of the UFO REGISTER are in this category.

UNCOMMON AND RARE UFO TYPES.

51. Railway-carriage like (minus wheels).
52. Jeep-like: sometimes with a central turret.
53. Bootee-shaped (exceedingly rare: see Stanway & Pace, 1968, p.11).
54. House or Haystack shaped: apparently a roofed box-like UFO.
55. Generator shaped.
56. Triglobular.
57. Grid-like: can be square, round, closed or open.
58. Twin or Multi-tailed: body usually oval with two or more tails.
59. Irregularly shaped: objects of no known shape; very rare.
60. S-shaped: has been observed in both the normal and reverse position.
61. Hook shaped: very rare.
62. Dumb-bell shaped.
63. Bird shaped (not Mothman): usually gigantic, body of a general bird shape, with huge movable wings. (see Fort, Wilkins, et al for reports)

It is probable that further UFO types will be recognized as the record becomes more detailed and complete.

1967 ANALYSIS.

1967 produced more UFO reports than any year except 1954, the total traced by Data Research being 2013. Although rather more than half these reports appeared in the press or ufo journals, the remainder existed as unpublished original accounts preserved by private individuals, Contact (UK), and various organizations. The actual total for 1967, however, was considerably higher than even this large figure, as several alleged UFO appearances are known which, due to poor reporting, are incapable of proper evaluation or incorporation into these analyses. Instances in this category include UFOs seen over Belo Horizonte, Brazil, on unnoted dates in October (FSR, vol.14, no:6, p.11), a lone UFO over Cigarreles, Argentina, on an unnoted date in 1967 (op.cit., v.14, no:5, p.iii), a supposed landing near Liverpool on or about November 10 (subsidiary data in an original report for 1968), repeated appearances of a strange glowing UFO near Dyserth on several unspecified dates during early November (similar source), four UFOs, three of which reportedly landed, over Botucatu, Brazil, on unnoted dates in 1967 (FSR, v.14, no:6, p.24), and the numerous North American UFOs merely alluded to by Keel (op.cit., v.14, no:4, pp.7f) and Marling (Flying Saucers-UFO Reports, 1967, no:3). Undoubtedly many further UFOs were observed but unreported at various times during 1967, and it may well be that the final figure for 1967 will be nearer the 2500 mark.

Detailed analysis of all the reports, published and original, noted by us shows that all but 681 pertain to identifiable phenomena or are insufficiently well documented to allow positive conclusions to be drawn either way. Indeed, as the following breakdown of reports (by categories) for 1967 shows, a very high percentage of them fall into category D. It is quite probable that many category D objects were, in reality, badly reported genuine UFOs: lack of critical detail, however, precludes alternative classification.

Category.	Number.		Category.	Number.
A.	468	total of 681.	H.	15
B.	119		J.	6
C.	94		K.	4
D.	1015		L.	2
E.	3		M.	117
F.	148		N.	1
G.	14		P	7

Only categories A, B, and C have been analysed in the following tables. These summarize the distribution in time and space of UFOs both on a world basis and country by country. In these lists, the small letter 'c' indicates UFOs of continuously or abruptly changeable form, the small letter 'u' denotes undescribed UFO types, and asterisks refer to reported UFO landings, with or without entities. References to individual sightings are provided as relevant.

Dates.	Times.	Localities.	UFO Types.	UFO Categories.	References (see p. 20 for key to numbers)
JAN.					
2	7.35pm.	Kirkwall, Orkney, SCOTLAND.	47	A	0
"	7.50pm.	Highbridge, Somerset, ENGLAND.	46	C	0
5	5.40pm.	Old Hill, Staffs., ENGLAND.	46	C	0
6	5.40pm.	Aldridge, Staffs., ENGLAND.	46	A	0
8	c6.45pm.	Kirkwall, Orkney, SCOTLAND.	47	A	0
12	9.30am.	Nr. Leckford, Hants, ENGLAND.	46	B	42:
"	9.30am.	West Allis, Wisconsin, USA.	1a	A	19: 53.
13	6.0pm.	Handsworth, Warw., ENGLAND.	47	A	0
"	7.0pm.	Northampton, Northants, ENGLAND.	1a	B	0
19	7.0pm.	Nr. Little Egypt, Illinois, USA.	46	A	19: 19.
28	?	Cairo, Illinois, USA.	?8d	A	19: 20-21.
?	9.45pm.	Nr. Worthing, Sussex, ENGLAND.	17a	A	2: 7.
FEB.					
2	3.40am.	West Frankfurt, Illinois, USA.	2	C	19: 21.
"	pm.	West Frankfurt, Illinois, USA.	u	A	19: 21.
"	?	Chiclayo, PERU.	13a	A	31: 44-46.
3-4	11.30pm.	Santa Barbara, CHILE.	46	B	7: 18.
c11	2.30am.	W. of Caledonia, Ontario, CANADA.	4	A	38a: 12.
13	?	Mexico City, Oaxaca, MEXICO.	23	C	0
21	?	Solihull, Warw., ENGLAND.	1a	B	2: 7.
27	3.0am.	Valparaiso, CHILE.	1c	A	7: 16.
?	10.30pm.	Handley, Staffs., ENGLAND.	46	B	45: 5.
MAR.					
1	?	Ravenswood, West Virginia, USA.	u	B	20: 35.
3	?	Nr. Picacho Peak, New Mexico, USA.	1c	A	20: 60.
5	1.25am.	Lappland, SWEDEN.	17a	A	31: 41.
5	5.30pm.	Hallam, AUSTRALIA.	4	B	23: 32-33
6	8.45pm.	Durban, Natal, REP. SOUTH AFRICA.	1c	B	39: 7.
7	c9.15pm.	Sharon Springs, Kansas, USA.	* 16	B	19: 6-9.
9	?	Lappland, SWEDEN.	46	C	24: 13.
10	8.55pm.	Västerbotten, SWEDEN.	5b	B	24: 13.
?10	?	Lima, PERU.	10	A	25: iii.
14	5.20pm.	Cardiff, Glamorgan, WALES.	17a	A	2: 7.
15	c12.0am.	Lappland, SWEDEN.	46	B	24: 13.
16	c9.0pm.	Lappland, SWEDEN.	47	C	24: 13.
20	c7.30pm.	Johannesburg, Transvaal, REP. SOUTH AFRICA.	8a	C	39: 7.
"	c10.45pm	Butler, Pennsylvania, USA.	* 46	A	27: 5.
22	11.0pm.	Bohuslän, SWEDEN.	1a	A	24: 13-14
24	8.15pm.	Armington, Montana, USA.	* 46	A	19: 12.
25	1.00am.	Lappland, SWEDEN.	45	C	24: 14.
28	7.30pm.	Johannesburg, REP. SOUTH AFRICA.	47	A	39: 7.
31	?	Hanley, Staffs., ENGLAND.	8a	C	22: 29.
?	1.00pm.	Trentvale, Staffs., ENGLAND.	43	C	45: 5.

APR.					
2	c10.25am	Mescalero, New Mexico, USA.	Specks	A	50.
3	pm.	Malmstrom, Montana, USA.	4	A	19: 13.
4	10.[illegible]pm.	Gore Hill, Montana, USA.	4	A	19: 13.
6	6.[illegible]pm.	Zagora, BULGARIA.	41a	B	7: 18.
10	c9.15pm	Västerbotten, SWEDEN.	1a	A	24: 14.
11	9.45pm.	Jämtland, SWEDEN.	10.	A	24: 14.
"	10.0pm.	Lappland, SWEDEN.	47	A	24: 14.
?15	11.0pm.	Oldham, Lancashire, ENGLAND.	10	A	0
17	7.55pm.	Keyingham, Yorkshire, ENGLAND.	8a	B	0
18-9	c12.0am	Hålsingland, SWEDEN.	26a	A	24: 14.
21	?	Nr. South Hill, Virginia, USA	*13a	A	USAF rep. (50)
23	11.35pm.	Hålsingland, SWEDEN.	46	A	24: 15.
24	8.45pm.	Danville, Virginia, USA.	23	A	19: 52.
24-5	c.12am.	Hålsingland, SWEDEN.	* 27a	A	19: 52.
28	11.25am.	Brixham, Devon, ENGLAND.	?8a	A	20: 15.
?28	?	Nr. Sala, Västmanland, SWEDEN.	10	A	24: 15.
MAY					
c2	pm.	Brindisi, Apulia, ITALY.	42	A	31: 40.
4	?	Whitton, Hounslow, Middx., ENGLAND	11	A	2: 7.
5	?	Kinna, Västergötland, SWEDEN.	4	A	24: 15.
9	am.	Heathrow, Middx., ENGLAND.	11	C	2: 8.
"	4.15pm.	Durban, Natal, REP. SOUTH AFRICA.	1a	B	39: 7.
10	9.20pm.	Burghfield, Berkshire, ENGLAND.	1a	C	0
20	11.40pm	Johannesburg, Transvaal, REP. SOUTH AFRICA.	47	C.	2: 7.
"	c.12pm.	Nr. Falcon Lake, Manitoba, CANADA.	* 4	A	20: 22-4.
27	10.45am.	Brockley, Somerset, ENGLAND.	43	B	0.
"	c11.40pm	Nr. Morestel, FRANCE.	8a	B	27: 35-6.
"	?	Nr. Malham, Yorkshire, ENGLAND.	u	C	22: 29.
28	3.30pm.	Warminster, Wiltshire, ENGLAND.	43	A	2: 8.
31	c12 am.	Mearings, near Reading, Berks., ENGLAND.	47	A	0
?	3.20am.	Nylstroom, REP. SOUTH AFRICA.	1a	A	2: 8.
JUN.					
1	1.0pm.	Madrid, SPAIN.	4	A	22: 31.
3	8.0pm.	Caceres, SPAIN.	41a	A	22: 31.
5	8.50pm.	Heysham, Lancashire, ENGLAND.	4	A	22: 8-9.
7	am.	Nr. Itajubá, Minas Geraes, BRAZIL.	* 1a	A	28: 10-1.
8	2.0am.	Wellingborough, Northants, ENGLAND	47	B	0
"	?	West Caister, Norfolk, ENGLAND.	10	C	22: 29.
9	?	Nr. Torrejón, Estremadura, SPAIN.	46	A	25: 26.
10	1.0pm.	Nr. Redding, California, USA.	41a	A	22: 32-3.
11	11.0pm.	West Hanningfield, Essex, ENGLAND.	11	C	0
17	8.0pm.	Pic d'Enclar Mt., ANDORRA.	8a	A	22: 25.
"	?	Durban, Natal, REP. SOUTH AFRICA.	46	A	2: 7.
19	9.40am.	Fenton, Staffs., ENGLAND.	7	B	45: 5.
20	c12pm.	Suomussalmi, Pyyvaara, FINLAND.	4	A	25: 25.
"	8.0pm.	Nr. Andorra la Vella, ANDORRA.	44a	B	22: 25.
"	10.45pm	Islington, London, ENGLAND.	47	A	0
21	12.15am	Nr. Andorra la Vella, ANDORRA.	?18c	A	22: 25.
?21	?	Nr. Mulluri, CHILE.	4	A	25: iii.

JUN.					
22	12.45am.	Nr.Andorra la Vella, ANDORRA.	41a	A	22: 25.
24	2.20am.	Epping, Essex, ENGLAND.	17a	A	2: 8.
25	5.45am.	Cape Town, Cape Province, REP. SOUTH AFRICA.	18a	C	[illegible]: 7.
27	12.30pm.	Birgit Hill, Albury, Surrey, ENGLAND.	9	A	22: 29.
28	?	S.of New Castle, Pennsylvania, USA.	?5a	A	17.
29	?	Nr.Whittenham Clumps, Berkshire, ENGLAND.	31	A	22: 29.
JUL.					
2	?	Cricket Hill, nr.Newlands Corner, Surrey, ENGLAND.	46	C	22: 29.
3	?	W.of Nanton, Alberta, CANADA.	1a	A	31: 41-2.
"	cl.0am.	Woking, Surrey, ENGLAND.	1a	B	2: 6.
"	?	Bearwood, Warwickshire, ENGLAND.	10	C	22: 29.
4	?	Cromer, Norfolk, ENGLAND.	9	A	22: 29.
6	?	Warminster, Wiltshire, ENGLAND.	u	B	22: 29.
7	4.35pm.	Baildon, Yorkshire, ENGLAND.	17b	A	0
8	9.35pm.	Bradford, Yorkshire, ENGLAND.	56	A	0
"	10.25pm	Nr.Grimsby, Yorkshire, ENGLAND.	13a	A	0
"	?	Nr.Ollerton, Nottinghamshire, ENGLAND.	23	A	22: 29.
"	?	Eastwood, Essex, ENGLAND.	46	C	0
9	1.45am.	BurtonDasset, Warwickshire, ENGLAND	u	C	0
10	12.05am	Pyle, Glamorgan, WALES.	4 + 47	A	0
"	9.0am.& 10.30am	Whippingham, Isle of Wight, ENGLAND	?5b	C	8: 5.
"	10.45pm	Burghfield, Berkshire, ENGLAND.	46	A	0
11	c12.05am	Nr.Shipston, Warwickshire, ENGLAND	18b	C	22: 29.
"	am.	Nr.Little Compton, Warw., ENGLAND.	18b	C	0
"	pm.	Lone Bute, Yukon, CANADA.	4 + 46	A	31: 44.
"	?	Lychett-Matravers, Dorset, ENGLAND	32a	B	22: 29.
12	7.30pm.	Isle of Sheppey, Kent, ENGLAND.	6	A	0
"	pm.	Lone Bute, Yukon, CANADA.	4 + 46	A	31: 44.
13	pm.	Lone Bute, Yukon, CANADA.	4 + 46	A	31: 44.
14	12.0am.	Nr.Cronulla, Sydney, AUSTRALIA.	8a	A	22: 31.
"	11.0pm.	Morpeth, Northumberland, ENGLAND.	1a	A	0
"	c11.15pm	West Worthing, Sussex, ENGLAND.	10	A	0
"	pm.	Lone Bute, Yukon, CANADA.	4 + 46	A	31: 44.
15	pm.	Lone Bute, Yukon, CANADA.	4 + 46	A	31: 44.
16	10.25pm	Longhenton, Northumberland, ENGLAND	8a	C	0
"	10.45pm	Thorpe Bay, Essex, ENGLAND.	?17a	C	2: 9.
17	?	Nr.Belfast, N.IRELAND.	* 4	C	22: 31.
18	am.	Verona, ITALY.	17a	A	47.
"	am.	Unlocalised sites in ENGLAND, FRANCE, GERMANY, and ITALY.	17a	A	47.
"	10.30pm	Hendley-on-the-Hill, Durham, ENGL.	19	A	0
"	10.30pm	Stanley, Durham, ENGLAND.	4	A	0
"	11.0pm.	Allendale, Durham, ENGLAND.	11	A	0
"	11.45pm	Allendale, Durham, ENGLAND.	46	A	0
"	pm.	Youngstown, Ohio, USA.	17a	C	23: 26.
19	2.0am.	Allendale, Durham, ENGLAND,	1a	A	0

JUL.					
19	9.0pm.	Eshwinning, Durham, ENGLAND.	17c	C	0
"	?	Carnoustie, Angus, SCOTLAND.	8a	C	21: 29.
20	11.30am.	Nr.Nassington, Northants., ENGLAND.	18a	C	0
21		Nr.Pamlico, North Carolina, USA.	2 +*8a	C	29: 15-6.
"		Cowies Hill, Cape Province, REP. SOUTH AFRICA.	1a	B	40: 8.
22	10.22pm.	Westernhope, Northumberland, ENGLAND.	1a	B	0
23	?	Prenton, Cheshire, ENGLAND.	45	A	22: 29.
24	?am.	Alwalton, Huntingdonshire, ENGLAND	8a	C	0
25	7.0pm.	Milton Park, Huntingdonshire, ENGLAND	10	B	0
28	10.45pm.	Chingford, Essex, ENGLAND.	46	C	0
31	10.47pm.	Holland-on-Sea, Essex, ENGLAND.	1c	A	0
"	?	Orton-Longueville, Huntingdonshire, ENGLAND	43	B	0
AUG.					
c1	1.0am.	Foxt, Staffs., ENGLAND.	17a	A	45: 5.
c1	11.15pm.	Foxt, Staffs,, ENGLAND.	46	A	45: 5.
2	am.	Maidstone, Kent, ENGLAND.	1a	C	22: 29.
"	?	Arbroath, Angus, SCOTLAND.	11	C	22: 29.
3	10.05pm.	Bromley, Kent, ENGLAND.	11	B	0
"	pm.	Abingdon, Berkshire, ENGLAND.	46	B	22: 29.
"	?	Rio de Janeiro, BRAZIL.	1c	A	28: 10.
4	c11.0pm.	Kidsgrove, Staffs., ENGLAND.	1c	B	45: 6.
5	11.25pm.	Nr.East Wittering, Sussex, ENGLAND.	10	A	0
"	11.50pm.	Gateshead, Durham, ENGLAND.	8a	C	0
"	?	Burghfield, Berkshire, ENGLAND.	1a	C	22: 29.
6	?	Nr.Medway Bridge, Kent, ENGLAND.	10	C	22: 29.
7	1.35am.	Cambridge, Cambridgeshire, ENGLAND	8a	A	0
"	c10.15pm	Whitehill, Staffs., ENGLAND.	46	C	0
c"	2.30am.	Stafford, Staffs., ENGLAND.	9	B	45: 6.
c"	?pm.	Weston, Staffs., ENGLAND.	46	C	45: 6.
c9	4.0am.	Guernsey, CHANNEL ISLANDS.	46	C	0
c"	?	Weston, Staffs., ENGLAND.	22	C	57.
"	3.45pm.	Chingford, Essex, ENGLAND.	5b	B	0
"	c9.40pm.	Sewardstonebury, Essex, ENGLAND.	17a	B	0
10	12.43am.	Hindley, Lancashire, ENGLAND.	4	C	2: 10.
"	c3.30am.	Bledbury, Cheshire, ENGLAND.	10	C	22: 29.
"	11.30pm.	Cramlington, Northumberland, ENGLAND.	46	A	0
"	pm.	Farnworth, Lancashire, ENGLAND.	1a	C	22: 29.
"	?	Stafford, Staffs., ENGLAND.	10	C	22: 29.
11	10.45pm.	Nr.Bridgenorth, Salop., ENGLAND.	?32a	A	0
"	?	Nr.Blackheath, Staffs., ENGLAND.	32a	A	22: 29.
12	2.35am.	Shoeburyness, Essex, ENGLAND.	1a	A	0
13	?	Santa Maria, Goyaz, BRAZIL.	* u	C	44: 15.
14	1.45am.	Bardsey, Yorkshire, ENGLAND.	11	A	0
"	11.0pm.	Gateshead, Durham, ENGLAND.	2	B	0
"	?	Leeds, Yorkshire, ENGLAND.	41a	B	48:17/48; 49: 3.
15	?	Nr.Belo Horizonte, Minas Geraes, BRAZIL.	* u	A	28: 11.

AUG.					
15	9.05pm.	Wren's Nest Hill, Worcs., ENGLAND.	22	A	0
"	?	Nr.Plymouth, Devon, ENGLAND.	16	C	22: 29.
"	?	Nr.Wigan, Lancashire, ENGLAND.	10	B	22: 29.
16	1.15pm.	Longhenton, Northumberland, ENGLAND	10	A	
"	4.0pm.	Allendale, Durham, ENGLAND.	16	A	0
"	9.40pm.	Bromley, Kent, ENGLAND.	8b	A	0
"	pm.	Weaverham, Cheshire, ENGLAND.	41a	A	22:29-30.
"	?	Eccles, Lancashire, ENGLAND.	23	C	22: 29.
17	6.50pm.	Man's Hill, Dudley, Worcs., ENGLAND	?17a	A	0
"	c9.0pm.	Garforth, Yorkshire, ENGLAND.	10	A	0
"	?	Hessle, Yorkshire, ENGLAND.	46	C	22: 30.
"	?	Nr.Harrogate, Yorkshire, ENGLAND.	8a	C	22: 30.
"	?	Nr.Harrogate, Yorkshire, ENGLAND.	?11	C	22: 30.
"	?	Nr.Belo Horizonte, Minas Geraes, BRAZIL	u	A	28: 11.
18	c6.0am.	Bromley, Kent, ENGLAND.	17a	A	22: 30.
"	12.20pm.	St.Alban's, Hertfordshire, ENGLAND.	?6	A	22: 30.
"	?am.	Nr.Belo Horizonte, Minas Geraes, BRAZIL	u	A	28: 11.
19	c10.0pm.	Hindley, Lancashire, ENGLAND.	9	A	22: 30.
"	10.15pm.	Atalaya de Guia, Grand Canary, CANARY ISLANDS.	30 + 45	A	22: 31-2.
20	c9.45pm.	Nr.Bromley, Kent, ENGLAND.	7	B	0
"	10.05pm	Bromley, Kent, ENGLAND.	7	B	0
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
"	?pm.	Nr.Leeds, Yorkshire, ENGLAND.	4	C	22: 30.
21	10.20pm	?Bromley, Kent, ENGLAND.	47	C	0
"	?	Nr.Leeds, Yorkshire, ENGLAND.	26a	C	22: 30.
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
22	c11.45pm	Madrid, SPAIN.	46	C	22: 31.
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
"	?	Burghfield, Berkshire, ENGLAND.	1a	B	22: 30.
?"	?	Nr.Ashbourne, Derbyshire, ENGLAND.	18a	C	22: 30.
?"	?	Shoeburyness, Essex, ENGLAND.	46	B	22: 30.
23	9.5pm.	North Shields, Northumberland, ENGLAND.	18a	A	0
"	c11.0pm.	Porthill, Staffs, ENGLAND.	11	A	45: 6.
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
24	10.40pm.	Shelton, Staffs., ENGLAND.	11	A	45: 6.
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30,
?"	?	St.German's, Cornwall, ENGLAND.	12	C	22: 30.
25	c11.0pm.	Stafford, Staffs., ENGLAND.	45	A	45: 7.
"	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
?"	?	Manchester, Lancashire, ENGLAND.	10	B	22: 30.
26	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
27	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
"	?pm.	Lake District (several localities)	13b	A	22: 30.
28	pm	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
29	6.16am.	Shelton, Staffs., ENGLAND.	11	C	45: 7.
"	10.30am.	Cussac, Lozère, FRANCE.	* 8a	C	27: 7-9.
"	c10.10pm	Bradwell, Staffs., ENGLAND.	17a + 41a + 47	A	45: 7

AUG.					
29	pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
"	?	Talke, Staffs., ENGLAND.	1c	B	22: 30.
30	8.30am.	Nr.Crewe, Cheshire, ENGLAND.	?2	C	45: 8.
"	c8.[illegible]m.	Nantwich, Cheshire, ENGLAND.	6a	A	45: 8.
"	c9.0pm.	Sandbach, Cheshire, ENGLAND.	17a	C	45: 8.
"	10.0pm.	Bentilee, Staffs., ENGLAND.	46	B	45: 8.
"	c10.30pm	Hanley, Staffs., ENGLAND.	23	A	45: 9.
"	c10.30pm	Nettlebank, Staffs., ENGLAND.	46	A	45: 9.
"	c10.45pm	Bucknall, Staffs., ENGLAND.	46	B	45: 9.
"	c10.45pm	Bentilee, Staffs., ENGLAND.	46	C	45: 9.
"	c10.50pm	Hanley, Staffs., ENGLAND.	?2	B	45: 9.
"	c10.55pm	Bentilee, Staffs., ENGLAND.	11	C	45: 9.
"	11.12pm	Bucknall, Staffs., ENGLAND.	46	A	45: 9.
"	?	Smallthorne, Staffs., ENGLAND.	46	B	22: 30.
"	?	Northwich, Cheshire, ENGLAND.	10	C	28: 30.
?"	10.0pm.	Hindley, Lancashire, ENGLAND.	13a	B	22: 30.
31	1.10am.	Stoke, Staffs., ENGLAND.	9a	A	45: 10.
"	9.0pm.	Bentilee, Staffs., ENGLAND.	?3a	B	45: 10.
"	9.30pm.	Bucknall, Staffs., ENGLAND.	1a + ?3a	B	45: 10.
"	10.30pm	Horndean, Hampshire, ENGLAND.	46	C	0
"	?	Nr.Prestatyn, Flintshire, WALES.	57	C	22: 30.
?"	?	Nr.Lytham St.Annes, Lancashire, ENGLAND.	18a	B	22: 30.
SEP.					
1	1.15pm.	Bucknall, Staffs., ENGLAND.	46	A	45: 10.
"	10.45pm.	Stoke, Staffs., ENGLAND.	11	B	45: 11.
"	pm.	Mt.Clemens, Michigan, USA.	u	C	USAF rep.
2	1.30am.	Bentilee, Staffs., ENGLAND.	?4	A	45: 11.
"	2.05am.	Hanley, Staffs., ENGLAND.	53	B	45: 11.
"	c5.0am.	Leigh, Staffs., ENGLAND.	32a	A	45: 11.
"	c.5.6pm.	Canvey Island, Essex, ENGLAND.	18a	A	0
"	9.0pm.	Hanley, Staffs., ENGLAND.	46	A	45: 11.
"	9.0pm.	Bentilee, Staffs., ENGLAND.	?* 1c	A	45: 11.
"	c9.30pm.	Newcastle, Staffs., ENGLAND.	46	A	45: 13.
"	9.40pm.	Meir, Staffs., ENGLAND.	21	A	45: 13.
"	9.45pm.	Bentilee, Staffs., ENGLAND.	17a	A	45: 13.
3	c12am.	Nantwich, Cheshire, ENGLAND.	46	B	45: 13.
4	c12.40am	Bentilee, Staffs., ENGLAND.	23	A	45: 13-4.
"	9.10pm.	Hanley, Shelton, and Stoke, Staffs ENGLAND.	11	A	45: 14.
"	9.42pm.	Enfield, Middx., ENGLAND.	u	A	0
"	10.32pm.	N.of Jyväskylä, FINLAND.	1a	A	22: 31.
"	?	Unlocalized sites in southern USSR.	32a	B	3: 19-20; 4: 31, 33
5	8.55pm.	Nr.Nantwich, Cheshire, ENGLAND.	6	A	45: 14.
"	10.0pm.	Gateshead, Durham, ENGLAND.	47	A	0
"	10.28pm.	Stoke, Staffs., ENGLAND.	?8c	B	45: 14.
"	10.30pm.	Bentilee, Staffs., ENGLAND.	u	A	0
6	c8.30pm.	Adbaston, Staffs., ENGLAND.	6a.	A	45: 14
"	9.45pm.	Frimley Green, Surrey, ENGLAND.	?1a	A	0
"	c9.50pm.	Stoke, Staffs., ENGLAND.	45+ 11	A	45: 14-5

SEP.					
6	c10.0pm.	Adbaston, Staffs., ENGLAND.	10	A	45: 15.
8	c8.15pm.	Longport, Staffs., ENGLAND.	43	C	45: 15.
"	pm.	Amazonas, BRAZIL.	27a	A	6: 14.
9	?	Nr.Storrington, Sussex, ENGLAND.	4 + u	A	[illegible]: 30.
10	5.03pm.	NW.of Barcelona, SPAIN.	13b	A	0
"	7.00pm.	Leek, Staffs., ENGLAND.	?4	A	45: 16.
11	8.0pm.	São João, Pernambuco, BRAZIL.	* 4	A	6 : 14.
"	?pm.	Nr.Rosario, ARGENTINA.	* u	A	28: 11.
12	9.20pm.	Wakefield, Yorkshire, ENGLAND.	u	A	0
"	c11.0pm.	Meir, Staffs., ENGLAND.	45	A	45: 15.
"	?	Nr.Clacton-on-Sea, Essex, ENGLAND.	1d	B	25: 33.
14	5.25pm.	Caxias, Rio Grande do Sul, BRAZIL.	18a	A	6: 14.
"	pm.	São João de Maritti, Rio de Janeiro, BRAZIL	1a	A	6: 14.
"	?	La Baleia, Minas Geraes, BRAZIL.	* 24	A	28: 8-10; 29: 6.
16	?	Belo Horizonte, Mias Geraes, BRAZIL	1a	B	28: 10, 30.
17	7.00pm.	Bexley, Kent, ENGLAND.	46	A	0
"	9.30pm.	Lewisham, London, ENGLAND.	?1a	A	0
18	8.30pm.	Cannock, Staffs., and Shifnal, Salop., ENGLAND	1a	A	45: 15.
"	10.10pm.	Epsom Downs, Surrey, ENGLAND.	13a	A	0
"	c10.30pm	Stoke, Staffs., ENGLAND.	3a	B	45: 15.
"	pm.	River Danube nr.Tulcea, RUMANIA.	1a	A	29: iii.
20	8.30pm.	Leek, Staffs., ENGLAND.	10	A	45: 16.
"	c8.30pm.	Berryhill, Staffs., ENGLAND.	11	A	45: 16.
"	c10.0pm.	Lancing, Sussex, ENGLAND.	18a	A	22: 30.
21	7.51am.	S.of Askham Bryan, Yorkshire, ENGLAND.	8a	A	0
22	9.30pm.	Constitucion, ARGENTINA.	* 4	A	43: 32.
23	?	Stafford, Staffs., ENGLAND.	48	B	45: 16.
24	11.20am.	Itajubá, Minas Geraes, BRAZIL.	24 or ?31	B	28: 10.
"	9.00pm.	Islington, London, ENGLAND.	47	A	0
25	5.17am.	Fawdon, Northumberland, ENGLAND.	11	A	0
"	1.00pm.	Par Beach, Cornwall, ENGLAND.	u	C	37.
26	4.30pm.	Nr.Mataró, Barcelona, SPAIN.	41a	C	27: 26.
"	8.55pm.	Heaton, Northumberland, ENGLAND.	47	B	0
27	8.30pm.	Forest Hill, London, ENGLAND.	11	A	0
"	9.55pm.	W.of Yeovil, Somerset, ENGLAND.	10	A	0
?†	10.30pm.	Burton, Cheshire, ENGLAND.	17b	A	5: 50.
?†	?	Nr.Itaim Bairro Ferraz de Vasconcelos, BRAZIL.	1a	B	6: 14.
?†	?	Lambertville, New Jersey, USA.	* u	A	24: 19.

(† early in the month)

OCT.					
1	c10.30pm	Unlocalised site, SPAIN.	52	A	27: 26-7.
3	1.25am.	Byham Bridge, Northumberland, ENGLAND.	10	A	0
4	3.6pm.	Kilmaurs, Ayrshire, SCOTLAND.	47	A	0
"	?pm.	Shag Harbour, Nova Scotia, CANADA.	u	A	23: 33.
6	9.42pm.	Stafford, Staffs., ENGLAND.	48	B	45: 16.

OCT.					
7	4.30am.	Durham, Co.Durham, ENGLAND.	46	C	37:
9	2.30am.	Blackpool, Lancashire, ENGLAND.	11	A	30.
"	2.30am.	Rhuddlan, Flintshire, WALES.	11	B	0
10-11	c.12am.	Oberhrendingen, SWITZERLAND.	18a	A	26: iv.
11	?	Okehampton, Devon, ENGLAND.	1a	A	3: 21.
12	7.30pm.	Caverswell Common, Staffs., ENGLAND	2	A	45: 17.
13	6.0am.	Shepherd's Bush, London, ENGLAND.	6	A	56.
14	pm.	Cowley, Oxon., ENGLAND.	11	C	0
"	?	Northampton, Northants., ENGLAND.	29	A	3: 21.
16	?	Preston, Lancashire, ENGLAND.	60	A	36.
17	7.30am.	Forest Hill, London, ENGLAND.	10	C	0
"	6.0pm.	M6 motorway, nr.Holmeschapel, Cheshire, ENGLAND.	?3a	A	45: 17.
"	pm.	Laitkor, and Dympep, Assam, INDIA.	* 4	A	23: 33; 31: 43.
18	5.30am.	Stockton-on-Tees, Durham, ENGLAND.	47	A	0
"	6.0pm.	Maceio, Alagoas, BRAZIL.	1a	B	6: 14.
"	7.15pm.	Alsager, Cheshire, ENGLAND.	10	B	45: 17.
"	7.58pm.	Bingley, Yorkshire, ENGLAND.	17a	A	0
"	c8.30pm.	Maraisburg, Transvaal, REP.SOUTH AFRICA.	17a	A	24: 34.
"	?	Kislovodsk area, USSR.	32a	A	3: 19-20; 4: 31, 33.
"	?	Ponte Praia, Sao Paulo, BRAZIL.	10	A	6: 14.
19	9.30am.	Okehampton, Devon, ENGLAND.	1a	A	3: 21.
?"	am.	Stoke, Staffs., ENGLAND.	46	A	45: 17.
20	c9.0pm.	Cowley, Oxon., ENGLAND.	29	A	0
"	c9.45pm.	Cowley, Oxon., ENGLAND.	17a	A	0
"	c11.0pm.	Cowley, Oxon., ENGLAND.	41a	A	0
"	?	Unlocalized sites, Georgia, USA.	u	B	31: 49.
c"	?	Ubatuba, Sao Paulo, BRAZIL.	u	C	6: 14.
22	4.50am.	Longton, Staffs., ENGLAND.	47	A	45: 17.
"	2.40pm.	Flash, Staffs., ENGLAND.	23	A	45: 17.
"	?	Leyton, Essex, ENGLAND.	8a	A	3: 22.
"	?	Milledgeville, Greenville, Newnan, Fayetteville, Mountaintop, and Talbotton, Georgia, USA.	8a + 44b	A	31: 49.
23	5.45am.	Chalk, Kent, ENGLAND.	46	A	37.
"	3.25pm.	Knottingley, Yorkshire, ENGLAND.	46	A	3: 22.
"	3.58pm.	Cutshike, Yorkshire, ENGLAND.	46	A	3: 22.
"	5.30pm.	Odeby, Leicestershire, ENGLAND.	45	C	3: 22.
"	6.0pm.	Paignton, Devon, ENGLAND.	?46	A	37.
"	7.0pm.	Nr.Tiverton, Devon, ENGLAND.	48	C	3: 22.
"	9.0pm.	Tonbridge, Kent, ENGLAND.	8c	A	37.
"	?	Nr.Exeter, Devon, ENGLAND.	* u	A	18.
24	3.0am.	Peacehaven, Sussex, ENGLAND.	45	A	37.
"	c4.0am.	Nr.Okehampton, Devon, ENGLAND.	29	A	16; 51; 52
"	3.0pm.	unlocalized coastal site, Norfolk, ENGLAND.	1a	B	3: 22.
"	8.20pm.	Camberley, Surrey, ENGLAND.	46	C	37.
"	9.45pm.	Between Fordingbridge and Cadnam, Hampshire, ENGLAND.	32b	A	9; 15.

OCT.					
24	10.15pm.	Nr.Buxton, Derbyshire, ENGLAND.	4	A	37.
"	?pm.	Alford, Lincolnshire, ENGLAND.	1a	B	3: 23.
"	?pm.	Rushton, and Doddington, Salop., ENGLAND.	u	C	[illegible] 23.
25	4.30am.	Nr.Batcombe, Somerset, ENGLAND.	u	C	0
"	4.30am.	N.of Hook, Hampshire, ENGLAND.	?7	A	22: 6-7.
"	4.40am.	Edgeware, London, ENGLAND.	1a + 29	A	24: 33.
"	c4.40am.	Maidstone, Kent, ENGLAND.	?47	C	37.
"	6.30am.	Puriton, Somerset, ENGLAND.	29	A	0
"	6.40am.	Hastings, Sussex, ENGLAND.	29	A	3: 23.
"	10.0am.	Burnham-on-Sea, Somerset, ENGLAND.	29	A	0
"	am.	Clevedon, Somerset, ENGLAND.	u	C	0.
"	4.45pm.	Halland, Sussex, ENGLAND.	29	A	3: 23.
"	4.45pm.	Bolney, Sussex, ENGLAND.	29	A	3: 23.
"	9.0pm.	Wells, Somerset, ENGLAND.	32b	B	0
"	9.5pm.	Cumnor, Berkshire, ENGLAND.	46	C	0
"	9.30pm.	Wellingborough, Northants. ENGLAND.	46	A	0
"	pm.	Bozeat, Northants., ENGLAND.	29	A	3: 23.
"	pm.	Okehampton, Devon, ENGLAND.	29	A	3: 23.
"	pm.	Woolavington, Somerset, ENGLAND.	11	A	0
"	pm.	Bedford, Bedfordshire, ENGLAND.	15	A	0
"	?	Nr.Lewes, Sussex, ENGLAND.	29	A	9.
"	?	Haywards, Sussex, ENGLAND.	29	A	3: 23.
"	?	Newhaven, Sussex, ENGLAND.	29	A	3: 23.
"	?	Cowbit Bank, Lincolnshire, ENGLAND	10	A	0
"	?	Chipping-Norton, Oxon, ENGLAND.	11	A	0
"	?	Huyton, Lancashire, ENGLAND.	4	B	33.
"	?	Over sea, off Rhoose, Glamorgan, WALES.	18a	A	52.
"	?	Belfast, Antrim, N.IRELAND.	29	A	3: 23.
"	10.20pm.	Weybridge, Surrey, ENGLAND.	46	B	37.
26	2.05am.	Nr.Okehampton, Devon, ENGLAND.	29	A	3: 24.
"	5.10am.	Nr.Hatherleigh, Devon, ENGLAND.	4	A	3: 22.
"	5.20am.	Canterbury, Kent, ENGLAND.	47	C	37.
"	6.40am.	Hastings, Sussex, ENGLAND.	29	A	37.
"	7.00am.	Enfield, Middx., ENGLAND.	60	A	3: 23.
"	7.00am.	Slough, Buckinghamshire, ENGLAND.	8a	A	25: 30.
"	7.10am.	Ashstead, Surrey, ENGLAND.	47	C	37.
"	7.30am.	Daventry, Northants., ENGLAND.	29	A	3: 24.
"	11.0am.	Whetstone, Hertfordshire, ENGLAND.	47	A	3: 24.
"	11.25am.	Moinge Down, Nr.Ringstead, Dorset, ENGLAND.	30	A	23: 3
"	am.	Mogi Ciaca, Sao Paulo, BRAZIL.	u	B	6: 14.
"	2.30pm.	Mogi Ciaca, Sao Paulo, BRAZIL.	u	B	6: 14.
"	5.30pm.	Nr.Maidenhead, Berkshire, ENGLAND.	1a + 11	A	25: 30.
"	7.15pm.	Sinderby, Yorkshire, ENGLAND.	29	A	37.
"	8.00pm.	Canterbury, Kent, ENGLAND.	17a	A	25: 30.
"	8.15pm.	Aldington, Kent, ENGLAND.	47	A	37.
"	8.30pm.	Hawick, Roxburghshire, SCOTLAND.	6	A	25: 30.
"	10.00pm.	Werrington, Staffs., ENGLAND.	?4	A	45: 18.
"	[illegible]	[illegible] Middx., ENGLAND.	29	A	37.

OCT.					
26	11.40pm.	Tuffley, Gloucestershire, ENGLAND.	29	A	25: 30.
"	pm.	Middleton Cheyney, Northants., ENGLAND.	47	A	0
"	?	Rye, Sussex, ENGLAND.	30	A	37.
"	?	Alnwick, Northumberland, ENGLAND.	47	B	25: 30.
"	?	Nr.Astley, Lancashire, ENGLAND.	*46	A	25: 30.
"	?	Brighton, Sussex, ENGLAND.	17a	A	34.
"	?	Nr.Guildford, Surrey, ENGLAND.	u	B	3: 24.
"	?	Wellingborough, Northants., ENGLAND.	u	B	3: 24.
"	?	Skipton, Yorkshire, ENGLAND.	u	B	3: 24.
"	?	Tilehurst, Berkshire, ENGLAND.	u	B	3: 24.
"	?	Torrington, Devon, ENGLAND.	u	B	3: 24.
"	?	Brixton, London, ENGLAND.	u	B	3: 24.
"	?	Brixham, Devon, ENGLAND.	u	B	3: 24.
"	?	Taunton, Somerset, ENGLAND.	u	B	3: 24.
"	?	Minehead, Somerset, ENGLAND.	u	B	3: 24.
"	?	Yeovil, Somerset, ENGLAND.	u	B	3: 24.
"	?	Finedon, Northants., ENGLAND.	u	B	3: 24.
"	?	Swanley, Kent, ENGLAND.	u	B	3: 24.
"	?	St.Neot's, Huntingdonshire, ENGLAND.	u	B	3: 24.
"	?	Colchester, Essex, ENGLAND.	u	B	3: 24.
"	?	Swansea, Glamorgan, WALES.	u	B	3: 24.
"	?	Nr.Highnam, Gloucestershire, ENGLAND.	46	C	10.
"	?	North Hessary Tor, Devon, ENGLAND.	29	A	53.
"	?	Hayling Island, Sussex, ENGLAND.	29	A	3: 24.
"	?	Mogi Ciaca, Sao Paulo, BRAZIL.	u	A	6: 14.
27	12.45am.	Sedlescombe, Sussex, ENGLAND.	32a	A	37.
"	4.00am.	Bacup, Lancashire, ENGLAND.	17a	A	11.
"	4.15am.	Stalybridge, Cheshire, ENGLAND.	29	A	3: 25.
"	4.30am.	Stalybridge, Cheshire, ENGLAND.	29	A	3: 25.
"	4.40am.	Nr.Dunstan, Northumberland, ENGLAND	32b	A	25: 30.
"	5.15am.	Glossop, Derbyshire, ENGLAND.	29	A	37.
"	am.	Birmingham, Warwickshire, ENGLAND.	18a	A	25: 30.
"	7.15pm.	Weston Coyney, Staffs., ENGLAND.	23	A	45: 18.
"	9.10pm.	Ealing, Middx., ENGLAND.	45	B	25: 30-1.
"	pm.	Boscastle, Cornwall, ENGLAND.	29	A	31: 48.
"	?	Crendon Hill, Bucks., ENGLAND.	55	A	35.
"	?	Colchester, Essex, ENGLAND.	4	A	3: 25.
"	?	Winchester, Hampshire, ENGLAND.	24	A	3: 25.
"	?	Chelsea, London, ENGLAND.	46	B	3: 25.
"	?	Aylesbury, Bucks., ENGLAND.	u	C	3: 25.
"	?	Bradford, Yorkshire, ENGLAND.	u	C	3: 25.
"	?	Didsbury, Lancashire, ENGLAND.	u	C	3: 25.
"	?	Eastwood, Notts., ENGLAND.	u	C	3: 25.
"	?	Kegworth, Leicestershire, ENGLAND.	u	C	3: 25.
28	3.30am.	Portadown, Armagh, N.IRELAND.	?1a	B	0
"	7.40am.	Staines, Middx., ENGLAND.	46	A	25: 31.
"	c11.0am.	Kenton, Middx., England.	22	A	25: 31.
"	6.30pm.	Warrington, Lancashire, ENGLAND.	30	A	25: 31.

OCT.					
28	11.30pm.	Nr.Belda, Midnapore, INDIA.	1a	A	25: 34.
"	pm.	Eastwood, Essex, ENGLAND.	4	A	25: 31.
"	?	Nr.Tonbridge Wells, Kent, ENGLAND.	41a	A	25: 31.
29	1.30am.	St.Annes, Lancashire, ENGLAND.	29	A	25: 31.
"	5.20am.	Lancing, Sussex, ENGLAND.	29	A	12.
"	am.	Hartlepool, Durham, ENGLAND.	46	A	25: 31.
"	am.	Portsmouth, Hants., ENGLAND.	6	A	12.
"	2.0pm.	Dyserth, Flintshire, WALES.	20	A	0
"	4.45pm.	Islington, London, ENGLAND.	8a	A	3: 26.
"	4.45pm.	London, ENGLAND.	17a	A	25: 31-32.
"	4.45pm.	Northampton, Northants., ENGLAND.	17a	A	25: 31.
"	6.5pm.	Shrewsbury, Salop., ENGLAND.	41a	A	25: 31.
"	7.5pm.	Storrington, Sussex, ENGLAND.	* 6	A	3: 26.
"	10.5pm.	Repton, Derbyshire, ENGLAND.	45	B	37.
"	10.30pm.	Rothbury, Northumberland, ENGLAND.	46	A	25: 31.
"	?	Truro, Cornwall, ENGLAND.	29	A	12.
"	?	Romford, Essex, ENGLAND.	20	A	12.
"	?	Ealing, Middx., ENGLAND.	17a	A	3: 26.
"	?	Jersey, CHANNEL ISLANDS.	31	A	3: 26.
"	?	Dundee, Angus, SCOTLAND.	46	A	25: 31.
"	?	Orinhos, Sao Paulo, BRAZIL.	u	A	6: 14.
30	12.30am.	San Miguel, ARGENTINA.	u	C	43: 3.
"	am.	Nr.Yarmouth, Norfolk, ENGLAND.	4	A	55.
"	2.55pm.	Nr.Yarmouth, Norfolk, ENGLAND.	10	A	55.
"	6.00pm.	Gilwern, Breconshire, WALES.	10	B	1.
"	6.00pm.	Exmouth, Devon, ENGLAND.	17a	A	54.
"	7.30pm.	Halifax, Yorkshire, ENGLAND.	17a	A	25: 32.
"	9.00pm.	Nr.Kojonup, AUSTRALIA.	24	A	26: 15-16.
"	?	Ashford, Kent, ENGLAND.	18a	B	25: 32.
"	?	Sandown, Isle of Wight, ENGLAND.	17a	A	3: 36.
"	?	Beddingham, Sussex, ENGLAND.	58	A	13.
"	?	Bierton, Bucks., ENGLAND.	29	A	3: 26.
"	?	Blackdown, Hampshire, ENGLAND.	4 + 45	A	3: 31.
"	?	Between Basingstoke and Andover (unlocalized site), Hants., ENGLAND.	* u	A	3: 26.
31	4.00am.	Bishop's Wood, Staffs., ENGLAND.	43	A	58.
"	6.15pm.	Sidmouth, Devon, ENGLAND.	29	A	25: 32.
"	9.30pm.	Nr.Kojonup, AUSTRALIA.	6	A	24: 33.
"	10.35pm.	Werrington, Staffs., ENGLAND.	17a	A	45: 18.
"	?	Wolverhampton, Staffs., ENGLAND	17a	A	58.
?†	?	Curitiba, Parana, BRAZIL.	u	B	6: 15.

(† late in the month)

NOV.					
1	3.15am.	Nr.Fordwich, Kent, ENGLAND.	29	A	25: 32.
"	10.30pm.	Cork, Co.Cork, EIRE.	10	A	25: 32.
"	?	Guildford, Surrey, ENGLAND.	46	A	25: 32.
"	?	Yaxley, Huntingdonshire, ENGLAND.	u	C	0
2	6.15am.	Billericay, Essex, ENGLAND.	29	A	25: 32.
"	7.40pm.	Exmouth, Devon, ENGLAND.	6	A	25: 32.
3	?	Stafford, Staffs., ENGLAND.	8a	A	0
4	4.30am.	Leek, Staffs., ENGLAND.	46	A	45: 18.

NOV.					
4	7.45pm.	New Malden, Surrey, ENGLAND.	10	A	0
5	5.00am.	Reigate Hill, Surrey, ENGLAND.	10	A	0
6	4.30am.	Milltown, Armagh, N.IRELAND.	22	A	0
"	4.[illegible]m.	Bradford, Yorkshire, ENGLAND.	29	A	25: 33.
"	6.15pm.	Nr.Burnley, Lancashire, ENGLAND.	6	A	24: 33.
"	6.55pm.	Solihull, Warwickshire, ENGLAND.	47	B	45: 18.
"	8.25pm.	Vauxhall, London, ENGLAND.	47	A	0
"	11.55pm.	Nr.Fordingbridge, Hants., ENGLAND.	9	A	14.
"	?	Nr.Reading, Berkshire, ENGLAND.	30	A	25: 33.
7	4.30am.	Walton, Essex, ENGLAND.	1d	A	25: 33.
"	4.30am.	Wirral, Cheshire, ENGLAND.	29	A	25: 33.
"	6.30am.	Corriestbe, Wicklow, EIRE.	1a	A	0
"	pm.	Brighton, Sussex, ENGLAND.	46	B	0
"	pm.	Gosport, Hampshire, ENGLAND.	4	A	0
"	?	Portsmouth, Hampshire, ENGLAND.	?4	A	0
8	4.19am.	Acton, Middx., ENGLAND.	20	B	0
9	5.30pm.	Great Billing, Northants., ENGLAND.	29	A	25: 33.
"	7.15pm.	Werrington, Staffs., ENGLAND.	46	B	45: 19.
"	8.35pm.	Werrington, Staffs., ENGLAND.	1c	A	45: 19.
10	pm.	Weston Coyney, Staffs., ENGLAND.	46	B	45: 19.
11	8.32pm.	Stafford, Staffs., ENGLAND.	46	B	45: 19.
"	8.45pm.	Stafford, Staffs., ENGLAND.	1c	A	45: 19.
12	4.55pm.	Manchester airport, Lancashire, ENGLAND.	11	A	45: 19.
13	c12.30am	Nr.Cranleigh, Surrey, ENGLAND.	*	-	23: 15-7.
"	6.20pm.	Nr.Dyserth, Flintshire, WALES.	43	A	38.
"	6.20pm.	Cadishead, Lancashire, ENGLAND.	46	A	0
"	?	Arnhem, HOLLAND.	u	A	23: 33.
14	4.00am.	Kidderminster, Worcs., ENGLAND.	8c	A	0
"	10.50pm.	Leamington, Warw., ENGLAND.	1a	A	0
15	pm.	Nr.Spencer Mt., North Carolina, USA.	u	B	24: 19.
c15	6.00am.	Zagreb, YUGOSLAVIA.	10 + 47	A	31: 43.
c15	?	Murter Island, YUGOSLAVIA.	4	A	31: 43.
16	2.00pm.	Brentford, Middx., ENGLAND.	17a	A	26: 20.
17	6.30pm.	N.of Perth, Western Australia, AUSTRALIA.	?4	A	23: 32.
"	8.30pm.	Portadown, Armagh, N.IRELAND.	11	B	0
"	11.30pm.	E.of Belfast, Down, N.IRELAND.	1a	A	0
"	?	Bannbridge, Down, N.IRELAND.	11	A	0
18	3.00am.	Braintree, Essex, ENGLAND.	4	A	0
19	1.15am.	Giant's Castle Mt., REP. SOUTH AFRICA.	47	A	41: 11.
"	4.15am.	Bostow Wood, Yorkshire, ENGLAND.	4 + 47	A	0
"	8.30pm.	Utuado, PUERTO RICO.	16	A	0
c20	9.00am.	Zagreb, YUGOSLAVIA.	47	A	31: 43.
21	pm.	Sofia, BULGARIA.	60	A	24: 34.
22	12.30pm.	Petrila, RUMANIA.	1a	A	29: 3.
25	8.30pm.	Bradford, Yorkshire, ENGLAND.	1c	A	0
26	5.05pm.	Leeds, Yorkshire, ENGLAND.	47	A	0
27	?	Nottingham, Notts., ENGLAND.	4	A	0
"	?	Montenegro, YUGOSLAVIA.	4	A	24: 34.

NOV.					
28	5.30pm.	Kirkwall, Orkney, SCOTLAND.	10	A	0
"	?	Belfast, Antrim, N.IRELAND.	17a	A	0
DEC.					
1	7.00pm.	Bazaruto Island, MOZAMBIQUE.	46	B	0. 68.
2	?pm.	Bazaruto Island, MOZAMBIQUE.	46	B	24: 68.
"	10.00pm.	Hengrove, Bristol, Glos., ENGLAND.	10	A	0
3	2.30am.	Nr.Ashland, Nebraska, USA.	* 4	A	26: 18-9.
4	4.30pm.	Hull, Yorkshire, ENGLAND.	5b	A	0
5	4.00pm.	Eastwood, Essex, ENGLAND.	17a	A	0
7	3.20pm.	Reigate, Surrey, ENGLAND.	6	A	46.
"	11.05pm.	Nr.Port Elizabeth, Cape Province, REP.SOUTH AFRICA.	1a	A	24: 34.
8	5.40pm.	Nr.Carlton, Yorkshire, ENGLAND.	u	A	0
10	4.45am.	Jersey, CHANNEL ISLANDS.	30	A	32.
"	pm.	Porlock, Somerset, ENGLAND.	2	A	24: 33.
"	?	Selby, Yorkshire, ENGLAND.	60	A	0
16	8.00pm.	Selby, Yorkshire, ENGLAND.	60	B	0
"	?	Penha, Sao Paulo, BRAZIL.	8a	A	6: 15.
18	6.00am.	Nab Wood, Shipley, Yorks., ENGLAND.	5a	A	0
20	6.00am.	Nab Wood, Shipley, Yorks., ENGLAND	5a	A	0
22	6.00am.	Nab Wood, Shipley, Yorks., ENGLAND	5a	A	0
24	10.30pm.	Perry Bar, Birmingham, Warw., ENGLAND	11	A	0
"	11.30pm.	Nr.Warminster, Wiltshire, ENGLAND.	60	A	0
28	6.22pm.	Ansdell Lytham, Lancs., ENGLAND.	10	A	0
"	7.31pm.	Ansdell Lytham, Lancs., ENGLAND.	10	A	0
29	3.15am.	Stotfold, Beds., ENGLAND.	46	A	0
"	8.24pm.	Bradford, Yorkshire, ENGLAND.	14b	A	0
"	8.30pm.	Bradford, Yorkshire, ENGLAND.	14b	A	0
"	8.35pm.	Bradford, Yorkshire, ENGLAND.	14b	A	0
(Winter 1967):		5.15pm. Lowestoft, Suffolk, ENG.	16	A	0
		A D D E N D U M			
JUN.					
1	(dusk)	San Jose de Valderas, SPAIN.	3b	A	29b: 3-10.
Date unnoted:		(but Summer) pm. Nr. Saint-Stanislas de Kostka, Manitoba, CANADA.	4	B	29a: 20.
OCT.					
Date unnoted.		(dusk) Lychett-Matravers, Dorset, ENGLAND.	17a	A	29c: 30.
DEC.					
10	cl.00am.	Nr. Washington D.C., USA.	9	B	29a: 9.

KEY TO REFERENCES.

References given in the list above should be used as follows. The first figures refer to publications, and the second, separated from the first by colons, to the appropriate pages in the publications. Semicolons separate different references if more than one is given for a particular event. The letter 'O' denotes original reports previously unpublished. References consulted were:-

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2. Awareness Magazine, Autumn, 67.
3. Opus cit., Winter, 67/8.
4. " ", Spring, 68.
5. " ", Summer, 68.
6. BUFORA Magazine, vol.2, no:1, 67.
7. Opus cit., vol.2, no:2, 67.
8. " ", vol.2, no:3, 67/8.
9. Daily Express: 26.10.67.
10. " " : 27.10.67.
11. " " : 29.10.67.
12. " " : 30.10.67.
13. " " : 31.10.67.
14. " " : 7.11.67.
15. Daily Telegraph: 26.10.67.
16. " " : 1.11.67.
17. Dallas Times Herald: 30.6.67.
18. Devon News (Exeter): 24.10.67.
19. Flying Saucers-UFO Reports, (Dell), no:3, 67.
20. Opus cit., no:4, 67.
21. Flying Saucer Review: vol.13, no:1, 67.
22. Opus cit., vol.13, no:6, 67.
23. " ", vol.14, no:1, 68.
24. " ", vol.14, no:2, 68.
25. " ", vol.14, no:3, 68.
26. " ", vol.14, no:4, 68.
27. " ", vol.14, no:5, 68.
28. " ", vol.14, no:6, 68.
29. " ", vol.15, no:1, 69.
29a. " ", vol.15, no:3, 69.
29b. " ", vol.15, no:5, 69.
29c. " ", vol.15, no:6, 69.
30. Lancing Evening Post: 10.10.67.
31. IGAP Magazine, vol.3, no:2, 68.
32. Jersey Weekly Post: 12.12.67.
33. Liverpool Echo: 26.10.67.
34. Nuneaton Evening Tribune: 27.10.67.
35. Oxford Times: 3.11.67.
36. Preston Evening Post: 17.11.67.
37. Royal Greenwich Observatory Abstract for Oct.-Nov. 1967 (unpublished data).
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38a. Saucers, Space & Science Magazine, no:59, 1970.
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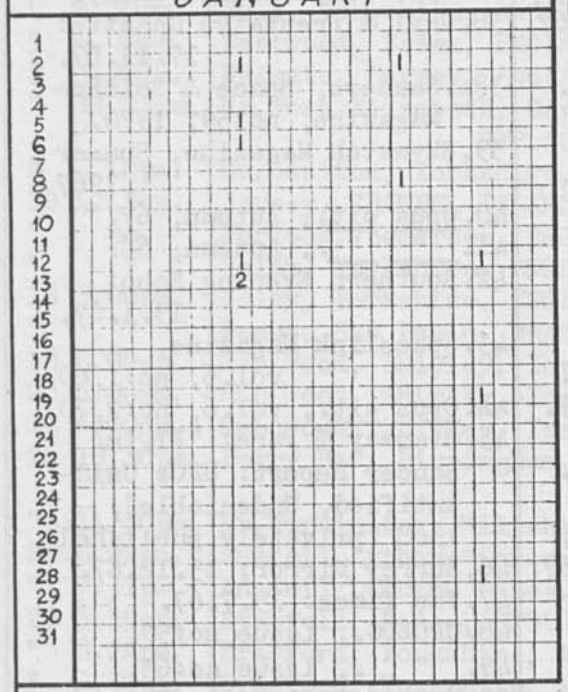
40. Opus cit., Autumn, 67.
41. " ", Autumn, 68.
42. Southern Evening Echo: 13.1.67.
43. Spacelink Magazine, vol.6, no:1, 69
44. Opus cit., vol.6, no:2, 70
45. Stanway & Pace: "Flying Saucer Report: UFOs Unidentified, Undeniable", 1968 (privately published)
46. Surrey Mirror; 15.12.67.
47. The Times: 19.7.67.
48. UFOLOG., issue no:50.
49. " ., issue no:63.
50. United States Air Force UFO Reports, 1968.
51. Western Mail: 25.10.67.
52. " " : 26.10.67.
53. " " : 27.10.67.
54. " " : 31.10.67.
55. " " : 1.11.67.
56. West London Observer: 19.10.67.
57. Wolverhampton Express & Star: 16.8.67.
58. Wolverhampton Express & Star: 1.11.67.

Our grateful thanks are also due here to CONTACT (UK) and various individuals for the opportunity of examining and assessing the many unpublished UFO reports in their files. In the foregoing list these unpublished original reports are distinguished by the letter 'O'. We hope to publish full accounts of these, together with such drawings as accompany them, in due course.

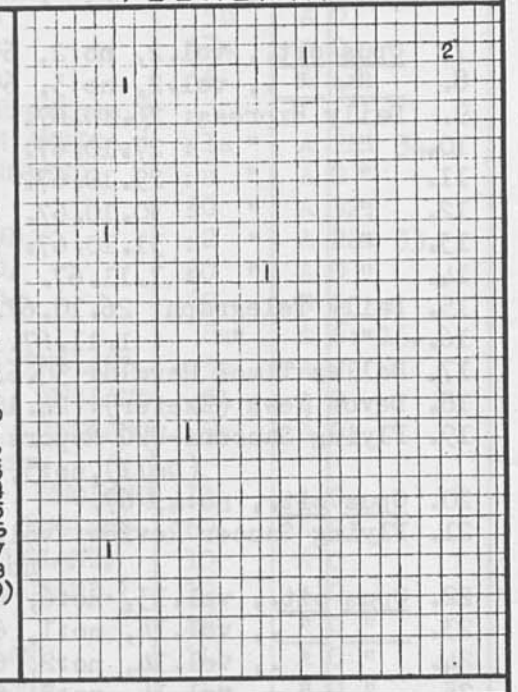
JANUARY

WALES.
U.S.A.
SWEDEN.
SCOTLAND.
REP.S.AFRICA.
PERU
ENGLAND
AUSTRALIA.

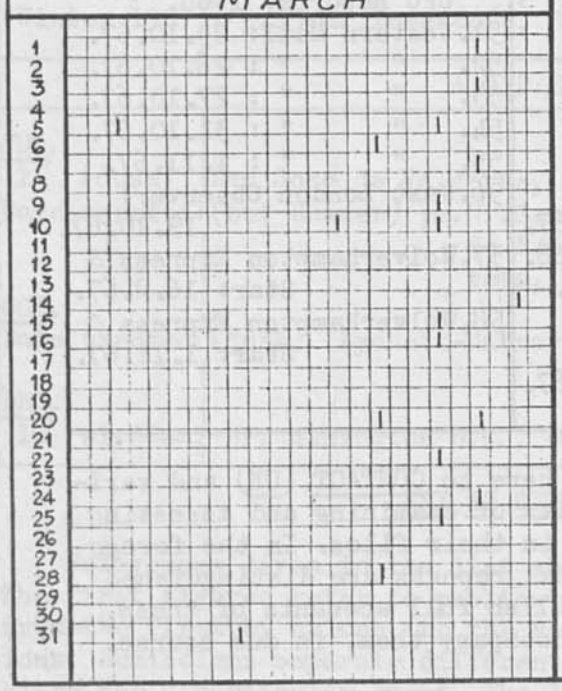


FEBRUARY

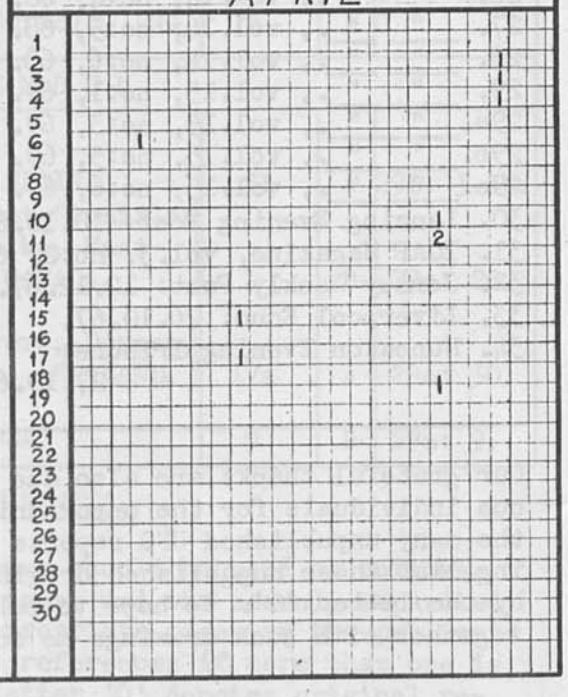
U.S.A.
SWEDEN
PERU.
MEXICO.
ENGLAND.
CHILE.
CANADA.
BULGARIA.



MARCH

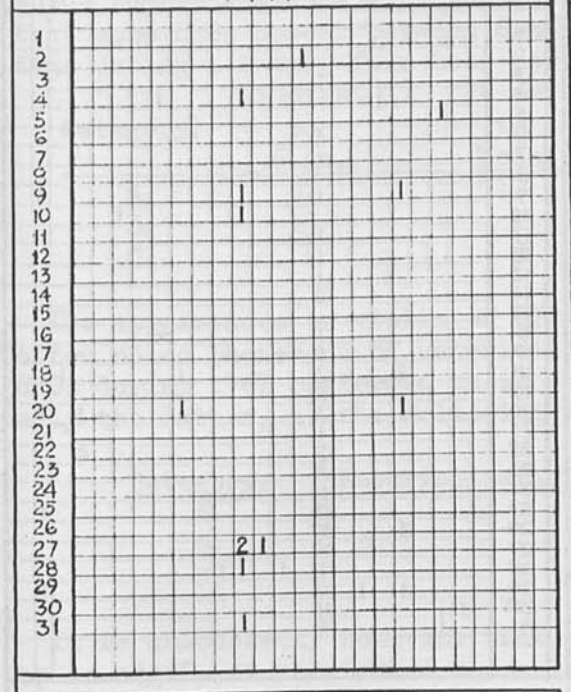


APRIL



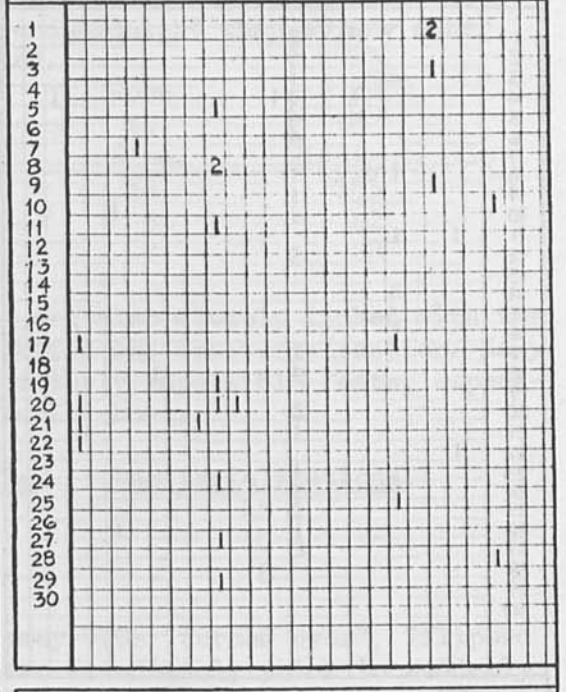
MAY

U.S.A.
SPAIN
SCOTLAND
REP. S.AFRICA
FRANCE
FINLAND
ENGLAND
CHILE
CHANNEL ISLES
CANARY ISLES
BRAZIL
ANDORRA

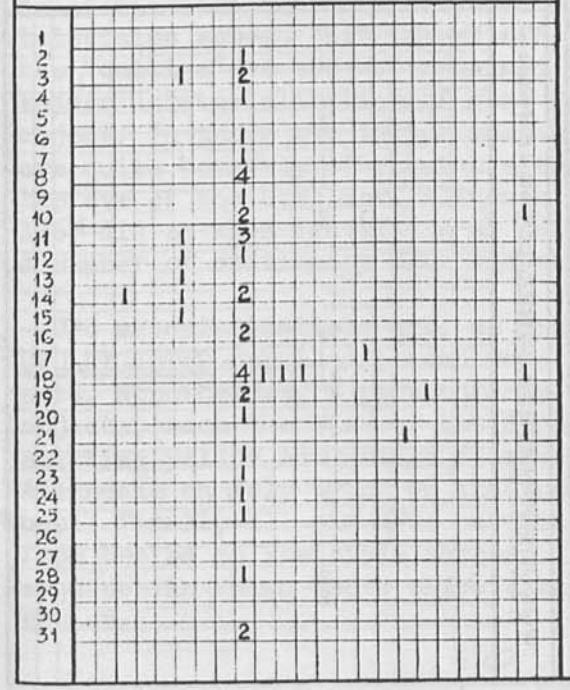


JUNE

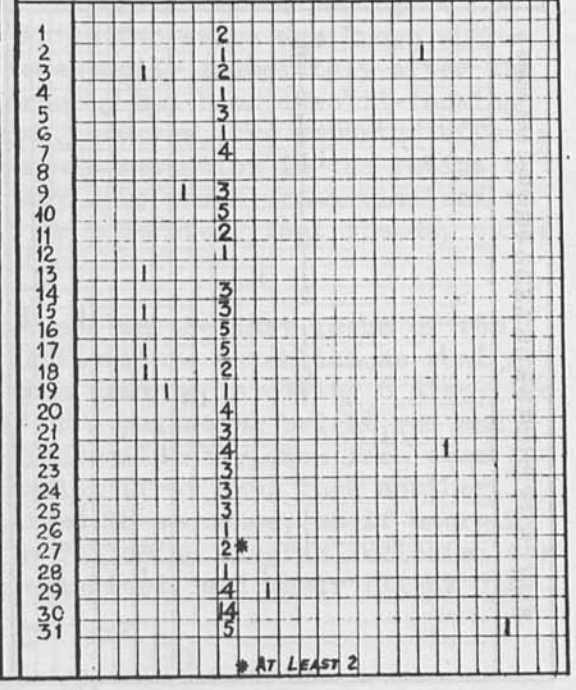
WALES.
U.S.A.
SWEDEN
SCOTLAND
REP. S.AFRICA
N.IRELAND
ITALY
GERMANY
FRANCE
ENGLAND
CHANNEL ISLES
CANADA
BRAZIL
AUSTRALIA



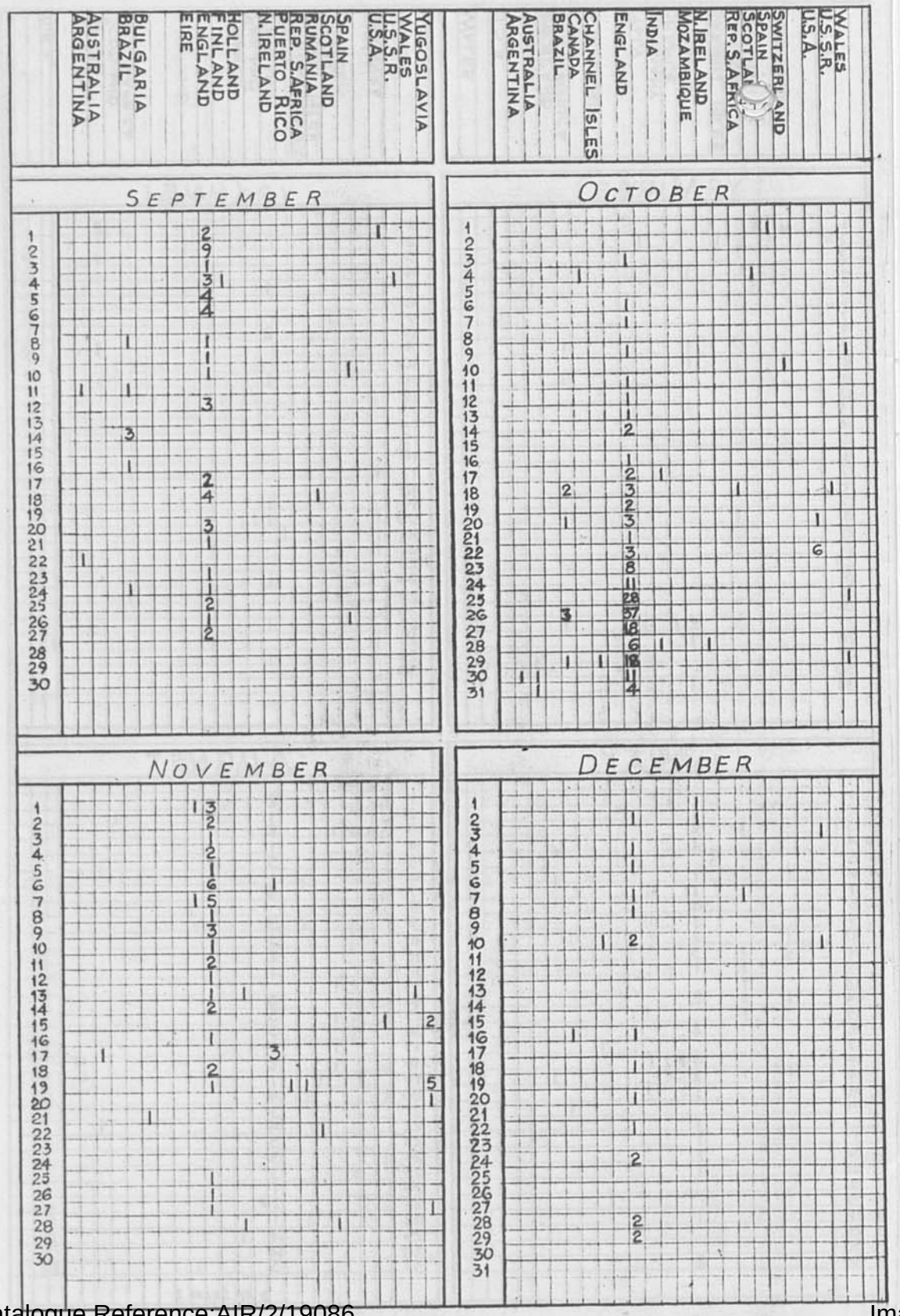
JULY



AUGUST



* AT LEAST 2



Although the times of day cited in the preceding lists and tables refer to local times at the localities mentioned, time differences of this kind are of no significance when UFO appearances relative to any part of a conventional twenty-four hour day are tabulated. Thus, UFOs observed at dusk in July from Tokyo appear at the same point in time during a twenty-four hour day as do UFOs appearing at dusk on the same date over say Kenya, or Valparaiso. The following table, which summarizes this distribution of UFOs for 1967, clearly shows that more UFOs appear between 6pm. and midnight than at any other time during a twenty-four hour period.

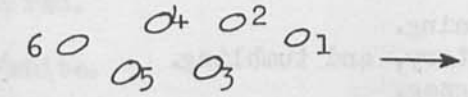
Category.	Midnight to 6 am.	6 am. to Noon.	Noon to 6 pm.	6 pm. to Midnight.
A.	61	19	36	153
B.	15	2	5	42
C.	4	3	7	28

The appearances or visits of UFOs are also closely linked with the often noted phenomena of materialization and dematerialization. Many UFOs during 1967 performed these seemingly impossible feats, especially the latter, as the following table shows.

Category.	Materializations.	Dematerializations.
A.	6	48
B.	-	10
C.	-	8

It is undoubtedly relevant that many UFOs "turned over", "flipped up on edge", or reoriented themselves immediately prior to suddenly vanishing or dematerializing. Instances are also known where UFO dematerializations were compared by observers to the fading out of a television screen just turned off, while two cases are known where the "outline" of the UFO remained momentarily immediately after the sudden dematerialization of what formerly had been a solid-looking object. In these two latter instances, however, the reported effects are quite possibly attributable to image retention in the retina of the eye of the beholder. Although many UFOs which dematerialized in 1967 did so when travelling at fast or moderately fast speeds, quite a number of stationary UFOs did so too.

UFO materializations are, as discussed in the last issue of the UFO REGISTER (pp.12-3), much more difficult to establish as real events. Nonetheless, a particularly fine example involving 6 disc-like objects, each the size of the Moon, of a pulsating bright red and emitting yellow and orange flashes intermittently, was seen over Allendale on July 19th. On that occasion first one, then another, until finally all six UFOs materialized in sequence, as if emerging from behind an invisible screen. The following diagram indicates the sequence in which these objects materialized, and their flight direction.



It is interesting to compare this event with similar ones reviewed some time ago by Keel in his discussion of possible "windows" or openings through which, he suggested, UFOs passed between their world and ours. Although speculative, Keel's theory conceivably explains the Allendale event just mentioned.

UFO speeds and motions recorded during 1967 varied enormously, as the following summary indicates. The speeds, of course, are those estimated by the original observers, and are here classified as in the last issue of the UFO REGISTER (p.11). Once again, note should be taken of the large number of hovering objects reported for 1967.

Speeds and Motions.	Categories. A.	B.	C.
Hovering or stationary.	85	13	21
Hovering and spinning.	1	1	3
Hovering and wobbly.	1	-	-
Hovering and fluttering.	-	-	2
Hovering and shuddering.	1	-	-
Hovering and wobbly, then slow, then fast.	1	-	-
Hovering and spinning, then jerky.	1	-	-
Hovering and spinning, then slow ascent.	1	-	-
Hovering, then very fast.	6	-	1
Hovering, then fast.	34	3	3
Hovering, then fast and spinning.	2	-	-
Hovering, then fast and wobbly.	1	-	-
Hovering, then fast with an erratic course.	2	-	1
Hovering, then fast with a zigzag course.	2	1	-
Hovering, then fast with erratic and zigzag courses.	1	-	-
Hovering, then fast, then slow.	7	1	-
Hovering, then fast, then slow erratic.	1	-	-
Hovering, then fast, then slow spinning.	2	-	-
Hovering, then fast, then slow and spinning, then zigzag course.	2	-	-
Hovering, then moderately fast.	1	1	-
Hovering, then slow.	16	1	1
Hovering, then slow and spinning.	2	1	-
Hovering, then slow with an erratic course.	5	1	1
Hovering, then zigzag course.	1	-	-
Hovering, then steady (moderately fast) with an undulatory motion.	1	-	-
Very slow.	1	2	-
Slow.	21	12	9
Slow and spinning.	1	2	-
Slow and spinning, then erratic movements.	-	-	1
Slow and spinning, then zigzag course.	1	-	-
Slow, then jerky, then fast.	-	-	2
Slow, then fast.	5	-	-
Slow, then fast, then erratic.	-	-	1
Moderately fast.	14	1	5
Fast.	37	12	11
Fast and spinning.	-	-	1
Fast, undulatory, and tumbling.	1	-	-

	A.	B.	C.
Fast, then jerky, then erratic course.	1	-	-
Fast, then jerky, then slow, then erratic course.	-	1	-
Fast, then jerky, then slow, then zigzag.	1	-	-
Fast, then erratic .	-	-	1
Very fa.	9	-	-
Erratic, then moderately fast, then fast.	-	1	-
Erratic, then slow.	1	-	-
Erratic, then fast.	2	-	-
Erratic.	6	1	4
Zigzag course.	2	1	-
Zigzag course, then circular course.	1	-	-
Circular or spiral course.	5	1	-
Complicated movements not conforming to any pattern.	1	-	-

The very fast speeds were variously described as "terrific", "staggering", "frightening", "vertiginous", and "colossal", and the UFOs exhibiting them as "flashing", "hurtling", or "racing" across the sky.

Six category A objects and one category B object moved in an undulatory or "yo-yo" manner, and eight category A objects fluttered or wobbled while in motion. No colour changes are known that could be positively associated with these particular motions, although colour changes (various combinations) frequently accompanied changes of speed. UFO colours reported for 1967 are tabulated below.

Category.	Bluish-White.	White.	Cream.	Yellow.	Gold.	Orange. (amber)	Orangy-Red.	Red.	Pink.	Blue.	Green.	Silver.	Grey.	Metallic.	Black.
A.	2	44	1	12	4	27	-	23	1	8	10	18	9	12	2
B.	-	6	-	2	3	16	2	11	1	3	3	8	2	2	-
C.	-	14	-	-	-	6	-	9	1	2	3	9	1	1	-

Many of the above colours, and the following colour combinations, were described as luminous, glowing, fiery, or shimmering, and were often compared to neon and flourescent lights. Pulsating effects also often accompanied these colours.

Colour-change Sequences.	Categories. A.	B.	C.
White/yellow.	4	-	-
White/yellow/blue.	1	-	-
White/orange/red.	1	-	1
White/orange/blue.	1	-	1
White/red.	8	-	-
White/red/white.	1	-	-
White/red/green.	-	1	-
White/blue/white/orange/red.	1	-	-
White/green.	-	1	-
White/green/orange/red/white.	-	1	-

	A.	B.	C.
White/silver.	1	-	-
White/black.	-	-	1
Yellow/red/green.	1	-	-
Yellow/blue.	-	1	-
Yellow/silver.	1	-	-
Gold/red.	2	-	-
Orange/red.	5	1	-
Orange/red/blue.	1	-	-
Orange/silver.	1	1	-
Orange/blue.	2	-	-
Orange/yellow.	2	-	-
Orange/yellow/white/grey.	1	-	-
Orange/white.	1	-	-
Orange/black.	-	1	-
Orange/red/silver/green.	-	-	1
Orangy-red/black.	1	-	-
Red/metallic.	-	1	-
Red/grey.	1	-	-
Red/white.	8	1	-
Red/white/green.	2	-	-
Red/amber (orange).	1	-	1
Red/orange/blue/white.	1	-	-
Red/orange/green.	-	-	1
Red/yellow.	3	-	-
Red/green.	2	1	-
Red/blue.	-	-	1
Red/purple (violet).	2	-	-
Red/silver.	5	-	1
Red/silver/green.	1	-	-
Blue/grey.	1	-	-
Blue/white.	1	-	-
Purple/green.	-	1	-
Silver/white.	-	-	1
Silver/green/red.	1	-	-
Grey/silver.	-	-	1

Several objects were also reported with green, yellow, orange, or multicoloured halo-like effects surrounding them, and two with arcs of white light above them. It should be noted that the above colour changes refer to changes generally enveloping the entire object and do not refer to lights commonly carried by UFOs.

Noises reportedly emitted by UFOs in 1967 were as follows.

Category.	Noiseless.	Thunderous.	Roaring.	Reving.	Whistling.	Rumbling.	Rattling.	Whining.	Humming.	Buzzing.	Screeching.	Crackling.	Whirring.	Hissing.	Thumping.	Moaning.
A.	86	1	2	1	-	1	-	3	7	5	-	1	1	-	-	-
B.	25	-	-	-	1	-	1	-	1	1	1	-	-	-	1	1
C.	23	-	1	-	1	-	1	1	2	-	1	-	-	1	-	-

Two category A reports mention UFOs emitting "loud noises", while one category B report and one category C report refer to UFOs giving off "strange sounds". In none of these cases, however, are the noises described, thus they remain unclassifiable.

Noiseless emissions include rays, flashes, trails, sparks, and exhausts and heatless flame-jets. These are summarized below.

Category.	Rays.	Trails.	Flashes.	Sparks.	Exhausts and Flame-jets.
A.	2	8	7	4	5
B.	-	1	3	-	1
C.	1	3	3	2	-

Two category A objects also emitted smoke or vapour of remarkably compact, dense, and persistent type, while the trails of four other UFOs were highly luminous. Four category A objects allegedly scorched road surfaces or ground upon which they reportedly landed, and at least one further category A UFO damaged vegetation. Note should be taken here of the crop damage at Whippingham, Isle of Wight, on July 10, believed by some to have resulted from UFO activity in that area.

Several disruptive effects on terrestrial installations and mechanical equipment by UFOs were experienced during 1967. These were:-

Category.	Engine Failure (vehicles).	Light Failure (buildings & vehicles).	Power Failure.	Radio Fade-out.	TV Interference.
A.	9	3	6	7	1
B.	-	-	1	-	-
C.	-	-	1	-	-

Very many people claimed or are alleged to have seen UFOs in 1967. The precise number of individuals, of course, will probably never be certainly known, since not only are some sightings never reported at all but sizes of observer groups (if greater than say 10 persons) are seldom recorded exactly, and arbitrary statements such as "at least a dozen", "very many", "scores", "hundreds", or "several hundred" occur commonly in reports. If the estimate of "over 5000" persons for the Ravenswood area (vide March 1 report) was realistic, then it is probable that the true total of UFO witnesses during 1967 approached 7000 individuals. The following table, based on all available information, summarizes the relative age and sex groups involved: nationalities are undifferentiated.

Ages (in years).	Males.		Females.		Sex Unrecorded.	
	P*	S*	P	S	P	S
0 - 15	22	14	2	6	1	22
16 - 30	65	19	6	9	-	1
31 - 45	11	5	7	1	-	-
46 - 60	17	3	4	1	-	-
61 - 75	4	-	1	1	-	-
over 75	-	1	-	1	-	-
Unspecified.	198	105	49	73	75	5714

* P = primary witnesses: S = secondary witnesses.

It has not been possible to establish the occupations of all UFO witnesses, although the available information is summarized below.

Government Employees.	3	Merchant Seamen.	10	Site Labourers.	15
Military Personnel.	14	Engineers.	6	Factory Workers.	5
Policemen.	64	Scientists.	5	Farmers and Farm Workers.	22
Securitymen.	4	Technicians.	3	Mechanics.	6
Coastguards/ Royal Observer Corps Staff.	5	University Staff.	2	Craftsmen.	5
Meteorologists.	1	Teachers.	8	Prospectors.	3
Astronomers (amateur).	5	Judges/Lawyers.	4	Quarrymen.	1
Radar operatives.	8	Medical Personnel.	4	Artists.	2
Civil Airport Staff & airline Pilots.	25	Chemists.	1	Storemen/Clerks.	11
Directors/Businessmen.	2	Clergymen.	2	Typists.	2
Managers and Foremen.	10	Librarians.	1	Taxi drivers.	1
Salesmen.	1	Journalists.	2	Lorry drivers.	4
Hotelliers.	2	Other professionals.	12	Bus crewmen.	5
Shopkeepers.	1	Students.	18	Groundsmen & Caretakers.	5
Photographers.	1	Schoolchildren*	226	Retired Persons.	3
		Housewives.	61		

* Including 200 children (all cowitnesses) at Bearwood on July 3rd.

A rapid glance at these figures shows that, except for the schoolchildren (a group with an abnormally high total due to the Bearwood sighting just noted), the most frequent observers of UFOs in 1967 were policemen and housewives --- two groups which, by the very nature of their occupations, are usually ideally placed to notice such UFOs as appear. The highest of the remaining figures also tie in with groups largely concerned with outdoor activities demanding special (even constant) awareness of meteorological conditions.

Reactions of human witnesses to UFO appearances in 1967 were infrequently reported. The table below summarizes the known reactions.

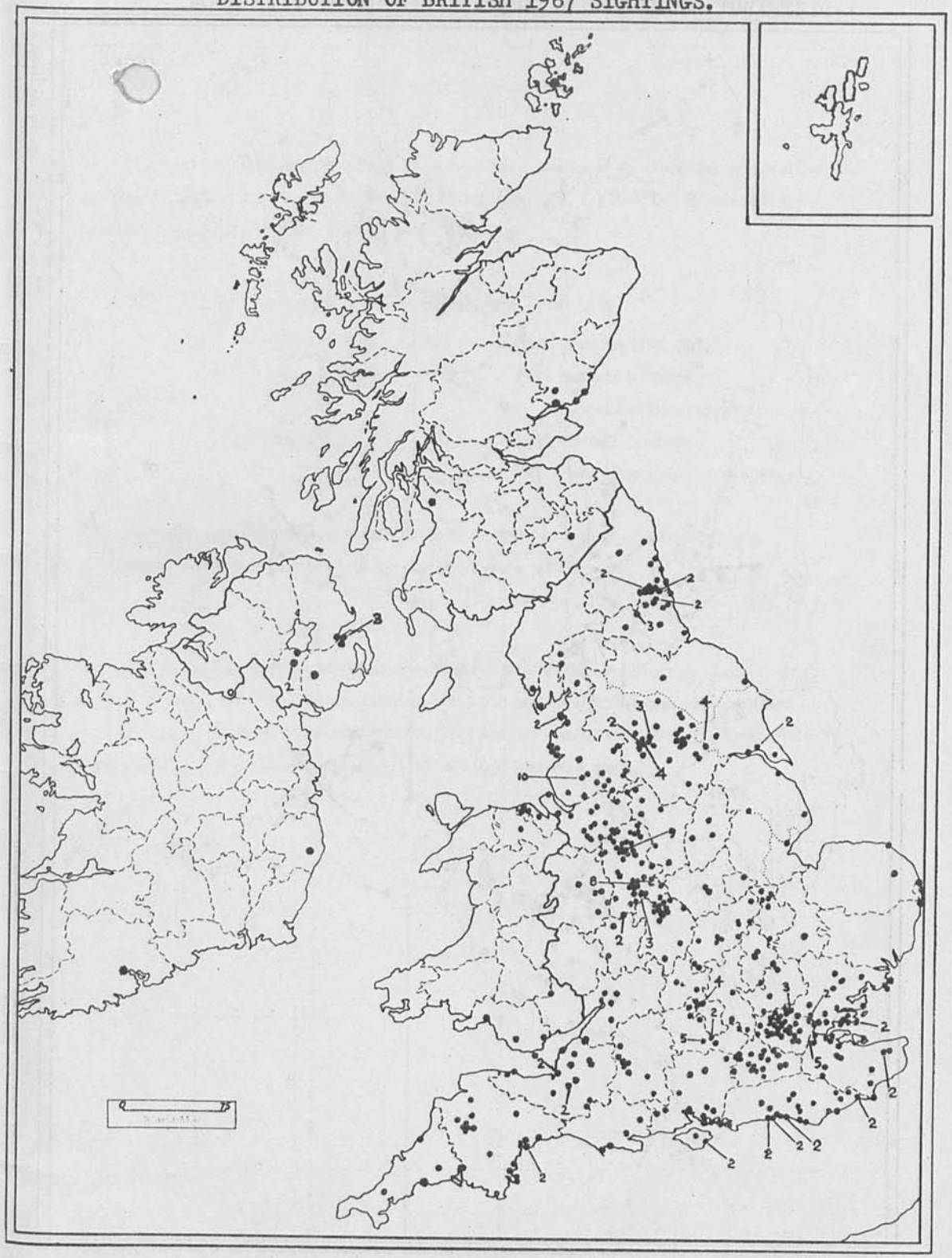
Panic or Terror.	3	Awe or Wonder.	7	Disbelief.	1
Fright or Fear.	15	Amazement.	2	Curiosity.	5
Apprehensiveness.	1	Astonishment.	1	Intense Interest.	3

Reported animal reactions to near approaches of UFOs also varied, as the following table illustrates.

	Dogs	Cats	Horses	Cattle	Birds
Temporary Immobilization.	-	-	1	-	-
Fear or Panic.	8	-	-	2	2
Restlessness.	2	2	1	-	-
Excitement.	1	-	-	1	1
Subsequent avoidance of visited area.	2	-	-	-	1

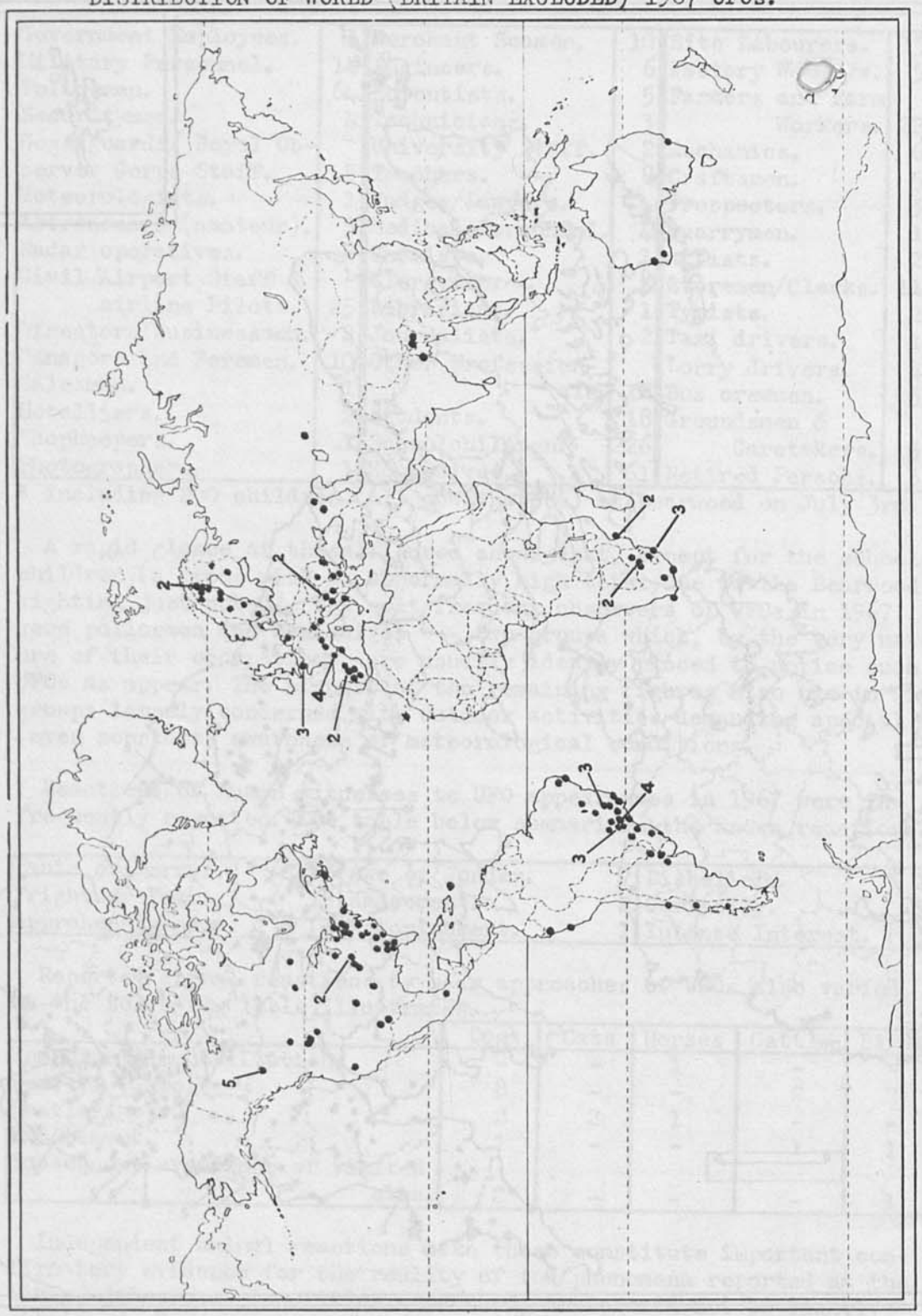
Independent animal reactions like these constitute important confirmatory evidence for the reality of the phenomena reported at the times, dates, and localities concerned, and should not be lightly dismissed. For reports of disappearing and strangely mutilated animals see Keel's article "West Virginia's Enigmatic "Bird""; Flying Saucer Review, Vol. 13, No. 6, 1968, pp. 7-14.

DISTRIBUTION OF BRITISH 1967 SIGHTINGS.



Categories A, B, and C only are mapped above. Figures referring to specific localities indicate the number of occasions UFOs were seen there.

DISTRIBUTION OF WORLD (BRITAIN EXCLUDED) 1967 UFOs.



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DATA RESEARCH

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THE UFO REGISTER

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Contents

EDITORIAL COMMENT.

With the printing of the present issue of the UFO REGISTER, this journal completes its first full year of publication, a year in which, judging from the volume of mail received during that period from all regions of the globe, interest in ufos was as active and widespread as ever. Data Research, therefore, wishes to take this opportunity of acknowledging the encouragement and valuable assistance afforded it during this first year by all those organizations and individuals who submitted or exchanged material pertaining to ufos. Correspondents deserving special mention included Gene Duplantier, René Fouéré, Henk Hinfelaar, Albert Onori, Kathleen Smith, Brinsley Le Poer Trench, and Ruth Verrill. Nor would credits be complete without reference to the presentation, by Barrie Sayers, of the late Harold T.Wilkins's magnificent collection of notes and press-cuttings of early ufo manifestations, or to the seemingly tireless field-investigators of Contact (UK). The usually unsung efforts of many of these enthusiasts often proved to be most important and of lasting significance.

While increased liaison of this kind between ufologists should undoubtedly be promoted everywhere, it is also distressing to learn that financial and other considerations during the past year dictated the winding-up of at least two of Britains oldest and most esteemed local ufo study-groups --- the Tyneside UFO Society (see Spacelink magazine, vol.6, no:4, 1971, p.21) and the South Western Unidentified Aerial Phenomena Investigation Group, often abbreviated to SWAPIG or SWUAPIG (see UFO News, no:4, 1971, p.6). Data Research would like here to express its appreciation of the important contributions made to ufo research by both these societies in the past; and its hope that replacement organizations will be formed in the near future on Tyneside and in South West England to continue the excellent work of these two deceased study-groups. It is greatly to be hoped that Gerald Lovell, who produced SWAPIG's journal The Illuminer, will find the time and effort to report new West country ufo sightings in his new magazine Parasite.

Some other notable changes occurring during the past year concern the merging of, in the USA, Rick Hilberg's "UFO Magazine" with Allan Manak's Flying Saucer Digest, and, in Britain, of the UFO Chronicle with the Sirius Journal (see Spacelink magazine, vol.6, no:4, 1971, p.21) and of Syntonic magazine with Perception magazine (Syntonic magazine, no:12, 1971, p.16). Regrettably Flying Saucer Facts, edited by Fred Gething of Sheffield, also ceased publication, although on the credit side two new Contact branches --- who have already issued interesting newsletters of their own --- were established in Rhodesia and Zambia respectively, a new Spanish ufo magazine called Stendek commenced publication in June 1970, and Christopher Rose, the editor of the former Flying Saucers Are Fact, began publication of an interesting new magazine Stranger Than Science.

Spacelink's review of the magazine Stendek (see vol.6, no:4, 1971, pp.13-14) mentions the fact that this arresting title was taken from the still unexplained incident involving the mysterious disappearance of a Lancastrian Star Dust airliner as detailed in Antonio Ribera's "El Gran Enigma de los Platillos Volantes" (Editorial Pomaire, Barcelona, 1965). Further details of this perplexing episode were published as early as 1954 by Harold T.Wilkins in "Flying Saucers from the Moon" (Peter Owen, London), pp.136 et seq., where the word Stendek is spelt Stendec. Wilkins also drew attention to the repeated disappearance of aircraft over the Atlantic near Bermuda (op.cit.,pp.137-8), and mentions the appearance of unknown aerial lights over Bermuda in 1913 (op.cit., p.139). Wilkins's observations were, in effect, the forerunners of those dealt with more fully by Ivan T.Sanderson in "Invisible Residents" (World Publishing Company, Cleveland, Ohio, 1970), and touched upon by John Keel in "Ocean-Based UFO's Ring the U.S.", Male (USA), 1970.

The recent revival of interest among ufologists in the maritime aspect of ufos is both timely and desirable, and possibly marks the beginning of a new phase, if it may be so termed, of ufological research. This new phase should probably be linked with other phenomena --- teleportations; celestial noises of invisible origins; poltergeist activity; unexplained falls of organisms, fluids, and artificial objects; gravitational warpings and similar effects --- only recognized as probably have some kind of connection with ufos proper by ufologists within comparatively recent times. Purists among these students, of course, have often dismissed these little understood phenomena as being irrelevant to the main ufo problem, or have condemned as too extreme the writings and conclusions of those who have sought to probe these subjects. Equally often the subjects themselves have been deemed completely unrespectable. The interest now being shown in these selfsame subjects by scientifically trained individuals, such as Sanderson, invests the phenomena with a new aura of respectability, and suggests that various speculations and ideas based by certain earlier ufologists on this very evidence now require careful re-examination. Some of these earlier theorists, such as Arthur Constance and Harold T.Wilkins, advanced hypotheses and recorded information about ufos which, in the light of more recently accumulated data, now appear to have been almost prophetic, or which are found to be astonishingly similar to concepts supposedly developed only within the past few years. Constance, for example, mentioned ufos which constantly changed shape ("The Inexplicable Sky", Werner Laurie, London, 1956, p.264), showing that this extraordinary ability on the part of ufos is not, as is often but erroneously believed, a recently developed characteristic. Again, Wilkins speculated upon the possibility of ufos originating from another order of matter ("Flying Saucers from the Moon", and "Flying Saucers Uncensored", Arco, London, 1956), more or less along the same lines more recently envisaged by Brinsley Le Poer Trench ("Operation Earth", Neville Spearman, London, 1969) and John Keel ("Operation Trojan Horse", G.P.Putnam's Sons, New York, 1970). These trends certainly suggest that certain hypotheses advanced by some of the pioneer writers about ufos may have actually been more consistent with the known evidence than hitherto generally recognized, and serve, moreover, to show how essential it is for students of the ufo enigma to be fully conversant with all earlier published statements on this subject.

The rejection or limited acceptance by most contemporary ufologists of these earlier writers' ideas and hypotheses was undoubtedly due to the fact that, at the time and for over a decade afterwards, people were generally unreceptive to the weirder aspects of the ufo puzzle, being, indeed, sceptical of even quite easily discernible facets of the enigma. Our present, more detailed, knowledge now indicates that at least some of the older theories were surprisingly accurate relative to the evidence as a whole, and serious ufologists can no longer avoid a re-examination of all the data. This must be undertaken with a completely open mind, even with regard to the most fantastic items featuring in ufo reports, for it is certain that what appears to us as unbelievable or fantastic is most probably normal or commonplace to the owners of the objects we call ufos.

The Editor.

1969: GENERAL ANALYSIS.

A preliminary appraisal of British ufo reports for 1969 appeared in the first issue of the UFO REGISTER (vol.i, pt.1, 1970, pp.5, 7) where reference was also made to the existence of various foreign

ufo reports for the same year. By detailing additional British reports received since the publication of that issue and by reviewing the foreign sightings just mentioned, the present survey completes the "picture" for 1969, insofar as this is currently possible. The previously published statistics for 1969, therefore, should be combined with those given here, even though the ensuing "combination" cannot itself be final since still further reports will probably come to light in due course and critical details -- presently absent from many accounts -- may yet be forthcoming in at least some instances and lead to the re-classification of the reports concerned.

Analysis of the reports now available for 1969 (inclusive of the series recorded in the first issue of the UFO REGISTER) suggests that, as they presently stand, they should be categorized as follows. The categories employed here, of course, are those defined previously by Data Research (see UFO REGISTER, vol.i, pt.2, p.4).

Category.	New Reports		Previously published Totals (UFO REGISTER, vol.i, pt. 1, 1970, p.7)	Revised Total.
	English.	Foreign.		
A	47	65	26	138
B	21	39	12	72
C	32	30	17	79
D	43	69	21	133
E	1	-	1	2
F	4	1	2	7
G	7	1	2	10
H	-	3	3	6
J	-	1	-	1
K	-	-	-	-
L	-	-	-	-
M	8	4	1	13
N	-	1	-	1
P	-	2	1	3

Although the number of well or reasonably well documented cases featuring landings of ufos was lower in 1969 then in 1967 and 1968, there appears to have been a very definite increase in the number of occasions when two or more objects were observed simultaneously over the same localities. This increase, detailed more fully elsewhere in this issue, continued in 1970 and may mark a new development in the ufo programme -- whatever that may be. Landings, with or without entities (ufonauts), are indicated in the following catalogues by asterisks.

Sightings of particular interest included the very large bird-like object, seemingly metallic, observed hovering over Durham County on April 25th., and those which described the submergence or partial submergence of ufos at Lake Huaypo and Lake Titicaca (on unnoted dates in November), and in the Gulf of Santa Catarina (on an unnoted date in December). It is possibly significant that all these instances of submergence occurred in South America.

Of special interest were the extraordinary events that occurred near the water tower on Pic Saint-Loup, near Montpelier, Hérault, France, on and around February 9th, the associated zigzagging luminous scarlet balls seen there recalling the similar series seen over dry springs near Ibiuna, Brazil, during March and April (FSR., vol.16, no:1, p.15), when the objects were orange coloured, and the astonishing spectacle, involving 10 to 20 red globular lights, observed flying in all directions over hills near Fort Gibson Lake, Oklahoma, on July 18th (Ufolog, no:64, pp.4-5).

The chronological order of these foreign reports for 1969, relative to the British reports, is given in the following catalogue.

Dates.	Times.	Localities.	UFO Types.	UFO Categories.	References. (see p.11 for key to numbers)
JAN.					
1	11.20am.	Ross-on-Wye, Herefordshire, ENGLAND.	6b	A	54:3.
1	?	Linköping, Östergötlands, SWEDEN.	?48	C	43:15.
2	7.57am.	York, Yorkshire, ENGLAND.	11a	C	47:4.
c3	pm.	Street, Somerset, ENGLAND.	13a	C	47:2.
5	9.00pm.	Pontejos, Santander, SPAIN.	* 4	A	32:27.
7	8.00pm.	Niigata and Osaka airports, JAPAN.	46a	C	61:6.
7	10.15pm.	Off the Aomori coast, Honshu, JAPAN.	46a	A	53:4-5.
11	c9.30am.	Leeds, Yorkshire, ENGLAND.	7l	B	46:1-2.
14	11.45pm.	Elsthorpe, Hawkes Bay, North Island, NEW ZEALAND.	5a	A	12:32.
16	c4.30am.	Nr.Childers, Queensland, AUSTRALIA.	* 2	A	11:iii.
17	pm.	Street, Somerset, ENGLAND.	13a	C	47:2.
c20	?	Between São Paulo and Patos, Minas Gerais, BRAZIL	?18a	C	17:40.
22	c9.40pm.	Nr.Alta, NORWAY.	17a	A	55:5-6.
23	2.30pm.	Nr.Carstairs, Alberta, CANADA.	1c	A	33:6.
25	10.58pm.	Crosby, Lancashire, ENGLAND.	46	C	46:2.
26	c9.30pm.	Limeira, near Campinas, São Paulo, BRAZIL	18a	A	17:39-40
27	9.15pm.	Stratford-on-Avon, Warwickshire, ENGLAND.	u	B	45:3.
30	2.30am.	Between Didsbury and Carstairs, Alberta, CANADA.	43	B	33:5.
30	9.30pm.	Crossfield, Alberta, CANADA	5a	A	33:5.
30	9.30pm.	North of Crossfield, Alberta, CANADA.	17a	C	33:5.
31	11.15pm.	Chale, Isle of Wight, ENGLAND.	46	C	45:2-3.
31	?	Lins, São Paulo, BRAZIL.	5a	C	17:39.
?	10.30pm.	Jales, NW.of Sao Paulo city, São Paulo, BRAZIL	*?1c	A	62; 17:39.
?	?	Nr.Palmerston North, North Island, NEW ZEALAND.	17a	A	42:17; 63:5.
FEB.					
1	11.45pm.	East Stoke, Hayling Island, Hampshire, ENGLAND.	46	C	50:2.
2	c4.30pm.	Unlocalized, Alberta, CANADA.	1c	C	33:5.
2	c9.20pm.	Cem Park, nr.Woodfield, Gloucestershire, ENGLAND.	4	A	47:2; 49:1-2.
2	11.08pm.	Between Isle of Wight and Swanage/ Bournemouth coast, English Channel, ENGLAND.	6	A	45:1.
2	(night)	Nr.Chillan, Nuble, CHILE.	8a	A	43:17; 64

FEB.					
3	10.45pm.	Yarmouth, Isle of Wight, ENGLAND.	59	C	45:2.
4 or 5	10.05pm.	Between Burley and Lyndhurst, Hampshire, ENGLAND.	74	A	57:3-4.
6	10.08pm.	Wandsworth, London, ENGLAND.	46	C	48:2.
c6	c7.30am.	Pirassununga, São Paulo, BRAZIL.	* 4	A	9; 17: 40f.
9	1.00am.	Nr. Montpelier, Hérault, FRANCE.	4 +46	A	15:13-4.
11	c7.0pm.	Nr.Didsbury, Alberta, CANADA.	8a	B	33:6.
11	7.15pm.	Hildenborough, Kent, ENGLAND.	u +46	A	13:2.
15.	am.	Unlocalized, Alberta, CANADA.	17a	B	33:6.
18	am.	Nr.Craigmile, Alberta, CANADA.	12	A	33:6.
19	?	Belcruit and Bunawillan Donegal, EIRE.	11	A	20.
c19	?	Nr.Kilkee, Co.Clare, EIRE.	?* 46	B	20.
22	10.15pm.	Over the Solent, off Cranmore, nr. Yarmouth, Isle of Wight, ENGLAND.	18a	B	46:1.
c22	?pm.	Reenrour, Co.Cork, EIRE.	?20	C	38.
25	?	Unlocalized, Chubut, ARGENTINA.	1a	B	28:22.
28	9.00am.	Unlocalized, Alberta, CANADA.	?3a	B	33:5.
28	(early pm.)	Unlocalized, Alberta, CANADA.	1a	C	33:6.
MAR.					
4	10.00pm.	Bishops Stortford, Hertfordshire, ENGLAND.	23	A	49:4.
6	c8.30pm.	Dursley, Gloucestershire, ENGLAND.	11	A	47:3.
6	(late pm.)	Cam Longdown, near Uley, Gloucestershire, ENGLAND.	u	A	47:3.
7	c8.30pm.	Dursley, Gloucestershire, ENGLAND.	11	A	47:3.
7	c8.30pm.	Watonga, Oklahoma, USA.	46	C	52:5.
10	10.30pm.	Glenwood, Missouri, USA.	1c	B	50:4.
12	6.30pm.	Artichoke River, Newburyport, Massachusetts, USA.	46	A	42:16.
12	(late pm.)	Sydney, New South Wales, AUSTRALIA.	1c	C	50:5.
13	12.15am.	Valence-sur-Baise, Gers, FRANCE.	41a	C	32:8-12.
13	12.20am.	Jugon, etc., Côtes du Nord; Rennes, Ille-et-Vilaine, FRANCE; southern Guernsey, CHANNEL ISLES.	41a	C	32:8-12.
14	c7.55pm.	Malataverne, Drôme, FRANCE.	75	A	14:32.
17	8.30am.	Antwerp, Antwerp Prov., BELGIUM.	76	C	47:5.
17	c8.00pm.	Aenekoski, nr.Pihtipudas, FINLAND.	1a +17a	A	42:15.
18	c1.30am.	Heyling Island, Hampshire, ENGLAND.	13b	A	48:1-2.
18	2.35am.	Saxilby, Lincolnshire, ENGLAND.	1c	A	48:3.
19	10.00pm.	Nr.Arnold, Missouri, USA.	u	B	42:16.
19	c11.15pm.	Arnold, Missouri, USA.	10	C	50:4.
19	?	Malataverne, Drôme, FRANCE.	18a	C	14:32.
20	1.55am.	Arnold, Missouri, USA.	10	C	50:4.
20	?	Nr.St.Louis, Missouri, USA.	46	A	42:16.
22	2.45pm.	Armadale, Western Australia, AUSTRALIA.	11	A	52:6.
22	7.00pm.	Kelmscott, Western Australia, AUSTRALIA.	1a	A	52:6.
22	c1.00am.	Sedalia, Missouri, USA.	8a	B	50:5.
27	?	Unlocalized, SIAM (THAILAND).	18a	A	52:5.
29	8.05pm.	Titchfield, Hampshire, ENGLAND.	46	B	50:2.
APR.					
1	5.30pm.	Nr.Lindley, Orange Free State, REP. SOUTH AFRICA.	8a	A	35:12.
1	?	Pietermaritzburg and Durban, Natal, REP.SOUTH AFRICA.	74	B	35:12.
1	?	Nr.Lindley, Orange Free State, REP. SOUTH AFRICA.	18a	A	35:12.

APR					
3	10.38pm.	Nr.Lymington, Hampshire, ENGLAND.	22	A	1; 48:3.
[illegible]	10.45pm.	Thurlaston, Leicestershire, ENGLAND.	* ?41b	A	48:2.
5	10.30pm.	Red Rice, Hampshire, ENGLAND.	46	B	48:1.
9	c9.45am.	Norland, Yorkshire, ENGLAND.	4	A	21.
?11	c7.30pm.	Clyst St.Mary, Exeter, Devonshire, ENGLAND.	1a	A	0
14	9.45pm.	Worplesdon, Surrey, ENGLAND.	6	A	48:2.
16	10.30pm.	Thurmaston, Leicestershire, ENGLAND.	10	B	48:1.
20	?4.30am.	Norland, Yorkshire, ENGLAND.	9	B	52:4.
20	?	5 miles E.of Hill City, Kansas, USA	u	A	49:6.
21	8.20pm.	Cronulla, New South Wales, AUSTRALIA.	1a	A	53:6.
22	8.30pm.	Ottawa, Ontario, CANADA.	* 4	A	42:16.
25	10.00am.	Between Sherbourne and Durham, Co. Durham, ENGLAND.	63	C	51:3.
26	4.30am.	Between Ibiuna and São Paulo, São Paulo, BRAZIL.	* 13a	A	15:17.
26	10.50pm.	Woluwe Saint Pierre, Brussels, BELGIUM.	17a	A	42:15.
27	3.00am.	Between Dinnington and Whiston, nr. Sheffield, Yorkshire, ENGLAND.	4	A	52:2.
MAY					
3	4.23am.	Rio de Janeiro, Rio de Janeiro, BRAZIL.	4	A	43:17.
5	6.30am.	Tarleton, Lancashire, ENGLAND.	17a	A	47:4.
6	?	Le Champ du Feu, Bass-Rhin, FRANCE.	?5a	A	32:17-8
7	?	Between Palermo and Weeks Mill, Maine, USA.	71	A	42:16.
12	10.00pm.	Yately, Hampshire, ENGLAND.	3a	A	49:3.
12	c10.00pm	Nr.Lake Zurich, Illinois, USA	4	C	51:5-6.
12	c10.25pm	Palatine, Illinois, USA.	4	A	51:5-6.
13	2.25am.	Yately, Hampshire, ENGLAND.	47	A	49:3.
13	c3.40am.	Yately, Hampshire, ENGLAND.	47	A	49:3.
13	4.20am.	Yately, Hampshire, ENGLAND.	8a	A	49:3-4.
13	9.50pm.	Weert Saint George, BELGIUM.	10	A	42:15.
13	10.45pm.	Schaerbeek, Brussels, BELGIUM.	46	B	42:15.
13	11.30pm.	Etterbeek, Brussels, BELGIUM.	46	B	42:15.
14	10.12pm.	Culverstone, Kent, ENGLAND.	47	C	46:3.
14	(night)	Teyateyaneng, LESOTHO.	30 + u	B	37:15-9
18	c1.0am.	Blackwater, Hampshire, ENGLAND.	8a	A	42:14.
18	c4.15am.	Riverina Wagga, W.of Deniliquin, New South Wales, AUSTRALIA.	4	A	14:32; 41; 49: 4-5; 53: 6.
21	(night)	Between Pelotas and Camaqua, Rio Grande do Sul, BRAZIL	46	B	32:26.
23	c2.45am.	Between Esperance and Lake Grace, Western Australia, AUSTRALIA.	42	A	13:36, iii
24	c11.08pm	Chippenham, Wiltshire, ENGLAND.	1a	A	13:19.
24	?	Mooţa, Cumberland, ENGLAND.	?1a	A	14:31; 65.
27	2.45am.	W.of Caltowie, AUSTRALIA.	46	A	23; 58: 5-6.
27	c3.40am.	Nr.Caltowie, AUSTRALIA.	46	C	58:5-6.
27	c10.00am	Durban, Natal, REP.SOUTH AFRICA.	11	B	35:15.
31	(?night)	São Paulo, São Paulo, BRAZIL.	8a	A	43:17.
?	(late pm.)	Unlocalized, Texas, USA.	4 + 43	B	54:6.
?	?	Gwelo, RHODESIA.	22	C	13:iii.

JUN.					
4	?	Anolaima, Bogotá, COLOMBIA.	4	B	40:15.
5	10.50pm.	Enfield, Middlesex, ENGLAND.	u	B	49:4.
6	(?late pm.)	Nr.Husnes, NORWAY.	1a	B	40:15.
7	c12.0lam	Morecambe Bay, Lancashire, ENGLAND.	1a	C	16a:31.
7	9.50pm.	Higham, Kent, ENGLAND.	46	B	42:14.
10	10.30pm.	32 miles E.of Manila, Rizal, PHILIPPINES.	46	B	13:36.
12	1.30am.	Warrington, Lancashire, ENGLAND.	46	C	42:14.
12	2.45am.	Clifton, Bristol, Gloucestershire, ENGLAND.	46	C	42:14; 50:3.
12	1.30pm.	Bolton, Lancashire, ENGLAND.	4	C	13:35.
13	(early am.)	Clifton, Bristol, Gloucestershire, ENGLAND.	46	C	50:3.
15	11.40pm.	Birkenhead, Cheshire, ENGLAND.	1a	A	13:35.
17	2.00am.	Ibiuna, São Paulo, BRAZIL.	73a	C	15:17-8
18	c9.10pm.	Bordesley Green, Birmingham, Warwickshire, ENGLAND.	26a	C	13:28-9
19	12.25am.	Nr.Docking and Bircham Newton, Norfolk, ENGLAND.	24a	A	4:12.
20	4.30pm.	Bridport, Dorset, ENGLAND.	6	B	52:3.
22	11.00pm.	Nr.Poynings, Sussex, ENGLAND.	11	B	13:35.
26	2.30pm.	NW.of Ibiuna, São Paulo, BRAZIL.	* ?3b	A	15:18-9
28	11.07pm.	Watford Heath, Hertfordshire, ENGLAND.	46	B	51:4.
29	10.50pm.	Bristol, Gloucestershire, ENGLAND.	1a	A	50:3.
29	11.47pm.	Ansley Hall, Warwickshire, ENGLAND.	?3b	A	24; 25; 50:1-2.
30	11.30pm.	Lake Haavisto, FINLAND.	?7	C	51:4-5.
?	c12.30am	SW.of Salt Lake City, Utah, USA.	* 77		16a:21-23.
?	?	Between Antofagasta and Mejillones, Antofagasta, CHILE.	18a	A	43:15.
?	?	Malagasi, nr.Isipingo, Natal, REP. SOUTH AFRICA.	4	B	13:iii.
JUL.					
2	2.05pm.	Nr.Moscow, Michigan, USA.	?6	B	42:16.
2	c3.30pm.	W.of Chickasaw, Iowa, USA.	3b	A	54:5.
4	(?night)	N.of Darlington, Yorkshire, ENGLAND	46	A	53:1-2.
6	12.15am.	Nr.Halsöy, Bergen, NORWAY.	8a	A	55:5.
6	1.15pm.	Nr.Bergen, Bergen, NORWAY.	62	A	55:5-6.
6	8.45pm.	Unlocalized northern areas, TUNISIA	8a	A	43:15.
7	9.50pm.	Between Usk and the Severn Bridge, Monmouthshire, WALES.	17a	A	52:2-3.
7	9.55pm.	Parkstone, Dorset, ENGLAND.	?11	C	2; 43:14.
8	c11.00pm	Aldingham, Lancashire, ENGLAND.	10	B	43:16.
9	3.00am.	Danville, Pennsylvania, USA.	u	B	43:16.
12	c4.05am.	Nr.Borth bog, Cardiganshire, WALES.	?43	B	51:3.
13	2.30am.	Glastonbury, Somerset, ENGLAND.	8a	A	54:2.
14	1.06am.	Matton, Michigan, USA.	47	A	43:16.
15	c11.00pm	Sherston, Wiltshire, ENGLAND.	46	A	3; 52:4
16	?	Irthlingborough, Northamptonshire, ENGLAND.	* 4	A	13:35.
17	2.30am.	Glastonbury, Somerset, ENGLAND.	8a	B	54:2.
17	11.30am.	Nr.Glasgow Airport, Renfrewshire,	1a	B	43:14.
18	1.40am.	Frome, Somerset, ENGLAND.	11	A	52:3.
18	c8.50pm.	Fort Gibson Lake, Oklahoma, USA.	46	A	54:4-5.
18	10.30pm.	Nr.Talybont, Cardiganshire, WALES.	8a	A	51:3.
19	12.15am.	Nr.Tillé airport, Oise, FRANCE.	17a	B	30:28.
20	8.00pm.	Pendleton, Lancashire, ENGLAND.	1a	B	52:2.

JUL.					
21	11.00pm.	Chevigny-Fenay, Côte d'Or, FRANCE.	8a	B	29:15-6.
[illegible]	c10.30pm	Yarmouth, Isle of Wight, ENGLAND.	46	A	53:1.
[illegible]ch	c9.30pm.	Topeka, Kansas, USA.	47	B	43:16.
25	9.15pm.	Stone, Staffordshire, ENGLAND.	?8a	B	55:1-2.
27	8.40am.	Elmstead, Essex, ENGLAND.	11	C	54:4.
27	10.20am.	NW.Brussels, Brussels, BELGIUM.	73a	B	60:4.
30	6.10pm.	c2 miles S.of the Needles, Isle of Wight, ENGLAND.	1a	C	14:31.
?	c9.0pm.	Over the Solent, between Portsmouth and Southampton, Hampshire, ENGLAND	9	B	54:2.
?	c10.0pm.	Heist-on-Sea, Flandre, BELGIUM.	12	B	5:12.
AUG.					
15	am.	Stourbridge, Worcestershire, ENGLAND.	9	A	15: 30.
19	8.20pm.	Dee estuary, Cheshire, ENGLAND.	10	A	22; 52:4-5.
20	c.8.15pm	Bolton, Lancashire, ENGLAND.	41a	A	15:30; 53:2-3.
20	c8.20pm.	Bolton, Lancashire, ENGLAND.	41a	B	15:30-1.
20.	8.25pm.	Croal Valley, near Bolton, Lancashire, ENGLAND	41a	A	15:31.
20	10.40pm.	Enfield, Middlesex, ENGLAND.	46	C	52:4.
21	u	Villiers-en-Morvan, Morvan Mts., FRANCE.	18a	C	32:17-8.
23	c12.25am	Leicester, Leicestershire, ENGLAND.	32a	A	40:11.
SEP.					
4	c7.30pm.	Cook Strait, between North and South Islands, NEW ZEALAND.	46	A	15:23-4.
6	c7.00pm.	SE.Reading, Berkshire, ENGLAND.	5a	A	0.
8	10.20pm.	Cradle Hill, Warminster, Wiltshire, ENGLAND.	46	C	54:3.
11	8.00pm.	Ruffec, Charente, FRANCE.	3a	B	31:12.
11	10.30pm.	Santa Coloma de Queralt, and Villfogona de Riucorp, Barcelona, SPAIN	1c + 56a	A	31:26-8.
12	pm.	Nr.Muldrow, Oklahoma, USA.	46	A	55:6.
13	8.55pm.	Nr.Muldrow, Oklahoma, USA.	46	A	55:6.
c23	5.30am.	Church Gresley, Derbyshire, ENGLAND	46	C	7; 53:3.
24	8.10pm.	Zellik, Brussels, BELGIUM.	32d	A	44:12.
c24	c12.00am	Church Gresley, Derbyshire, ENGLAND.	8a	C	8; 53:3.
26	(early pm.)	Callela, SPAIN.	4	B	44:12.
27	?	Glandore, South Australia, AUSTRALIA.	29	A	44:14.
OCT.					
1	7.15pm.	Bude, Cornwall, ENGLAND.	u	A	54:3-4.
1	9.00pm.	Totland Bay, Isle of Wight, ENGLAND	46	B	56:4-5.
2	10.10pm.	Brixham harbour, Devonshire, ENGLAND	16	C	57:1.
5	c1.00am.	Brandon, Manitoba, CANADA.	11	B	59:6.
5	9.43pm.	Greenhithe, Kent, ENGLAND.	1a	A	15:30.
5	9.55pm.	Over sea off Fort Glanville, South Australia, AUSTRALIA.	11	B	44:14.
6	3.50am.	Turku, FINLAND.	9	A	58:5.
6	8.00pm.	Ruffec, Charente, FRANCE.	1a	B	31:12.
9	?	Makallé, Gran Chaco, ARGENTINA.	* 7	B	31a:27-8
11	c1.45am.	Gaspé Peninsula, Quebec, CANADA.	?32c	C	59:4.
11	2.00am.	Murdochville, Quebec, CANADA.	32c	A	59:4.
11	7.25pm.	Staffin, Isle of Skye, Inverness-shire, SCOTLAND.	32a	A	19:27.
11	c7.35pm.	Waternish, and Portree, Stornoway, and Babyle, Inverness-shire, SCOTLAND.	32a	A	19:27; C

OCT.					
c18	8.55pm.	Martock, and Langport, Somerset, ENGLAND.	8a	A	19:27-46
23	?	Highcliffe, Hampshire, ENGLAND.	u	C	16.
26	(early am.)	Drumoak, Aberdeenshire, SCOTLAND.	47	C	19:28.
26	(early am.)	Nr.Risley, Lancashire, ENGLAND.	17a	C	19:26.
28	c9.20pm.	Cobh, Co.Cork, EIRE.	28	B	19:24.
28	10.15pm.	W.of Mobile, Alabama, USA.	* 8a	A	57:6.
30	3.10am.	Waipukurau airport, North Island, NEW ZEALAND.	1a	A	15:32.
31	3.30am.	Napier, North Island, NEW ZEALAND.	4	A	15:31-2.
31	(night)	Bournemouth, Hampshire, ENGLAND.	8a	C	19:26.
?	c12.00am	Over sea near Alum Bay, Isle of Wight, ENGLAND.	46	B	59:1.
?	9.30pm.	Spalding, Lincolnshire, ENGLAND.	47	B	55:2-3.
NOV.					
3	c4.30pm.	Nr.Windsor, South Australia, AUSTRALIA.	?* u	B	44:14.
c3	(?day)	Nr.Napinke, Manitoba, CANADA.	8a	A	56:6.
5	2.55pm.	Charlestown, Dorset, ENGLAND.	?50	C	18:15.
6	c7.00am.	Pirassununga, São Paulo, BRAZIL.	* 8a	A	29:23-32
9	c11.00pm	Chelmsford, Essex, ENGLAND.	46	C	15:31.
10	(night)	Nr.Withernsea, Yorkshire, ENGLAND.	41a	C	15:31.
c10	4.00am.	Sea off African coast between Cape Town and Walvis Bay, REP.SOUTH AFRICA.	45	C	15:32, iii.
20	7.30am.	Rayleigh, Essex, ENGLAND.	16	A	0.
23	12.30am.	Nr.Kauri Mt., North Island, NEW ZEALAND.	11	A	16:32.
25	?	Koekelberg, Brussels, BELGIUM.	11	C	44:12.
26	(early am.)	East Ham, Essex, ENGLAND.	17a	A	16:18-22 27:1-3.
30	7.30pm.	13 miles SE.of Quincy, Illinois, USA.	41a	A	56:5-6.
?	(early pm.)	Lake Huaypo, N.of Cuzco, PERU.	u	B	30:18-9.
?*	(day)	Puno, W.shore of Lake Titicaca, PERU.	u	B	30:18.
DEC.					
1	c9.40pm.	Between Maitland and Port Victoria, South Australia, AUSTRALIA.	46	C	11:iii.
1	?	Bowen, Queensland, AUSTRALIA.	?* 46	C	26:18.
2	7.30pm.	Voortrekkerhoogte airbase, Pretoria Transvaal, REP.SOUTH AFRICA.	46	C	36:14.
5	7.40am.	Leyton, London E.10, ENGLAND.	u	B	18:16.
5	c8.05am.	Walthamstow, Essex, LONDON.	46	C	16:31.
7	?	Windsor, South Australia, AUSTRALIA.	2	A	5:14; 44:14.
26	9.00pm.	Montmere, Sedgefield, REP.SOUTH AFRICA.	1a	C	36:14.
30	c17.50pm.	Wrawby, Lincolnshire, ENGLAND.	9	C	39:1.
?	(night)	Gulf of Santa Catarina, nr.Itajaí, Santa Catarina, BRAZIL.	18a	A	30:18.
Spring (exact dates and times unnoted, but once at 2.00pm.)		"S.H." Farm, Clayton County, Iowa, USA.	* 8a	A	34:7-8.

* Performance repeated on several unnoted dates in November.

KEY TO REFERENCES.

References given in the foregoing list should be used as follows. The first figures refer to publications, and the second, separated from the first by colons, to the appropriate pages in the publications. Semicolons separate different references if more than one is given for a particular sighting. The letter 'O' signifies previously unpublished original reports. Many of the references cited, for example those in "Ufolog", also provide further information on primary sources not recorded here. References consulted by us were:-

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21.	Halifax Courier: 5.5.69.	55.	" ". , no:65, 1969.
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25.	Opus cit., 2.7.29.	59.	" ". , no:74, 1970.
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Our best thanks are again due to CONTACT (UK) and to numerous individuals for opportunities of examining and analysing the many unpublished ufo reports in their files. In due course we hope to publish full accounts of these sightings, and such drawings as accompany them.

NEW UFO TYPES DURING 1969.

New types of ufos reported during 1969, additional to those previously coded by Data Research (UFO REGISTER, vol.i, pt.2, pp.5-6) included the following forms.

6b. Rugbyball shaped, with small lateral fins.
11a. Oval: body bisected transversely by a bar-like structure.
24a. Inverted Mushroom-shaped.
46a. Tailed globular lights: may be identical to type 49.
56a. Bi-globular: of small size.
75. Urn-shaped.
76. Skate (fish) shaped: possibly a variant of type 22.
77. Slug-shaped: has vertical tail fins of small size.

TEMPORAL DISTRIBUTION.

The table below summarizes the distribution of ufos during 1969 over a normal 24-hour day, indicating that, as noticed for other years, more ufos are seen between 6 pm. and midnight than at any other period. It is to be regretted that not all reports, some of them otherwise of great interest, contain adequate details of the times of the sightings described.

Category.	Midnight to 6 am.	6 am. to Noon	Noon to 6 pm.	6 pm. to Midnight.
A	24	9	7	58
B	8	6	4	32
C	6	7	4	25

MATERIALIZATIONS & DEMATERIALIZATIONS.

Ufo manifestations are undoubtedly connected with the now well-known phenomena of materialization and dematerialization, and several observations of these amazing feats, especially of the latter, were made during 1969. The following table summarizes them.

Category.	Materializations.	Dematerializations.
A	4	- 20
B	2	9
C	-	8

Once again, many ufos were observed to suddenly "flip over" or "reorient" themselves immediately before dematerializing, a performance produced by both moving and stationary ufos. A few dematerializations were reported as "slow fade-outs", although the majority were described as being very abrupt. All cases were noiseless.

MOTIONS AND SPEEDS.

Ufo speeds and motions recorded during 1969 varied enormously, as disclosed in the summary below. The speeds, of course, are those estimated by the original witnesses, and are classified here as in the first issue of the UFO REGISTER (vol.i, pt.i, p.11).

Sequences.	Categories. A.	B.	C.
Hovering or stationary.	14	16	10
Hovering and wobbly, then slow.	1	-	-
Hovering and spinning, then fast.	1	-	-
Hovering, then slow:(straight course).	6	2	2
Hovering, then slow:(curved or circular course).	1	-	-
Hovering, then slow, then erratic and spinning, then fast	1	-	-
Hovering, then slow, then hovering, then slow, then moderately fast and undulatory.	1	-	-
Hovering, then slow, then fast.	1	-	-
Hovering, then erratic.	1	-	-
Hovering, then erratic (several times alternately).	1	-	-
Hovering, then erratic, then hovering, then slow.	-	1	-

Sequences.	A.	B.	C.
Hovering, then erratic, then hovering, then erratic, then hovering, then fast.	1	-	-
Hovering, then erratic, then fast.	1	-	-
Hovering, then jerky, then moderately fast.	-	1	-
Hovering, then jerky and undulatory.	1	-	-
Hovering, then moderately fast.	-	-	1
Hovering, then moderately fast, then fast.	-	-	1
Hovering, then fast:(straight course).	11	8	1
Hovering, then fast:(curved or circular course).	-	1	-
Hovering, then fast and spinning.	1	-	-
Hovering and undulatory, then fast.	-	1	-
Slow.	6	2	5
Slow, then hovering, then slow.	1	-	1
Slow, then hovering, then slow, then hovering, then slow.	-	1	-
Slow, then moderately fast.	1	-	-
Slow, then fast.	-	-	1
Moderately fast:(straight course).	9	4	6
Moderately fast:(curved or circular course).	1	-	1
Moderately fast (curved), then moderately fast (straight).	-	-	1
Moderately fast (straight), then moderately fast (curved).	-	-	1
Moderately fast and undulatory.	-	-	1
Moderately fast and undulatory, then fast.	1	-	-
Moderately fast and wobbly, then fast.	-	-	1
Moderately fast, then fast and wobbly.	-	-	1
Moderately fast and spinning.	-	1	-
Moderately fast, then fast and spinning.	1	-	-
Moderately fast, then fast:(straight course).	5	1	-
Moderately fast, then fast:(curved or circular course).	1	-	-
Moderately fast, then fast - spinning and fluttering.	1	-	-
Moderately fast, then hovering.	4	1	2
Moderately fast, then hovering with simultaneous yo-yo action.	1	-	-
Moderately fast, then hovering, then slow, then hovering, then slow.	1	-	-
Moderately fast, then hovering, then moderately fast.	1	-	-
Moderately fast, then hovering, then fast (straight).	2	-	-
Moderately fast, then hovering, then fast (curved).	-	-	1
Moderately fast, then zigzag.	-	-	1
Moderately fast, then erratic.	-	-	1
Fast:(straight course).	21	7	14
Fast:(curved or circular course).	-	-	1
Fast, with simultaneous slow tumbling motion.	1	-	-
Fast and spinning.	-	1	-
Fast and undulatory, then moderately fast and spinning.	1	-	-
Fast, then hovering, then fast.	2	-	-
Fast, then moderately fast, then fast.	-	1	-
Fast, then moderately fast.	1	-	-
Fast, then erratic.	-	1	-
Erratic, then fast.	3	2	2
Erratic, then hovering, then fast.	1	-	1
Erratic, then moderately fast, then fast.	-	1	-
Jerky ascending spiral motion.	1	-	-
Abrupt reversal of direction at fast speed.	2	-	1
Complicated rectilinear flight patterns, with spasmodic hoverings.	1	-	-

The fastest speeds observed were subsequently described as "jet-speed", "terrific", and "colossal", and the objects performing them as "racing" or "streaking" across the sky. Some slower moving ufos were described as "gliding along" or "falling" through the sky. The fastest speeds seem generally to be equated with white or green [illegible] ufos. Slower or hovering ufos were often red or orange.

COLOURS, COLOUR-SEQUENCES & EMISSIONS.

Ufo colours reported during 1969 were as follows.

Category.	White	Yellow	Golden	Orange.	Orangy-red	Red	Pink	Blue	Purple	Brown	Green	Silver	Grey	Black	Metallic
A	13	7	2	10	-	11	1	5	1	1	2	7	2	1	2
B	14	1	-	2	-	7	-	3	-	-	-	8	1	-	1
C	6	1	1	3	1	8	-	-	-	-	-	4	1	-	-

Many of the above colours, and also the following colour combinations, were described as fiery, glowing or luminous, and were sometimes compared to neon or flourescent lights. Flickering and pulsating effects were frequently reported, especially in connection with objects described as globular lights.

Sequences.	A	B	C
White/grey.	-	-	1
White/grey (repeated 4 times).	-	1	-
Whitish-grey/yellow.	1	-	-
White/green.	-	-	1
White/green/red/white.	1	-	-
White/red.	1	1	-
Whitish-orange/orangy-red.	-	-	1
Cream/red.	-	1	-
Yellow/green.	1	-	-
Yellow/blue.	-	1	-
Yellow/blue/green.	1	-	-
Yellow/red.	1	-	-
Yellow/orange.	-	1	-
Gold/blue.	1	-	-
Orange/yellow.	1	-	-
Orange/red/green.	-	-	1

Sequences.	A	B	C
Orange/blue.	1	-	-
Red/orange.	1	-	-
Red/pink/white.	1	-	-
Red/white.	2	-	-
Red/white/blue.	1	-	-
Red/green/blue.	1	-	-
Red/green.	-	1	-
Red/blue.	-	1	1
Blue/silver.	1	-	-
Blue/white.	1	1	-
Blue/orange.	1	-	-
Blue/green.	-	-	1
Blue/green/gold.	1	-	-
Greenish-white/red.	1	-	-
Black/silver.	1	-	-

Several ufos were reported as having been encircled by variously coloured halos, effects which should not be confused with the lights frequently carried by these craft, or with the rays or beams sometimes emitted by them. Noiseless emissions in this latter category (including noiseless explosions) are summarized below.

Category.	Rays.	Trails.	Flashes.	Sparks.	Exhausts: Flames.	Exhausts: Smoke.	Noiseless Explosions
A	5	4	4	1	8	4	2
B	5	4	3	1	1	2	-
C	3	-	1	1	-	3	-

Noises allegedly emitted by ufos during 1969 included the following. The total of noiseless ufos is added for comparison.

Category.	Cricket-like.	Throbbing.	Thumping.	Whooshing.	Hissing.	Buzzing.	Humming.	Whining.	Rattling.	Roaring.		Noiseless ufos.
A	1	-	-	1	1	2	3	3	-	2	A	43
B	-	1	-	-	1	-	-	1	1	-	B	11
C	-	-	1	-	-	1	-	-	-	-	C	13

One category A object was also reported to have made a "loud bang" (exact kind of noise unspecified), while an immense and brilliant aerial explosion, of 5 seconds duration, over Côtes du Nord, Ille-et-Vilaine, and Guernsey, on 13th March was an event of particular interest (see Phénomènes Spatiaux, no:26, pp.8-12).

SIMULTANEOUS UFO OCCURRENCES.

As noted previously, 1969 saw a general increase in the number of occasions on which more than one ufo was observed simultaneously. The dates, localities, and ufo types involved --- of which the most frequently sighted were types 8a and 46 --- are listed below.

Date.	Locality/ies.	Ufo type/s.	No:seen.	Category.
7.1.69.	Niigata and Osaka.	46a	20	C
7.1.69.	Aomori coast.	46a	7	A
25.1.69.	Crosby.	46	3	C
1.2.69.	East Stoke.	46	7	C
11.2.69.	Hildenborough.	46	2	A
12.3.69.	Artichoke River.	46	2	A
17.3.69.	Aenekoski.	1a and 17a	2	A
19.3.69.	Malataverne.	18a and 75	2	A
20.3.69.	Nr.St.Louis.	46	2 (?3)	A
22.3.69.	Armadale.	11	7	A
5.4.69.	Red Rice.	46	1, then 2	B
16.4.69.	Thurmaston.	10	2	B
6.5.69.	Le Champ du Feu.	?5a	3	A
14.5.69.	Teyateyateng.	30 (1 of) + 3 undescr'd	4	B
18.5.69.	Blackwater.	8a	2	A
27.5.69.	W.of Caltowie.	46	2	A
31.5.69.	São Paulo.	8a	2	A
? .5.59.	Texas (unlocalized).	4 and 43	2	B
5.6.69.	Enfield.	Undescribed	1, then 2	B
28.6.69.	Watford Heath.	46	4	B
4.7.69.	Nr.Darlington.	46	3	A
6.7.69.	Tunisia (unlocalized).	8a	2	A
15.7.69.	Sherston.	46	2	A
17.7.69.	Nr.Glasgow Airport.	1a	1, then 2	A
18.7.69.	Nr.Talybont.	8a	2	A
18.7.69.	Fort Gibson Lake.	46	10-20	A
21.7.69.	Chevigny-Fenay.	8a	2	B
22.7.69.	Yarmouth.	46	3	A
? .7.69.	The Solent.	9	1, then 2	B
20.8.69.	Enfield.	46	2	C
11.9.69.	Santa Coloma de Queralt.	1c and 56a	"many"	A
24.9.69.	Zellik.	32d	1, then 2	A
1.10.69.	Totland Bay.	46	3	B
5.10.69.	Brandon.	11	2	B
5.10.69.	Greenhithe.	1a	7-10	A
5.10.69.	Off Fort Glanville.	11	2	B
23.10.69.	Clacton-on-Sea.	46	4	B
? .10.69.	Nr. Alum Bay.	46	?2	B
20.11.69.	Rayleigh.	16	2	A
? .11.69.	Lake Huaypo.	"various"	"several"	B
? .11.69.	Puno, W.of Lake Titicaca.	"various"	"several"	B

The various objects observed over Pic Saint-Loup, on and around February 9th., should also be considered with the above cases.

DISRUPTIVE EFFECTS.

The following tables summarize the various disruptive effects on terrestrial installations and mechanical equipment attributed to ufos during 1969. As shown, authenticated instances were uncommon.

Transient Effects:

Category.	Engine Failure (vehicles)	Light Failure (buildings and vehicles)	Compass reorientation.	Interferences: TV.	Interferences: Radio	Interferences: Watches.
A	6	2	1	2	-	1
B	2	-	-	-	-	-
C	-	-	-	1	1	-

Permanent Effects:

Category.	Scorching.	Melting or Burning.	Damage to Buildings.	Vegetation damage.
A	1	-	1	3
B	-	1	-	-
C	1	-	-	-

Particularly interesting was the mysterious activation by a sphere-like (type 8a) ufo of the engines (both with disconnected batteries) of two parked cars at "Las Francas", near Chillan, on 2nd February. How this was achieved is still unsolved.

ANIMAL AND HUMAN REACTIONS.

As shown below, reactions of human witnesses suddenly confronted with ufos during 1969 varied considerably, the temporary immobilizations listed being, in all probability, aspects of fright rather than reactions to invisible force-fields.

Fright or Fear.	15.	Panic or Flight.	1.	Temporary Immobility.	2.
Amazement.	1.	Bewilderment.	1.		
Excitement	1.	Curiosity.	1.		

Reported animal reactions during 1969 seem to have been confined to dogs and sheep, although other animal types were probably among those allegedly "excited" by the appearances of luminous scarlet-balls near Ibiuna, Brazil, on several nights in March and April (v.F.S.R., vol.16, no:1, p.15). The known cases are as follows.

	Fear or Panic.	Restlessness.	Excitement.
Dogs.	2	5	1
Sheep.	-	-	1

OBSERVER STATISTICS.

During 1969, as in other years, numerous reports were submitted in which the numbers of eyewitnesses present were expressed in very arbitrary terms, such as "many", "dozens", "hundreds", etc., or which failed altogether to indicate precisely the number of observers present. It is, therefore, possible only to estimate the total number of persons who saw ufos during 1969; this is put at approximately 500. The following table, based on all available data, details the ages and sexes of the eyewitnesses involved. Races are undifferentiated.

	Males		Females		Sex Unrecorded	
Ages (in years).	P*	S*	P*	S*	P*	S*
0 - 15	6	5	3	4	-	-
16 - 30	9	2	3	-	-	-
31 - 45	3	-	3	1	-	-
46 - 60	1	-	-	-	1	-
61 - 75	2	-	-	-	-	-
over 75	-	-	1	-	-	-
Age unspecified.	138	45+	51	57	41+	126+

* P = primary witness; S = secondary witness.

Although it has not been possible to establish the occupations of all ufo witnesses, the information presently available - shown below - indicates that a thoroughly representative cross-section of the community saw ufos during 1969.

Government Employees.	2	Craftsmen.	1.	Doctors.	1
Military Personnel.	4	Artists.	2	Nurses.	3
Policemen.	14	Photographers.	2	Judges/Lawyers.	1
Securitymen.	3	Haidressers.	1	University staff.	1
Coastguards.	4	Shopkeepers.	2	Teachers.	3
Meteorologists.	3	Publicans.	1	Students.	7
Astronomers.	3	Labourers.	2	Schoolchildren.	14+
Merchant Seamen.	7+	Gardeners.	1	Housewives.	41+
Firemen.	3	Clergymen.	1	Deliverymen.	3

Civil Airport Staff and Airline Pilots.	7	Factory and Plant workers.	8	Lorrydrivers.	6
Engineers.	5	Quarriers and brickpit-men.	2	Farmers and farm workers.	7
Mechanics.	3	Retired persons.	2	Other professionals. (? occupations)	2
Technicians.	1				

Even a rapid glance at these figures shows that the largest observer groups (policemen, schoolchildren, and housewives) consist of persons who normally spend a high percentage of their time out of doors, being, therefore, well placed to view such ufos as appear. The largest of the remaining groups also tend to be associated with out-door activities not infrequently necessitating special (even constant) awareness of meteorological conditions. The wide range of occupations represented also confirms that all sections of the community see and report ufos, and that they are not primarily phenomena peculiar to individuals susceptible to hallucinatory or other psychological disturbances.

Finally, optical aids used by eyewitness during 1969, additional to those listed in the first issue of the UFO REGISTER (vol.i, pt.1, p.14), were as follows.

Category.	Binoculars.	Telescopes.	Radarscopes.
A	6	3	1
B	8	4	-
C	3	1	-

Although not large, these figures show that a total of 43 objects (the 26 listed above, plus 17 recorded in the first issue of the UFO REGISTER) were considered by observers to be sufficiently interesting or abnormal as to merit the use of magnifying aids. This, in itself, is a point of considerable significance.

1970: GENERAL ANALYSIS.

In general 1970 was not a particularly outstanding year for ufo activity, although many more observations and reports were made than was commonly believed at the time --- as the subsequent catalogue amply demonstrates. Certainly, the various published statements (sometimes in the ufo literature itself) to the effect that people no longer saw ufos and that ufology was defunct, were simply not true.

Despite being a rather uneventful year, 1970 produced at least two highly important ufo manifestations. These were at Cowichan Hospital on January 1st., and at Imjärvi on January 7th. Also of more than passing interest were the series of observations made in the Alsace (Haut-Rhin) region of France during the second half of April, and the tendency for ufos to appear over many separate localities, often widely sundered, on the same day. Dates on which this pattern seems to have occurred include Jan.7th., Feb.3rd., Mar.9th., May 18th., Jul.26th., Oct.5th., and Oct.29th.

As in 1969, authenticated landings or encounters with ufonauts were not numerous, whereas simultaneous appearances of more than one ufo at specific localities increased appreciably. Nonetheless, the amazingly diminutive ufonauts allegedly seen at close quarters on August 20th at Bukit Mertajam, Malaya, are of particular interest.

Worthy of special study were the intelligently controlled beams of non-dispersive light observed some 12 miles E.of Duval, Saskatchewan, and near Barnet, Hertfordshire, on March 23rd and on an unnoted date in July respectively. Both these incidents recall another (as yet unpublished but which will be described in the next issue of the UFO REGISTER) which occurred in 1968, and all may be an aspect of ufology which, although previously recorded many years ago by Charles Fort, has been exceptionally rare during recent decades. The purpose of light-beams of this type, emanating from invisible sources, is unknown.

Dates.	Times.	Localities.	UFO Types.	UFO Categories.	References. (see pp.24-25 for key to numbers)
JAN.					
1	12.03am.	Walthamstow, Essex, ENGLAND.	1a	A	44:12.
1	c5.0pm.	Cowichan Hospital, Cowichan, Victoria, British Columbia, CANADA.	* 4	A	17:22-3; 33:20-1; 54:4-5.
1	7.0pm.	Mill Bay, Duncan, British Columbia, CANADA.	u	C	17:23; 54:5.
2	c8.20am.	Much Birch, Herefordshire, ENGLAND.	8a	B	44:16.
2	2.35pm.	Leytonstone, London, ENGLAND.	11+32b	A	0
6	8.53am.	Watford, Hertfordshire, ENGLAND.	17a	A	44:13.
6	c8.30pm.	Maple Bay and Crofton, British Columbia, CANADA.	u	C	39:13.
6	?pm.	Straight of Georgia, Duncan, British Columbia, CANADA.	45	B	39:13.
7	1.30pm.	Hakodate Harbour, Hokkaido, JAPAN.	u	C	45:19.
7	4.45pm.	Imjärvi, Paaso, and Paistjärvi, Mikkeli, FINLAND.	* 4	A	17:23-4; 18:31-2; 19:14-8; 20:22.
7	?pm.	Duncan, British Columbia, CANADA.	10	A	39:13.
22	8.0am.	Cheriton, Folkestone, Kent, ENGLAND.	47	B	23.
26	11.20pm.	Southampton Water, Hampshire, ENGLAND.	45	B	17:22.
27	am.	Abergavenny, Monmouthshire, WALES.	8a	B	0
27	4.28pm.	North of Tucson, Arizona, USA.	1a	A	57:2-3.
30	9.30pm.	Nr.Mrewa, RHODESIA.	1a	B	8:15; 19:iii; 40:15.
FEB.					
3	c12.0am.	Chatham, Ontario, CANADA.	4	A	39:14.
3	12.10am.	South Woodford, Essex, ENGLAND.	8a	B	0
3	6.25am.	Harbourne, Warwickshire, ENGLAND.	8a	B	22:14; 44:13.
3	4.15pm.	Buxton, Derbyshire, ENGLAND.	46	C	55:3.
3	7.0pm.	Leamington Spa, Warwickshire, ENGLAND.	47	B	44:13-4.
3	c7.0pm.	Whitnash, Warwickshire, ENGLAND.	14a	B	44:14.
3	7.30pm.	Durban, Natal, REP.SOUTH AFRICA.	8a	C	41:10-1.
3	8.41pm.	Woodford, Essex, ENGLAND.	11	C	64.
3	9.0pm.	Balsall Heath, Warwickshire, ENGLAND.	47	B	22:14.
4	3.0pm.	The Bluff, Durban, Natal, REP. SOUTH AFRICA.	u.	B	40:13.
10	8.30pm.	Coyote Point, San Mateo, California, USA.	?4	A	39a:17.

FEB.					
6	7.45am.	Ive Farm, Leyton, London, ENGLAND.	u	B	0
6	7.45am.	Wanstead, London E.11, ENGLAND.	9	C	0
6	8.25pm.	Sacramento, California, USA.	u	A	57:3.
9	5.30pm.	Stechford, Warwickshire, ENGLAND.	64	C	54:3.
10	10.30pm.	Sandgate, Kent, ENGLAND.	11	A	0
11	7.45am.	Abbey Wood, Kent, ENGLAND.	47	C	44:14.
11	3.0am.	Foreness Point, Kent, ENGLAND.	10	A	0
11	9.30pm.	Canning Town ("Tate and Lyle" factory), London, ENGLAND.	17a	B	7:10; 17:22; 46.
13	9.30pm.	Paulsgrove, Portsmouth, Hampshire, ENGLAND.	46	B	44:14-5.
14	11.50pm.	La Salinas, Bahia Blanca, ARGENTINA.	13a	B	19:32 & iii; 25a
20	8.0pm.	Billericay, Essex, ENGLAND.	47	C	44:14.
25	6.45am.	Higham Park, London E.4, ENGLAND.	2	B	63.
28	?	Nr.Culbertson, Nebraska, and near Colorado Springs, Colorado, USA.	4	C	39a:17.
?	pm.	Peakgate Road area, Chester, Cheshire, ENGLAND.	4	C	53:5.
MAR.					
1	10.35pm.	Porto Alegre, Rio Grande do Sul, BRAZIL.	46	B	34:17-9.
3	7.22am.	Alexandra Palace, London, ENGLAND.	17a	B	53:2.
5	10.20pm	Chichester, Hampshire, ENGLAND.	u	C	62:1-2.
9	7.45pm.	Exmouth, Devonshire, ENGLAND.	10(=8?)	B	16.
9	7.45pm.	Exmouth and Star Cross, Devonshire, ENGLAND.	8a	C	14.
9	7.50pm.	Exeter, Devonshire, ENGLAND.	8a	C	14.
9	7.50pm.	Shefford, Bedfordshire, ENGLAND.	16	C	0
9	7.50pm.	Nr.Leicester, Leicestershire, ENGLAND.	47	C	53:3-4.
9	9.15pm.	Honiton, Devonshire, ENGLAND.	46	C	14.
9	11.15pm.	Cork, Co.Cork, EIRE.	1a	A	44:15.
10	10.30pm.	Berchem Sainte Agathe, BELGIUM.	32a	A	57:3.
10	?	Launceston, Cornwall, TASMANIA.	11	C	31:18.
11	11.30pm.	Shallow Bay, Ontario, CANADA.	27a	A	39:14.
12	c3.15am.	Leicester, Leicestershire, ENGLAND.	8a	B	53:3-4.
13	11.05pm.	Horsell, Woking, Surrey, ENGLAND.	46	B	54:2-3.
13	?	Geelong, Victoria, AUSTRALIA.	46	C	31:18.
15	7.05pm.	Durban, Natal, REP.SOUTH AFRICA.	1a	A	41:10.
18	c7.0pm.	Salisbury and Belvedere, RHODESIA.	u	B	20:31.
19	?	Salisbury, Belvedere, and West Belvedere, RHODESIA.	u	B	41:11.
21	10.0pm.	Scranton, Pennsylvania, USA.	u	C	39a:17.
22	8.00pm.	Loughton, Essex, ENGLAND.	u	C	0
23	c9.0pm.	12 miles E.of Duval, Sascatchewan, CANADA.	65	B	39:14.
24	?	Nr.Balltown, Iowa, USA.	* 4	B	39a:17.
26	7.25pm.	Annan, Ontario, CANADA.	4	C	39:14.
26	?	Amarillo, Texas, USA.	u	C	39a:17.
27	7.50pm.	Chandlersford, Hampshire, ENGLAND.	19 + 8a	A	55:1-2.
28	11.02pm.	Starr Hill, Warminster, Wiltshire, ENGLAND.	11	B	18:4-7; 20:7-8.
28	9.05pm.	Cabo Frio, Rio de Janeiro, BRAZIL.	46	B	58:4.
APR.					
1 or 2	c9.0pm.	Enstone, Oxfordshire, ENGLAND.	11	A	0
9	?	Nr.Squamish, Brackendale, British Columbia, CANADA.	u	B	39:14.
13	?	Mar del Plata, Buenos Aires, ARGEN.	4	C	38:19.

APR.					
14	2.30am.	Campbell River, British Columbia, CANADA.	47	C	39:14.
17	?	Mar del Plata, Buenos Aires, ARGENTINA.	2	B	0
18	8.30pm.	Folkestone, Kent, ENGLAND.	?5a	B	0
18	10.20pm.	Mildura, Victoria, AUSTRALIA.	4	C	39a:17.
19	c12.10am	Squamish, British Columbia, CANADA.	u	B	39: 15.
20	9.0pm.	Nr.Mulhouse, Haut-Rhin, FRANCE.	3a	C	33:30.
20	9.52pm.	Sheffield, Yorkshire, ENGLAND.	8a	A	0
20	10.30pm.	Wittelsheim, Haut-Rhin, FRANCE.	11	A	33:31.
20	pm.	Mulhouse, Haut-Rhin, FRANCE.	22	B	33:31-2.
22	?	Nr.Blytheville, Arkansas, USA.	4	B	39a:17.
24	10.30pm.	Nr.Mulhouse, Haut-Rhin, FRANCE.	1a	A	33:30-1.
26	8.30pm.	Mulhouse, Wittelsheim, Ensisheim, and Guebwiller, Haut-Rhin, FRANCE.	46	C	33:30-1.
MAY					
3	c11.30pm	Hall Green, Warwickshire, ENGLAND.	8a	B	8:4.
7	c2.03pm.	Maraenui, nr.Napier, North Island, NEW ZEALAND.	17a	A	58:3.
16	1.0am.	Baden-Baden, Baden-Württemberg, GERMANY.	1a + 17a+45	A	35:30.
17	2.0am.	Tufnell Park, London N.7, ENGLAND.	44a	A	0
17	?	15 miles S.of Salem, Oregon, USA.	10	C	0
18	1.30am.	Bishop Monkton, nr.Ripon, Yorkshire, ENGLAND.	?5b	A	0
18	1.30am.	Nr.Château d'Arceau, Côte-d'Or, FRANCE.	18a	A	26.
18	c8.30pm.	Nr.Tewkesbury, Quebec, CANADA.	66	C	39:15.
18	10.40pm.	Shelbourne, Ontario, CANADA.	4	A	39:15.
18	11.00pm.	Nr.Tewkesbury, Quebec, CANADA.	u	C	39:15.
18	11.30pm.	Stoneham, Quebec, CANADA.	1a or 8a	B	39:15.
19	3.00am.	Stoneham, Quebec, CANADA.	8a	A	39:15.
c19	?	Montignac-sur-Vézère, Dordogne, FRANCE.	4	C	27.
21	?	Folkestone, Kent, ENGLAND.	43		0
22	10.30pm.	Nr.Corinda, New South Wales, AUSTRALIA.	46	C	31:20.
26	?	Tampa, Florida, USA.	u	C	39a:17.
28	(night)	Scarborough and Scarborough Bluffs, Ontario, CANADA.	u	A	39:15.
28	?	Adelaide, South Australia, AUSTRALIA.	46	C	31:18.
29	10.30pm.	Little Lake Park and Wyebridge, nr.Midland, Ontario, CANADA.	26	B	39:15.
30	(night)	S.E.of Turriff, Aberdeenshire, SCOTLAND.	11	B	1
?	pm.	Carl Nygren Farm, Gwynne, Alberta, CANADA.	46		39:15.
?	9.00pm.	Durban, Natal, REP.SOUTH AFRICA.	u	C	10.
?	c9.00pm.	Nr Greyville and The Bluff, Durban Natal, REP.SOUTH AFRICA.	46	C	42:18a.
JUN.					
2	10.0pm.	Nr.Little Lake Park, Midland, Ontario, CANADA.	46	B	39:15.
3	11.0pm.	Wadena, Saskatchewan, CANADA.	8a	B	39:15.
5	c12.0am.	Clydach, Glamorganshire; Cwmbran, Monmouthshire; Aberystwyth, Cardiganshire; Wexford, EIRE; Skerries, Co.Dublin, EIRE.	11	B	57:1-2.
14	1.35am.	Shepstone, Natal, REP.SOUTH AFRICA.	4	A	0

JUN.					
14	9.20pm.	New Plymouth, North Island, NEW ZEALAND.	8a	A	0
16	4.00am.	Hampstead, London NW 3, ENGLAND.	46	B	22:2-4.
18	4.00pm.	Cromarty, Ross & Cromarty, SCOTLAND.	11	B	0
?	5.05pm.	Bulawayo, RHODESIA.	8a	C	4:1-2.
JUL.					
1	1.30pm.	Danvers, Illinois, USA.	46	B	58:3-4.
1	c10.05pm	Nr.Rea's Bridge, NE.of Decatur, Illinois, USA.	67	A	56:5.
2	9.58pm.	Cirencester, Gloucestershire, ENGLAND.	17a	C	56:1-2.
3	11.35pm.	Victoria, British Columbia, CANADA.	46	C	38:19.
4	c12.10am	Folkestone, Kent, ENGLAND	68	A	22:5-6; 32:10; 45.
9	5.0pm.	Pearston Walsingham, Cape Province, REP.SOUTH AFRICA.	6	C	42:18a-b
12	?	W.of Chicoutimi, Quebec, CANADA.	30	C	39:16.
13	8.05pm.	Tamworth, New South Wales, AUSTRALIA.	18a	B	57:5.
15	10.45pm.	Lobo, Quebec, CANADA.	42	B	39:16.
17	10.45pm.	Folkestone, Kent, ENGLAND.	1a	C	0
19	2.30pm.	Umkomas, Natal, REP.SOUTH AFRICA.	10	C	42:18a.
19	?	Durban, Natal, REP.SOUTH AFRICA.	10	C	32:10.
21	5.25am.	Otto's Bluff, Natal, REP.SOUTH AFRICA.	11	B	28; 42:18b.
21	11.00pm.	Rotherham, Yorkshire, ENGLAND.	47	B	0
22	(night)	Villa Andalucia, PUERTO RICO.	4	B	20:31.
23	11.06am.	Penanporth, Cornwall, ENGLAND.	16	B	0
24	pm.	Dunkettle, Glanmore, Co.Cork, EIRE.	11	B	56:2.
25	c9.00pm.	10 miles S.of Sedalia, Missouri, USA.	8a	B	57:5.
26	c1.00am.	Same locality.	46	B	57:5.
26	10.35pm.	Centre Island, Toronto Harbour, Ontario, CANADA.	43	A	39a:6.
26	11.40pm.	Luton, Bedfordshire, ENGLAND.	46	A	56:2.
28	10.05pm.	Exeter, Devonshire, ENGLAND.	u	C	15.
28	c10.15pm	Between Bletchley and Eversholt, Bedfordshire, ENGLAND.	46	C	56:2-3.
29	c9.32pm.	Between Orlando and Apopka, Florida, USA.	11	A	58:2-3.
30	c9.10pm.	Decatur, Illinois, USA.	69	B	57:5.
?	(night)	Barnet, Hertfordshire, ENGLAND.	65	C	0
AUG.					
3	9.30pm.	Trois Rivieres, Quebec, CANADA.	49	C	39:16.
4	c8.50pm.	Ville St.Leonard, Quebec, CANADA.	46	C	39:16.
4	8.57pm.	Candiac, Quebec, CANADA.	46	C	39:16.
5	11.00pm.	Bensfort Bridge, nr.Bailieborough, Ontario, CANADA.	46	B	39:16.
11	8.45pm.	Pinetown and New Germany, Natal, REP.SOUTH AFRICA.	u	C	42:17.
12	1.30am.	Oldham, Lancashire, ENGLAND.	8c	C	0
12	c10.50pm	Nr.Rainham, Essex, ENGLAND.	17a	B	56:3.
13	c9.00pm.	Chingford, Essex, ENGLAND.	17a	C	61:4.
13	10.50pm.	c10kms.N.of Haderslev, Haderslev Amt, DENMARK.	11	A	22:7-8; 35:15-9.
16 or 17	4.45pm.	Puits-d'Edme, Joux-la-Ville commune nr.d'Avallon, Yonne, FRANCE.	70	A	35:19-22
20	c6.30pm.	Bukit Mertajam, Penang Island, Penang, MALAYA.	* 4	A	20:29-30.

AUG.					
c20	9.20pm.	Stavalia, nr.Kristiansand, NORWAY.	25	A	0
c24	9.00pm.	Tronstad Hill, nr.Kristiansand, NORWAY.	25	A	0
28	9.40pm.	Folkestone, Kent, ENGLAND.	?6	C	0
28	11.00pm.	White Horse Hill, Hawkinge, Kent, ENGLAND.	u	C	0
29	?	Islington, London, ENGLAND.	46	B	61:5.
30	9.30pm.	Nr.Funil Dam, Itatiania, Rio de Janeiro, BRAZIL	u	C	19:23-4; 35:23.
31	10.15pm.	Banff, Alberta, CANADA.	?8a	B	39:16.
31	(night)	Champaign, Illinois, USA.	46	C	58:5.
SEP.					
2	c7.45pm.	La Souterraine, Creuse, FRANCE.	32b	B	22:10-1.
3	c3.57am.	Nr.La Souterraine, Creuse, FRANCE.	8a	B	22:9-12.
4	(night)	Dennison's Farm, Hamilton, Illinois USA.	1a	B	58:3-4.
5	c9.0pm.	Bushnell, Illinois, USA.	46	B	58:5-6.
8	1.35am.	Kettering, Northamptonshire, ENGLAND.	6	B	0
9	6.20pm.	Trenton, Ontario, CANADA.	46	C	39:16.
11	7.45pm.	Folkestone, Kent, ENGLAND.	41a	B	0
12	11.00pm.	Boscombe, Hampshire, ENGLAND.	17a	A	0
15	8.00pm.	Between Cathcart and Stutterheim, Orange Free State, REP.SOUTH AFRICA	49	B	11.
15	10.30pm.	London, ENGLAND.	10	C	57:2.
17	6.30pm.	Bulawayo, RHODESIA; Pretoria, Transvaal, REP.SOUTH AFRICA.	14b	A	4:2; 28.
20	1.15am.	Waiwera, South Island, NEW ZEALAND.	u	B	21:32.
22	9.05pm.	Goring-on-Sea, Sussex, ENGLAND.	27b	B	0
25	8.20pm.	Banff, Alberta, CANADA.	* 1c	C	39:17.
28	8.25pm.	Upminster, Essex, ENGLAND.	u	C	36.
29	7.30pm.	Winton, nr.Bournemouth, Hampshire, ENGLAND.	8a	B	2.
?	6.15pm.	Holstein, Ontario, CANADA.	32c	C	39:16.
?	c.10.0pm.	Nr.Okavango Swamp, BOTSWANA.	?* 46	C	43:14.
OCT.					
1	c6.30pm.	Mitcham Common, S.London, ENGLAND.	11	B	61:5.
?*	?	Between Maun and Francistown, BOTSWANA.	*17a	B	43:14.
4	c4.15pm.	Nr.Eastleigh, Hampshire, ENGLAND.	11	C	3.
4	11.45pm.	Rhuddlan, Flintshire, WALES.	47	A	37.
5	c3.00am.	Nr.Kahoka, Missouri, USA.	1a	A	58:4.
5	4.30am.	12 miles N.of Rolla, Missouri, USA.	?1a	A	58:6.
5	6.10am.	Truro, Nova Scotia, CANADA.	u	B	20:29.
5	6.10am.	Sheerwater, Nova Scotia, CANADA.	1a	C	39:17.
5	c7.15am.	Truro, Nova Scotia, CANADA.	u	B	39:17.
6	8.45pm.	Kent, nr.Dodge, Ohio, USA.	8a	A	6:2.
6	9.00pm.	West Akron, Ohio, USA.	?9	B	6:2.
8	8.30pm.	Northampton, Ohio, USA.	32b	B	6:2-3.
9	12.00am.	Camp Butler, Pennsylvania, USA.	1a	B	6:3.
9	c9.15pm.	Hillcrest, Natal, REP.SOUTH AFRICA.	4	A	42:6.
9	(night)	Ilkeston, Derbyshire, ENGLAND.	1a	C	59:2.
11	2.15am.	Between Bay City and Caro, Michigan USA.	1a	A	58:4-5.
11	?	Porto Alegre, Rio Grande do Sul, BRAZIL.	4	C	25; 35:26.
14	?	Eberbach, Baden-Württemberg, GERMANY.	?8a	A	35:30.
16	pm.	Durban, Natal, REP.SOUTH AFRICA.	46	C	43:13.
17	c10.05am.	Castel area, Guernsey, CHANNEL ISLANDS.	?18a	C	21:32.

OCT.					
17	?	Nr.Georgetown, Ontario, CANADA.	46	A	39:17.
18	8.00pm.	East Akron, Ohio, USA.	30	C	5:1.
18	c8.0pm.	Siegburg, nr.Bonn, Westfalen, GERMANY.	1a	B	35:30.
18	10.40pm.	Shelbourne, Ontario, CANADA.	?* u	C	39:17.
19	6.45pm.	Nr.Morley, Alberta, CANADA.	1a	B	39:17.
20	1.15pm.	Waterkloofridge, Cape Province, REP.SOUTH AFRICA.	1a	C	21:iii.
21	?	Pretoria, Transvaal, REP.SOUTH AFRICA.	1a	C	43:13.
27	am.	Mount Pleasant, nr.Salisbury, RHODESIA.	46	C	42:18.
29	4.40pm.	Jaeren, nr.Kristiansand, NORWAY.	8d	A	0
29	7.20am.	Sidmouth, Devonshire, ENGLAND.	8a	C	21:30.
29	8.45pm.	Worcester Park, Surrey, ENGLAND.	11	A	0
?	c7.0pm.	Kielder Forest, Roxburghshire, SCOTLAND.	?43	B	0
NOV.					
2	?	Wootton, Northamptonshire, ENGLAND.	45	B	59:1.
3	c3.45pm.	Northampton, Northamptonshire, ENGLAND.	8a	C	59:1.
3	8.45pm.	Chalgrove, Oxfordshire, ENGLAND.	17a	B	0
3	c9.30pm.	Manor Park, London, ENGLAND.	14a + 47	C	60:1.
3	c9.35pm.	Canning Town, London, ENGLAND.	14a	C	60:1.
3	11.15pm.	Hayes End, Middlesex, ENGLAND.	u	C	49:7.
3	(night)	"road in southern NORWAY".	1a	C	20:31.
7 or 8	(night)	Between Crewkerne and Tintinhull, Somerset, ENGLAND.	10	C	24;48:5.
12	6.45pm.	Hayes End, Middlesex, ENGLAND.	?1a	A	49:7-8.
13	2.00am.	Kesteven, nr.Saxilby, Lincolnshire, ENGLAND.	8a	B	60:4; 61a:12.
13	c2.00am.	Northampton, Northamptonshire, ENGLAND.	46	C	29; 58:2.
15	c5.10pm.	Nr.Burgess Hill, Sussex, ENGLAND.	20	B	58:2.
20	pm.	Scunthorpe, Lincolnshire, ENGLAND.	?1c	C	21:31.
21	8.10pm.	Gritstone, Derbyshire, ENGLAND.	4	C	0
21	9.20pm.	Sutton-in-Ashfield, Nottinghamshire ENGLAND.	16	B	0
21	11.35pm.	Clapton, London, ENGLAND.	11	B	58:2.
21	(night)	Between Alfreton and Matlock, Derbyshire, ENGLAND.	8a	A	12.
21	(night)	Hackney, London, ENGLAND.	11	C	0
24	8.40am.	Westcliffe-on-Sea, Essex, ENGLAND.	17a	B	0
24	11.30pm.	Hackney, London, ENGLAND.	8a	B	0
25	c8.45am.	Between Redruth and Falmouth, Cornwall, ENGLAND.	17a	A	21:30-1.
27	?	Bookham, Surrey, ENGLAND.	2	A	47.
28	11.50pm.	Hillside, Bulawayo, RHODESIA.	46	C	4:1.
29	5.30am.	Between Canton and Akron, Ohio, USA	1a	B	6:3.
30	c6.01pm.	Bashley, New Milton, Hampshire, ENGLAND.	46	A	21:31-2
?	6.53am.	Tonstead, Norwich, Norfolk, ENGLAND	1c	A	0
DEC.					
1	c5.00am.	Manhattan, New York, USA.	46	B	39a:3.
1	c5.00am.	Queens County, New York State, USA.	1c	C	39a:3.
2	8.45pm.	Kenmore, Ohio, USA.	46	B	5:1.
3	2.30am.	Nr.Uniontown, Pennsylvania, USA.	46	B	6:4.
3	3.00am.	Northampton, Ohio, USA.	46	A	6:4.
3	6.15pm.	Akron, Ohio, USA.	47	C	5:1.
5	6.15am.	Nr.Coventry, Warwickshire, ENGLAND.	10	C	48:4.

DEC.					
5	9.00am.	Newcastleton, Roxburghshire, SCOTLAND.	71	B	0.
6	12.15am.	Blackbird Leys, Cowley, Oxfordshire, ENGLAND.	46	B	0.
6	6.15am.	Ryton-on-Dunsmore, Warwickshire, ENGLAND.	46	C	48:4.
6	9.0am.	Bray Head, Kerry, EIRE.	47	C	59:2.
8	am.	Wightwick, Staffordshire, ENGLAND.	46	C	59:2.
8	(night)	Meekatharra mining-camp, 500 miles NE.of Perth, Western Australia, AUSTRALIA.	4	B	50.
14	pm.	Wantage, Berkshire, ENGLAND.	29	B	30.
19	c10.0am.	Millarville, Alberta, CANADA.	1c	C	39:17.
19	6.15pm.	Nr.Sole Common, Boxford, Berkshire, ENGLAND.	16	A	0
20	8.30pm.	Millarville, Alberta, CANADA.	46	C	39:17.
31	10.30pm.	Elvaston, Stover, Missouri, USA.	*?48	A	60:5.

KEY TO REFERENCES.

References given in the list above should be used as follows. The first figures refer to publications, and the second, separated from the first by colons, to the appropriate pages in the publications. Semicolons separate different references if more than one is given for a particular event. The letter '0' signifies previously unpublished original reports. Some of the references cited, for example "Flying Saucer Review", also provide further details of primary sources not detailed here. References consulted by us were:-

1.	Aberdeen Press & Journal: 1.6.70.	22.	Flying Saucer Review - Case Histories (Suppl.1), Oct.'70.
2.	Bournemouth Evening Echo: 3.10.70.	23.	Folkestone Gazette: 22.1.70.
3.	Bournemouth Evening Echo: 12.10.70.	24.	Herald Express (Torquay): 9.11.70.
4.	Contact (Rhodesia), newsletter no:1, 1971.	25.	Journal de Samana: 11.10.70.
5.	Contact (USA), Winter 1970-1	25a.	La Nacion: 16.2.70.
6.	Opus cit., Spring 1971.	26.	Les Dépêches: 23.5.70.
7.	Cosmos Magazine, no:9, 1970.	27.	Les Dépêches: 26.5.70.
8.	Opus cit., no:10, 1970.	28.	Natal Witness: 18.9.70.
9.	Daily News (Durban): ?.5.70.	29.	Northants Chronicle & Echo: c14.11.70.
10.	Daily Despatch (East London): 10.9.70.	30.	Oxford Mail: 15.12.70.
11.	Daily Despatch (East London): 19.9.70.	31.	Panorama Magazine: vol.9, no:3, 1970.
12.	Evening Post (Derby): 21.11.70.	32.	Perception Magazine: no:17, 1970.
13.	Evening Sentinel (Stoke): 5.6.70.	33.	Phēnomēnes Spatiaux: no:24, 1970.
14.	Exeter Express & Echo: 12.3.70.	34.	Opus cit., no:25, 1970.
15.	Exeter Express & Echo: 29.7.70.	35.	" " ., no:26, 1970.
16.	Exmouth Journal: 14.3.70.	36.	Rainham Echo: 29.9.70.
17.	Flying Saucer Review, vol. 16, no:3, 1970.	37.	Rhyl Journal: ?(early).10.70.
18.	Opus cit., vol.16, no:4,'70.	38.	Saucers, Space and Science Magazine: no:59, 1970.
19.	" " ., vol.16, no:5,'70.	39a.	Opus cit., no:60, 1971.
20.	" " ., vol.16, no:6,'70.	39.	" " ., no:61, 1971.
		40.	Skywatch Magazine, no:12,1970
		41.	Opus cit., no:13, 1970.
		42.	" " ., no:15, 1971.
		43.	" " ., no:16, 1971.

44.	South-West Unidentified Aerial Phenomena Investigation Group, vol.2, no:2, 1970.	53.	Ufolog, issue no:68, 1970.
45.	Space-Drive Magazine, vol.i, no:4, 1970.	54.	Opus cit., no:69, 1970.
46.	Stratford & Newnham Express: 13.2.70.	55.	" " ., no:70, 1970.
47.	Surrey Advertiser: c28.11.70.	56.	" " ., no:74, 1970.
48.	Syntonic Magazine, no:10, 1971.	57.	" " ., no:75, 1970.
49.	Opus cit., no:11, 1971.	58.	" " ., no:78, 1971.
50.	Taranaki Press (New Zealand): 9.12.70.	59.	" " ., no:79, 1971.
51.	The Natal Observer: 27.2.70.	60.	" " ., no:81, 1971.
52.	The Star (Johannesburg): 18.9.70.	61.	UFO News, issue no:2, 1970.
		61a.	Opus cit., issue no:4, 1971.
		62.	UFO Society Bulletin, vol.1, no:3, 1970.
		63.	Waltham Forest Guardian: 27.2.70.
		64.	Woodford Express & Independent: 4.2.70.

A d d e n d u m.

(The following reports were received too late for inclusion) in the main catalogue.

APR.					
30	4.37am.	Nr.Turanga Creek, Whitford, North Island, NEW ZEALAND.	72	A	4:9-11.
AUG.					
8	c9.50am.	North end of Waiheke Island, North Island, NEW ZEALAND.	5a	A	4:11; 5: 3-6.
29-30	11.30pm-2.00am.	Nr.Lake Anten, Västergötland, SWEDEN.	8a	A	7:4.
SEP.					
26	early am.	Nr.Salisbury, RHODESIA.	4	B	3.
OCT.					
1	7.00am.	Dagenham, Essex, ENGLAND.	22	B	2:1.
14	pm.	Nr.Ute Mountain, Cortez, Colorado, USA.	62a	B	6:5.
22	8.45pm.	Parsloes Park, Dagenham, Essex, ENGLAND.	73	B	2:2-5.
NOV.					
16	c6.35pm.	Glendowie and Tamaki River estuary, North Island, NEW ZEALAND.	?1a	A	1; 5:6-10.
16	pm.	Beckemeyer, Illinois, USA.	41a	C	6: 4-5.
24	5.45pm.	Centralia, Illinois, USA.	10	C	6: 5-6.

Key to References in Addendum.

1.	Auckland Star: 17.11.70.	4.	Spaceview Magazine, no:61, 1971
2.	Essex UFO Study Group, vol.1, no:1, 1971.	5.	Opus cit., no:62, 1971.
3.	Rhodesian Herald: 28.9.1970.	6.	Ufolog, issue no:80, 1971.
		7.	Opus cit., no:82, 1971.

Our grateful thanks are again due to CONTACT (UK) and to numerous individuals for opportunities of examining and assessing the many unpublished ufo reports in their files. We hope to publish full accounts of these sightings, together with such drawings as accompany them, in due course.

UFO CATEGORIES IN 1970.

Analysis of the ufo reports received by Data Research for 1970, as they currently stand, suggests that they should be categorized as follows. The categories used here are those previously defined by Data Research (see UFO REGISTER, vol.i, pt.2, p.4), and are directly comparable to those given on page 4 supra. As on that page, those here are segregated into English reports and foreign reports, a comparison of these totals with those for 1969 being of consider-

Four hundred and two separate ufo reports were received by Data Research during 1970, as against four hundred and sixty-five for 1969. The 1970 total, however, is unquestionably provisional, since information on several foreign and two British sightings, known to have occurred but at present lacking details, has not been received from those investigating them in time for inclusion in this review. In due course, a special supplement will be issued detailing these and such additional 1970 reports as may be received.

The literature is again partially at fault in mentioning numerous ufo manifestations without sufficient case detail to enable adequate evaluations to be effected. The intriguing Moon-like object said to have been observed over the Scampton/Scunthorpe area on an unspecified date in June (FSR, vol.17, no:1, 1971, p.31) is an example of this kind of reference. It is to be hoped that this, and other similarly vague reports, will be properly investigated in due course and detailed accounts of the results of these investigations published in the usual way.

Ufo reports for 1970 received by Data Research have been categorized as follows.

Reports.	A.	B.	C.	D.	E.	F.	G.	H.	J.	K.	L.	M.	N.
English.	21	39	40	29	2	7	4	-	-	-	-	3	1
Foreign.	41	55	56	85	1	11	?4	1	-	-	1	1	-
Totals:	62	94	96	114	3	18	?8	1	-	-	1	4	1

NEW UFO TYPES DURING 1970.

New ufo types reported during 1970, additional to those previously coded by Data Research (UFO REGISTER, vol.i, pt.2, pp.5-6) included the following forms. The mysterious beams of controlled light emanating from invisible sources, noted earlier in this volume, have been coded as a definite and distinct phenomena associated with ufos.

62a. Jelly-bean shaped.
64. Propeller-shaped: has 3 equi-spaced curved propeller-like flanges round a disc-shaped or spherical central body.
65. Beams of concentrated, non-dispersive light, emanating from undiscernible sources.
66. Bobbin-shaped.
67. Acorn-shaped.
68. Heart-shaped: possibly a variant of types 22 and 76.
69. Circular central shape, with a cone-shaped ventral structure, and surmounted by a triangular-shaped structure.
70. Hemispherical.
71. Inverted bowl- or pan-shaped.
72. Bottle-shaped, with encircling flange at or near base.
73. Mouth-organ shaped (straight).
73a. Mouth-organ shaped (curved).
74. Disc-shaped: edges jagged. A variant of type 30?

It is interesting to note that, of the above forms, types 65, 71, 73a, and 74 were observed on more than one occasion. While this may signify that the same objects were seen on separate occasions over different localities, it may also mean that several ufos of identical or closely similar design were used in different regions on several dates for specific but as yet undetermined purposes. In this connection it is worth noting that, whereas very few ufo photographs show objects of identical or closely similar design (a point discussed by Keel at some length in "Operation Trojan Horse", G.P. Putnam's Sons (New York), 1970), eyewitness descriptions and sketches not infrequently deal with identically or closely similarly shaped objects.

TEMPORAL DISTRIBUTION..

The following table summarizes the distribution of ufos during 1970 over a normal 24-hour day. Regrettably not all reports contain details of the times of the sightings described, although the known information again confirms that more ufos were seen between 6 pm. and midnight than at any other time of the day.

Category.	Midnight to 6 am.	6 am. to Noon	Noon to 6 pm.	6 pm. to Midnight.
A	18	2	8	33
B	24	7	4	52
C	10	4	10	54

MATERIALIZATIONS & DEMATERIALIZATIONS.

As in other years, ufos during 1970 again performed the seemingly impossible feats of materializing from nowhere and/or of vanishing into "thin air". The following table summarizes the recorded cases.

Category.	Materializations.	Dematerializations.
A	3	19
B	4	24
C	2	4

Only four ufos during 1970 were observed to reorient themselves or abruptly "tip over" immediately prior to dematerializing, although two category A objects and two category C objects were seen to materialize and dematerialize alternately several times before each finally dematerialized for good, and a further category A object went through this procedure four times in succession while descending in an apparent "step-like" manner. Two dematerializations were described as "slow fade-outs", one of which (at Walthamstow on 1st. January) allegedly left the "shape" or "impression" of the object as a kind of "scorched image" on the cloud against which it had appeared. Nearly all dematerializations were noiseless.

Also of particular interest was the sequential dematerialization of three objects following the same flight path over Hampstead on June 16th. This event was reminiscent of the Allendale dematerializations of July 19th 1967, noted in the last issue of the UFO REGISTER (vol.i, pt.2, p.25).

MOTIONS AND SPEEDS.

As the following summary indicates, ufo speeds and motions during 1970 varied enormously, the speeds being, of course, those estimated by the original eyewitnesses. They are here classified as in the first issue of the UFO REGISTER (vol.i, pt.1, p.11).

Sequences.	Categories. A.	B.	C.
Hovering or stationary.	18	19	18
Hovering and spinning.	-	2	-
Hovering and spinning, then fairly slow.	1	-	-
Hovering and spinning, then slow ascent.	1	-	-
Hovering and wobbly, then slow and undulatory.	-	1	-
Hovering and wobbly, then fast.	-	1	-
Hovering, then slow descent.	-	-	1
Hovering, then slow.	5	2	2
Hovering, then slow and wobbly.	1	-	-
Hovering, then slow, then hovering.	1	-	-
Hovering, then very slow.	-	1	-
Hovering, then slow, then fast.	1	1	-
Hovering, then moderately fast.	2	4	3
Hovering, then fast.	4	2	5
Hovering, then fast and spinning.	-	1	-
Hovering, then fast, then hovering.	1	1	-
Hovering, then very fast.	3	4	1
Hovering, then very fast, then hovering.	-	-	1
Hovering, then erratic, then very fast.	-	1	-
Hovering, then erratic, then hovering.	1	-	-
Hovering, then curved or circular motions, then slow.	-	-	1
Very slow.	1	1	7

Sequences.	Categories. A.	B.	C.
Very slow, then curved or circular course.	-	2	-
Very slow, then stationary, then very slow.	-	1	1
Slow.	2	13	7
Slow and spinning.	1	-	-
Slow and spinning, then hovering.	-	-	1
Slow, then hovering, then moderately fast.	1	1	-
Slow, then hovering, then erratic.	1	-	-
Slow, then hovering.	-	-	3
Slow, then hovering, then fast and undulatory.	-	-	1
Slow, then hovering, then moderately fast and undulatory, then fast erratic.	1	-	-
Slow, then hovering, then slow, then hovering.	-	1	-
Slow, then hovering, then slow, then fast.	-	1	-
Slow, then hovering, then slow.	-	-	1
Slow, then hovering, then fast.	1	-	-
Slow, then fast.	2	2	1
Slow, then very fast.	2	-	-
Slow, then erratic.	-	1	-
Moderately fast.	4	10	15
Moderately fast, then hovering.	3	-	-
Moderately fast and spinning, then very fast.	-	1	-
Moderately fast, then hovering, then erratic.	-	-	1
Moderately fast, then hovering, then moderately fast, then hovering, then zigzag.	-	1	-
Moderately fast, then erratic.	1	-	-
Moderately fast, then erratic, then hovering.	-	1	-
Moderately fast, then slow, then hovering, then zigzag.	-	1	-
Moderately fast, then zigzag, then fast and undulatory and spinning.	-	1	1
Moderately fast, then fast.	-	-	1
Fast.	11	6	19
Fast and undulatory.	1	-	-
Fast and spinning.	-	1	1
Fast and spinning, then hovering and spinning.	1	-	-
Fast, then hovering.	2	1	1
Fast, then hovering, then fast.	1	-	-
Fast, then hovering, then erratic.	-	-	1
Fast, then moderately fast (curved or circular course).	-	1	-
Fast, then zigzag.	-	1	-
Very fast.	-	3	4
Erratic.	-	-	3
Erratic, then moderately fast.	-	1	-
Zigzag movements.	-	1	-
Circular or curved course, then moderately fast and undulatory.	-	1	-
Complicated rectilinear flight pattern.	-	1	-

Descriptions of speeds and motions contained adjectives similar to those employed by eyewitnesses of ufo manifestations in other years, thereby confirming the "special" character of the performances seen.

COLOURS, COLOUR-SEQUENCES & EMISSIONS.

Ufo colours reported during 1970 were more varied than those noted for 1969, and are summarized below.

	A.	B.	C.		A.	B.	C.		A.	B.	C.
Bluish-white.	-	1	-	Purple.	-	1	1	Metallic.	5	-	7
White.	6	14	18	Dark Blue.	3	5	2	Grey.	6	-	3
Cream.	3	1	11	Pale Blue.	3	1	-	Silver.	2	21	1
Yellow.	10	9	5	Turquoise.	3	4	1	Black.	-	3	-
Golden.	3	2	4	Pale Green.	2	2	2	Brown.	1	-	-
Orange.	4	8	16	Dark Green.	4	-	-	Copper-hued.	-	1	-
Orangy-red	-	1	1	Red.	4	14	6	Pink.	1	-	9

Many of the foregoing colours, and also many of the following colour combinations, were described by eyewitnesses as fiery, glowing, luminous --- neon or flourescent lights frequently being used as comparisons. Fewer flickering or pulsating effects were reported in 1970 than in 1967, 1968, or 1969, although several instances did occur, again mostly in connection with objects described as globular lights.

Sequences.	A	B	C	Sequences.	A	B	C
White/yellow/blue.	-	1	-	Orange/white.	-	-	1
White/gold.	-	-	1	Orange/white/green.	-	-	1
White/gold/silver.	1	-	-	Orange/yellow.	1	-	-
White/amber.	-	1	-	Orange/red.	1	-	1
White/orange.	-	2	1	Orange and red alternately.	2	-	-
White/red.	-	1	3				
White/red/blue/grey.	1	-	-	Red/white.	-	-	1
White/pinky-red/blue/grey.	1	-	-	Red/white/blue.	-	1	-
White/silver.	-	-	1	Red/silver.	1	-	-
Cream/golden-green.	1	-	-	Red/green.	1	-	-
Yellow/orange.	2	-	-	Green/silver.	1	-	-
Yellow/orange/green.	-	2	-	Green/red.	1	-	-
Yellow/gold.	-	-	1	Green/blue/red.	-	1	-
Yellow/red.	-	2	1	Blue/green/pink/yellow.	1	-	-
Yellow/red/white.	-	1	-	Blue/green.	-	-	1
Black/silver.	-	1	-	Purple/white	-	1	-

Several ufos were reported with outlines or edges of a different colour from that of the main "body", these being quite distinct from the well-known halo effects. These were as follows.

Category.	Date.	Locality.	Outline colour.	Main body colour
B	22.7.70.	Puerto Rico.	Blue.	Red.
A	29.7.70.	Florida, USA.	Green.	Blue.
B	31.8.70.	Alberta, CANADA.	Orange.	Green.
B	29.9.70.	Bournemouth, ENG'D.	Orange.	Silver.
B	8.10.70.	Ohio, USA.	Red	Blue.
B	21.11.70.	Clapton, ENGLAND.	Black.	Yellowy-orange.
B	2.12.70.	Ohio, USA.	Red	White.

Most notable among the many reports describing halo effects were the following.

Category.	Date.	Locality.	Colour/s of halo/s.
A	7.1.70.	Duncan, CANADA.	Purple.
B	20.4.70.	Mulhouse, FRANCE.	Orange.
A	30.4.70.	Whitford, NEW ZEALAND.	Green (immediately next to object) with outer "layer" of a pink colour.
A	14.10.70.	Eberbach, GERMANY.	Rose.
B	21.11.70.	Clapton, ENGLAND.	Red.
A	19.12.70.	Boxford, ENGLAND.	Green.

Noiseless emissions connected with ufos during 1970 were as below.

Category.	Rays.	Trails.	Flashes.	Sparks.	Flames.	Smoke.
A	5	1	-	3	2	4
B	3	2	3	1	2	6
C	1	5	-	1	-	2

Special reference should be made here to the fact that (a) some of the trails were luminous or glowing, and (b) the smoke emitted by 2 objects (on 29.7.70 and 15.9.70 respectively) was green-coloured and that by another object on 2nd.November was blue-coloured. One object was also observed to jettison solid material believed at the time to have possibly been metallic: this material was not recovered.

Noises allegedly emitted by ufos during 1970 included the following sounds. The total of noiseless ufos --- higher than in 1969 --- is also added for comparison.

Category.	Whining.	Humming.	Buzzing.	Crackling	Hissing.	Whistling	Whispering.	Clicking.	Swishing.	Droning.	Roaring.	Flapping. (Loud)	Noiseless ufos.
A.	-	2	1	-	1	-	-	1	-	-	-	-	37
B.	4	-	1	1	1	1	-	-	1	-	1	-	40
C.	2	2	-	-	-	-	1	-	1	1	-	1	33

One category B object was also reported to have made a "loud bang", the precise sound of which, however, was unspecified.

SIMULTANEOUS UFO OCCURRENCES.

The occasions on which more than one ufo was observed simultaneously over the same locality on specific dates in 1970 were as indicated below: 'u' denotes undescribed objects.

Date.	Locality/ies.	Ufo type/s.	No:seen.	Category.
2.1.70.	Leytonstone.	11(2 of) + 32a	3	A
7.1.70.	Hakodate harbour, Japan.	u	5	C
27.1.70.	Nr.Tucson, Arizona.	1a	3	A
30.1.70.	Nr.Mrewa, Rhodesia.	1a	3	B
3.2.70.	South Woodford.	8a	2	B
3.2.70.	Buxton.	46	3	C
6.2.70.	Sacromento, California.	u	1, then 5	C
11.2.70.	Abbey Wood.	47	2	C
13.2.70	Paulsgrove, Portsmouth.	8a or 46.	6 to 10	B
28.2.70.	Nr.Culbertson, Nebraska.	4	5	C
5.3.70.	Chichester.	46	2	C
18.3.70.	Salisbury, Rhodesia.	u	4	B
19.3.70.	Salisbury, Rhodesia.	u	4	B
27.3.70.	Chandlersford.	8a + 19 (3 of) + 43 (8 of	12	A
9.4.70.	Squamish, Brit.Columbia.	u	4	B
19.4.70.	Squamish, Brit.Columbia.	u	4	B
26.4.70.	Mulhouse, Haut-Rhin, France.	46	3	C
3.5.70.	Hall Green.	8a	1, then 2	B
16.5.70.	Baden-Baden, Germany.	1a (3 of) + 17a + 45.	4 (or 5)	A
18.5.70.	Nr.Tewkesbury, Quebec.	66	3	C
18.5.70.	Stoneham, Quebec.	8a	2	B
19.5.70.	Montignac-sur-Vézère, France.	4	4	C
22.5.70.	Nr.Corinda, Australia.	46	2	C
26.5.70.	Tampa, Florida.	u	2	C
14.6.70.	Shepstone, Natal.	4 (3 of) + 10 (2 of).	5	A
16.6.70.	Hampstead.	46	3	B
? .6.70.	Bulawayo, Rhodesia.	8a	3	C
1.7.70.	Decatur, Illinois.	67	15 to 30	A
4.7.70.	Folkestone.	68	4	A
21.7.70.	Rotherham.	47	5	B
26.7.70.	Toronto Harbour, Ontario.	43	8 (2×4)	A
28.7.70.	Exeter, Devonshire.	u	4	C
5.8.70.	Bailieboro, Ontario.	46	3	B
28.8.70.	Hawkinge.	?46	2	C
29.8.70.	Islington.	46	2	B
8.9.70.	Kettering.	6 + 46	"several"	B
9.9.70.	Trenton, Ohio.	46	6	C
17.9.70.	Pretoria, Transvaal.	14b	1, then 2	A
1.10.70.	Mitcham Common.	11	6 to 10	B
3.10.70.	Hayes End.	u	6	C
4.10.70.	Rhuddlan.	?	1 (or 9)	A

6.10.70.	Kent, nr.Dodge, Ohio.	8a	2	A
9.10.70.	Camp Butler, Pennsylvania.	1a	4	B
10.10.70.	Nr.Caro, Michigan.	1a	2	A
21.10.70.	Nr.Salisbury, Rhodesia.	46	3	C
29.10.70.	Worcester Park.	45	7	A
3.11.70.	Northampton.	8a	3	C
12.11.70.	Hayes End.	u (?10)	10	A
13.11.70.	Nr.Saxilby.	8a	2	B
15.11.70.	Nr.Burgess Hill.	20	2	B
16.11.70.	Beckmeyer, Illinois.	41a + u	2	C
29.11.70.	Nr.Akron, Ohio.	1a	20	B
3.12.70.	Northampton, Ohio.	46	2	A

DISRUPTIVE EFFECTS.

The following table summarizes the various disruptive effects on terrestrial installations and mechanical equipment attributed to ufo activity during 1970.

Transient Effects:

Category.	Engine Failure (vehicles)	Light Failure (buildings and vehicles)	Compass reorientation.	Interferences	
				TV.	Radio.
A	1	1	-	-	2
B	1	1	-	-	-
C	-	-	1	1	1

Suffocating heat was also recorded in connection with the manifestation of two category A and two category C objects. These cases should be studied in conjunction with the incident at Trancas, Argentina (21.10.1963), when similar effects were experienced (see "UFOs: The Whole Story", Coral and Jim Lorenzen, Signet Books, NY, 1969, pp.190-191). One category C report also mentioned intense cold of temporary duration.

Permanent Effects:

Category.	Scorching.	Melting or Burning.	Car Windscreen Brakeages.	Exessive Winds.
A	-	1 (snow)	1	-
B	-	-	-	1
C	1	-	-	-

ANIMAL AND HUMAN REACTIONS.

The table below shows that human reactions during confrontations with ufos varied considerably.

Fright or Fear.	15.	Panic or Flight.	2.	Awe, or Wonder.	1.
Astonishment.	10.	Bewilderment.	1.	Incredulity.	2.
Excitement.	3.	Curiosity.	2.		

One case also occurred in which the eyewitness suffered temporary skin discoloration. This may or may not have been self-induced.

Reported animal reactions were more numerous and varied than in 1969, the best autheticated instances being tabled below.

	Fear or Panic.	Restlessness.	Excitement.	Subsequent avoidance of area visited.
Dogs.	1	6	1	1
Cats.	-	1	-	-
Horses.	2	-	-	-
Pigs.	-	1	1	-
Birds.	-	-	3	-

OBSERVER STATISTICS.

As in other years, numerous reports were received in 1970 in which the numbers of eyewitnesses involved were given in very arbitrary terms. The available data, however, is summarized in the

following table. Races are again undifferentiated.

Ages (in years).	Males		Females		Sex Unrecorded	
	P*	S*	P*	S*	P*	S*
0 - 15	9	12	2	8	1	7
16 - 30	39	7	3	6	-	-
31 - 45	8	1	1	-	-	1
46 - 60	5	-	3	-	1	-
61 - 75	4	1	1	-	-	-
over 75	-	1	-	-	-	-
Age unspecified.	102	80	36	63	13	130+

* P = primary witness; S = secondary witness.

Although it has not been possible to establish the occupations of ufo eyewitnesses, the the information currently available -- shown below -- again indicates that a thoroughly representative cross-section of the community observed ufos during 1970.

Government Employees.	1.	Watchmakers.	1.	Musicians.	1.
Policemen.	18.	Draughtsmen.	1.	Radio Announcers.	1.
Securitymen.	1.	University staff	2.	Boxers.	1.
Coastguards.	1.	Teachers.	8.	Scoutmasters.	2.
Astronomers.	5.	Students.	8.	Schoolchildren.	447+
Radar operatives.	2	Artists.	1.	Foresters.	1.
Civil Airport Staff		Photographers.	3.	Gamekeepers.	1.
and Airline Pilots.	2.	Compositors.	1.	Farmers and Farm	
Merchant Seamen.	2.	Editors.	2.	Workers.	5.
Fishermen.	2.	Journalists.	5.	Labourers.	1.
Engineers.	1.	Telephonists.	1.	Miners.	4.
Technicians.	1.	Doctors.	1.	Windowcleaners.	1.
Craftsmen.	1.	Medical staff.	1.	Servants.	1.
Administrators.	1.	Chemists.	2.	Brewerymen.	1.
Accountants.	2.	Typists.	1.	Deliverymen.	2.
Directors.	1.	Salesmen.	4.	Lorrydrivers.	4.
Foremen and Managers.	1.	Railwaymen.	1.	Housewives.	51.
Storemen and Clerks.	3.	Busmen	1.	Local officials.	1.

A cursory glance at these statistics is sufficient to show that, once again, the largest observer groups (policemen, housewives and schoolchildren) consist of persons who normally spend a large proportion of their time out of doors, being, therefore, ideally placed to view such ufos as appear. The wide range of occupations represented also confirms that all sections of the community see and report ufo manifestations, and generally corroborates the conclusions reached for other years.

Finally, optical aids used by eyewitnesses during 1970 can be summarized as follows. The overall total is fairly high and suggests the objects observed through these instruments were considered to be sufficiently interesting or abnormal to warrant the use of magnifying apparatus. As previously mentioned, this in itself is a point of considerable interest.

Category.	Binoculars.	Telescopes.	Radarscopes.	Rifle-scopes.
A	4	1	-	-
B	3	4	1	1
C	-	3	4	1

It is also worth recording that several additional ufos were observed through camera viewfinders, when both ciné and still photographs were taken of them on various dates during 1970. Reproductions of some of these photographs have been published in various magazines, such as "Flying Saucer Review", "Spacelink" magazine, "Phenoménes Spatiaux", etc., but the authenticity of some of them has been questioned (see "Spacelink" magazine, vol.6, no:4, 1971, pp.31-32).

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Contents

EDITORIAL COMMENT

Until now, previous issues of the UFO REGISTER concentrated upon the summarization of ufological data for specific years, even though the editorial section of the first issue clearly stated that other kinds of material would appear in the journal from time to time. This policy was expressly formulated to enable the publication of more generalized data, and the stage has now been reached when such information should be introduced within these pages. The present issue accordingly presents a number of very early unexplained aerial events (so far recorded in publications of obscure nature or normally unavailable to the average ufologist, and certainly unpublished in the modern ufo literature), and the first of a projected series dealing with the problem of ufo shapes. Not only is it sensible to vary the contents of the UFO REGISTER occasionally, but the introduction in it of as wide a range of ufological topics as possible will, it is hoped, serve to encourage ufologists to research many related and inter-related fields simultaneously, thereby expanding our overall knowledge.

The world of ufology recently suffered a serious loss when one of its foremost exponents, Dr. James E. McDonald, passed away under tragic circumstances on June 13th this year. Nearly all the leading ufo publications have already outlined the signal achievements of this remarkable scientist -- an especially full biography appearing in the September issue of "Phenomenes Spatiaux" -- so it is not our intention here to repeat the process. Nonetheless, we do most sincerely desire to pay tribute, along with ufologists the world over, to the work and accomplishments of an outstanding man who also happened to be a great ufologist.

If ufology in general has suffered a serious loss, so also has Data Research in a lesser though still significant way through the resignation of Adrian Turner from its research team. Although many of the special tasks that Turner undertook were comparatively mundane and sometimes down-right thankless, he invariably carried them out cheerfully, knowing that their successful completion was vital to the prosper and smooth-working of Data Research's programme. We can only express here our sincere appreciation of his sterling efforts; our best wishes are also extended to him in his future career which, due to changed circumstances, now lies in other directions. He remains, of course, a member of CONTACT (UK).

The phrase "as soon as one door closes another opens" proved eminently true when, following closely upon Turner's resignation, Data Research procured the services of John House and Richard Woodwards. The former specializes in biology and the latter in electrics and electronics, and both --- who have now joined Data Research's team -- will undoubtedly play significant roles in the months to come.

Other notable changes which have occurred recently in the ufological field, include the merging of Gray Barker's "Saucer News" with Ray Palmer's "Flying Saucers" magazine, and the amalgamation of "Ufolog" with BUFORA's journal. On the credit side, however, A.J. Callow of Worcester has launched a new magazine entitled "Flying Saucers Old and New", which promises to be a most worthwhile venture. A different kind of change occurred in August last, when at least two national newspapers, the "Daily Express" and "The Sun", actually mentioned ufos. Their accounts were occasioned by the observations of five police patrolmen of a ufo over Aldridge, Staffordshire, for two hours. As is well known, British national newspapers, although not numerous smaller provincial newspapers, have devoted virtually no space to ufos since the celebrated "flap" of 1967, a silence presumably engendered by the findings in 1968 of the not so celebrated Condon Committee. Perhaps this cloak of silence is being discarded at long last. Dare we hope so?

The Editor.

UFO SIGHTINGS OF THE PAST: FIRST SERIES.

Mediaeval and Classical literature contains numerous references to strange aerial lights and celestial portents, certain of which, if correctly interpreted, may well constitute descriptions of early visitations by ufos. There also exist numerous traditions and legends which aver that immensely knowledgeable beings visited remote and primitive peoples during the distant past, and that these beings came from the "sky". Rock drawings and pictographs in caves and on cliff faces have been found which, on close scrutiny, often bear a striking resemblance to ufo forms seen within recent decades. From this it has been suggested that these ancient drawings are records of ufo manifestations dating from prehistoric times.

This particular facet of the ufo enigma has engaged the attention of many notable ufologists, of whom Erich von Daniken ("Chariots of the Gods", 1969), Raymond W. Drake ("Spacemen in the Ancient East", 1968), Desmond Leslie ("Flying Saucers Have Landed", 1953), Paul Thomas ("Flying Saucers Through the Ages", 1966), Jacques Vallée ("Passport to Magonia", 1969), and Harold T. Wilkins ("Flying Saucers From the Moon", 1954, and Flying Saucers Uncensored", 1956) are probably the best known and the most important. These writers, and others like them, have convincingly demonstrated that there exists a mass of material which strongly suggests that alien craft of unknown origins repeatedly visited Earth in the past. Much of this material is important and should not be ignored by any ufologist worthy of the name. With this same recommendation before it, Data Reaearch has itself dug deeply into early and not so early literature and unearthed several accounts of events which resemble more closely than anything else modern ufo reports. The majority of these accounts have not been published since they were originally printed, and it is believed that most of them are unknown to ufologists in general. They are accordingly given below, together with references to the sources containing them.

It is intended that the present examples should form the first of a series designed to record all the located instances. Additional series will appear from time to time in future issues of this journal, as and when space permits.

Case 1: A.D.353: As Constantius, the Victorious, proclaimed Gallus as Caesar, he saw a cross in the form of a column of light appear in the western sky over Antioch.
(Chronicle of Michael the Syrian, Jacobite patriarch of Antioch: 1166-1199 A.D.)

Case 2: A.D.584: A great column of fire hung in the sky over France and above it was a thing like a star. The earth shook. Many people witnessed this event.
(Chroniques de Saint Denis, Paris)

The same or a closely similar object was observed the following year, according to the undercited source, although the possibility also exists that cases 2 and 3 really describe the same event and that one of the original authors confused the date.

Case 3: A.D.585: In the time of the Gallo-Roman general Mummolus, there was seen, in December, a fiery column suspended in the sky, where it flamed for two hours, and a thing like a great star appeared over it (cui stella magna superposita erat).
(Gregory of Tours: Hist. Ecclesiastica des Francs).

Case 4: A.D.741: In the reign of Constantinus, Copronymus, son of Leo, Emperor of Byzantium, three columns of fire and flame appeared in the sky during the month of June. The same phenomenon was also seen in the month of

September. There appeared a thing, also in 741 A.D., like a half-moon, in the northern quadrant of the sky, and little by little, over a rather long time, it passed to the southern quarter, and then returned to the north, and finally descended under the Earth; (i.e., presumably dropped down below the horizon).
(Chronicle of Michael the Syrian).

Case 5: A.D.769: In the month of May, a thing like a brushwood broom appeared in the eastern sky, and it rose dark as if it had swept out a house. In the morning it bent its beams towards the Earth; little by little it moved forward until it reached the axis (or axle) of the wheel of the sky, when it suddenly vanished. It was shaped thus: †
(same source)
NB: Dionysius Telmarharensis, patriarch of the Syrian Jacobites, and who lived in the latter half of the eighth century A.D., mentioned the appearance of a closely similar object during the month of March 759, and that this phenomenon was visible for 15 nights and 25 evenings, a factor, however, which suggests that his account related to a comet.

Case 6: A.D.819: A shining column of white light, from the sky, projected its beams towards a thorn tree in a wood at Clent, Shropshire, under which the head of the murdered Mercian king, Kenelm, lay after his assassination by order of his sister, Queen Quendritha.
(Richard of Cirencester: Chronicle).

Case 7: A.D.937: Two lightning pillars were seen flashing in the sky of Ireland for the space of a week, before Allholantide (All Hallows), and they shone so brightly that the whole region was given light.
(Annals of Clanmacnoise).

Case 8: A.D.1138: Flesh fell from the sky which was on fire, and full of fitfall shapes, and there was a noise like thunder as if weapons crashed in the sky. This occurred during the month of February over Verona.
(Anonymous: Annals Antiquua).

Case 9: A.D.1671: A perpendicular column of light was seen in the sky after sunset, in France. In A.D. 1692 a similar phenomenon was seen, in August of that year. The celebrated astronomer, Cassini, investigated and observed both but failed to find connections between the Sun and the columns. Again, in 1702, A.D., during the month of May, a column of light, equal in apparent diameter to that of the Sun, appeared in the sky some time before sunrise and remained visible for a while afterwards. It was shaped like a black band and had slits near its edges.
(Mém. Académie Royale, Paris).

Case 10: A.D.1718: A fiery globe fell on the islands of Leti, off Timor, in Indonesia, and left behind it on the ground a gelatinous substance.
(same source).

Case 11: A.D.1719: On April 6th, at 45 degrees N.lat., and 38 degrees W.long., a vessel en route from Canada to France observed a brilliant light in the sky, after which a rain of sand fell from 10pm. until 12.30pm. the following day. A similar phenomenon was seen from Paris on March 30th the same year, when a strange column of fire rose 20 degrees above the horizon. It was half the diameter of the Sun, and it terminated in points at its eastern and

western ends. The top of this column was much clearer than the lower regions of it, which was bright red. (same source).

Case 12: A.D.1796: A gelatine-like substance fell, with a thing like a fire-ball, at Lusace, in Prussian Saxony. (same source).

Case 13: A.D.1811: A fiery body in the sky exploded near Antwerp, and a gelatinous substance fell to the ground. (same source).

Case 14: A.D.1819: On August 13th, at Amherst, Massachusetts, a very strange substance having a down, or nap, under which was a pulpy, stinking mass, fell on the ground when a brilliant "thing" appeared in the sky.
(same source).

Case 15: A.D.1833: Falls of gelatinous matter, reminiscent of nostoc, occurred when a thing like a fiery meteor passed slowly over New Jersey, Vermont, and New York states. (same source).

These fifteen cases must suffice to show that numerous strange and sometimes inexplicable aerial events still remain uncatalogued in the ufo literature, despite the monumental labours of the previously mentioned writers. Data Research's archives contain many more historical events of similar type, and, as stated earlier, it is hoped to publish these in due course.

Even a cursory perusal of the foregoing list shows that quite a high percentage of the events involved strange gelatinous matter, and that fiery columns of extraordinary longevity or prone to abrupt disappearance were prominent among the remainder. It is also interesting to note that there seems to have been much activity during the early 1700's, some of the cases listed above being connected, perhaps, with the series of strange and intriguing aerial events described by Dr. John Morton in his "Natural History of Northamptonshire" (1712). Indeed, it would seem worthwhile searching the literature for that period for additional events and particulars, and altogether appears to be promiseing period for historical ufo research.

UFO SHAPES: SERIES ONE

Earlier issues of the UFO REGISTER (vol.1, no:2, and vol.2, no:1) published brief descriptions of various ufo types, some 77 or so recognizably different forms being listed. At that time (op.cit., vol.2, no:1, p.26) attention was also drawn to the fact that several recent writers had noted that few, if any, ufo images captured on photographic film exhibit identical shapes. The inference inevitably followed that no two ufos are identical. As shown below, such a conclusion is certainly erroneous.

Ufos, nevertheless, do present an almost bewildering variety of external shapes, even though a great many of these appear to be little more than variations of a comparatively small number of basic designs. Some of these designs, and the difficulty of determining precisely the range of variations so far observed of any single design, are discussed below, together with the special factors surrounding every ufo manifestation and which ultimately determine the reliability of eyewitness accounts and any attendant photographs or drawings.

Firstly, ufo manifestations, as well as occurring in all latitudes, at all hours of the day and night, and under all kinds of meteorological conditions, invariably occur unexpectedly. They are also of short duration (although some notable exceptions to this are known). This means that the intervals between manifestations are of extremely irregular extent.

Secondly, many ufos are visually so unusual and capable of such extraordinary manoeuvres and speeds, that these factors (whenever present in a manifestation), combined with the very unexpectedness of the event and ufo's short-lived visible presence, generally render precise and accurate determination of external ufo shapes exceedingly difficult.

Thirdly, owing to the general unpredictability and irregularity of ufo manifestations, most eyewitnesses are not at the time equipped with cameras or sketch pads upon which to record what they are confronted with. Neither does it follow that all percipients necessarily possess the ability to use these aids effectively, even if they are available. It is certainly a fact that some eyewitnesses are long-sighted, that some are short-sighted, and that yet others are colour-blind; thus the exact amount of weight that can be attached to sketches (perforce usually made some while after the actual manifestation, and therefore prepared from memory) has to be most carefully assessed in every instance --- even if the sighting concerned is proved to have been genuine.

Fourthly, nearly all eyewitnesses confess to being astounded, and many to fear or awe, when suddenly confronted with ufos. Many percipients are also shocked in various ways by ufo manifestations. The testimony of such persons has therefore to be evaluated most thoroughly. The strange shapes of ufos and their frequently still more astonishing behaviour are such that percipients find themselves (to quote some cases) "rooted to the spot", "awestruck", "mesmerized", or "fascinated". More often than not eyewitnesses are temporarily too interested in the phenomenon they are watching to remember to photograph it or to make hasty notes or sketches there and then. Indeed, instances are known where some eyewitnesses, although perhaps more alert than others to the importance of what they were viewing, were so excited that they used handily-placed cameras without remembering to remove lens-caps or without first obtaining suitable focus. Out-of-focus photographs, of course, are of scant use to ufologists. But because some ufos seemingly emit force-fields or energy-clouds which, though invisible to the unaided human eye, are recordable on emulsion, it is seldom easy to distinguish whether a blurred-looking phōtograph really is out-of-focus or whether it records an obscuring force-field, at the time invisible to the photographer. This factor alone may well account for the observable differences between certain ufo shapes captured on allegedly in-focus photographs. Although photographs (hoaxes apart) might reasonably be regarded as objective evidence --- as distinct from eyewitnesses drawings, which are essentially subjective --- the force-field factor just discussed in practice tends (where many ufo photographs are concerned) to nullify the advantages normally inherent in objective evidence.

And finally, except in those instances where ufos emitted smoke or trails from what were probably their rear ends, it is frequently impossible to determine precisely from which angle or angles a ufo is being viewed. This is particularly so when globular or discoidal ufos come under observation, and when ufos suddenly reverse direction or, without ceasing onward momentum, turn over or "stand-on-end". A further complication occurs in those cases where, after having performed movements of the kind just mentioned, ufos are seen to change shape. Some of these changes are quite radical. Small wonder, therefore, that many percipients form no clear idea as to "which way up" the ufo was supposed to be.

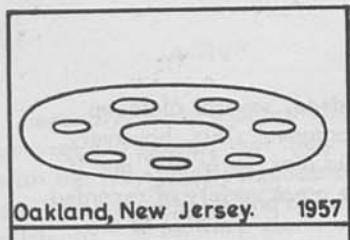
An additional factor to be considered when assessing ufo shapes is that which allows for the possibility that two or more quite different races of ufonauts are currently visiting Earth, that these may emanate from entirely different points in space and/or time, or from different dimensions or orders of matter, and that the numerous recorded differences in ufo designs are the result of this and are thus to be expected. In our opinion it is, moreover, reasonable to suppose that not all ufos are brand new units, and that

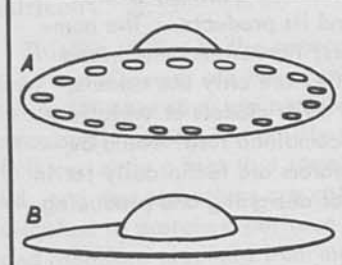
some if not most of them are possibly several years old. Indeed, several close-up views of ufos have disclosed an "old-looking" surface appearance. This, however, may be purely coincidental. Nonetheless, if variously aged ufos are in use, and if they originate from different centres or dimensions, then the great variety of recorded designs is more easily understood. It could well be that the whole question of ufo shape variability parallels our own motor vehicle industry and its products. The number of different models of automobiles, vans, lorries, tractors, harvesters, motorized caravans, and buses in production today is prodigious; and they are only the models currently in production. If to this total were added all the other models or variations of these machines produced over say the last ten years, the combined total would be immense. And yet it is generally conceded that the ufo creators are technically far in advance of ourselves; they ought, therefore, to be capable of designing and producing many times the number of different units than we can.

Notwithstanding the above difficulties and alternatives, it is possible to assemble several dozen ufo photographs and drawings which, superficially at least, appear to be records of a few specific types, or of a large number of variants of a single type. The examples given on pages eight to twelve inclusive have been taken from previous publications, and those on pages thirteen and fourteen from undescribed reports in Data Research's archives. We hope to publish further series of ufo drawings in future issues of the UFO REGISTER.

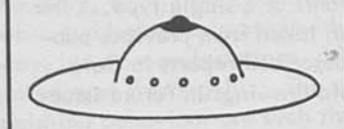
It will be noticed that the ufo shapes presented on page eight belong mostly to flat disc-like forms or to types having variously sized and shaped domes on one disc-face only. The specimens on page nine generally follow the same trend, although also include several forms possessing domes on both disc-faces. Indeed, in these examples the basic disc has been reduced --- sometimes drastically --- in relative area and prominence to little more than an encircling flange. Flange reduction is generally still more acute in the ufos shown on page ten, although the Cowichan (Jan. 1970) and Fort Lamy (March 1955) forms retain well developed flanges, the latter actually exhibiting a remarkable double-flange arrangement. Once again, all the domes are prominent and of widely varying size and shape.

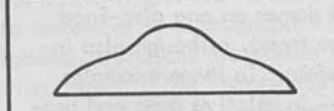
Several near-featureless egg-shaped ufos are shown on page ten, and appear to pass more or less insensibly into football-, dirigible-, and cigar-shaped forms like those on page eleven. These latter are themselves apparently related on the one hand to the cylindrical and torpedo-shaped ufos, and, on the other hand, to the spherical and globular types --- as shown on pages eleven and twelve. Generally speaking, flanges or rims are conspicuous by their absence on these spherical or globular forms, although the example from Stechford (Feb. 1970) exhibits a curious and noteworthy triple-flange arrangement. Portholes, windows, and vent-like apertures seem also to be more common in the globular and cigar-shaped forms. Fins or "stabilizers" also appear to be reasonable common --- Susanville (Sept. 1963), Verdun-en-Lauragais (Aug. 1965) --- and possibly perform the same function as the flanges in the discoidal and domed ufos. A number of globular types --- Attigneville (May 1955), Montreal (Nov. 1967), and Littlemore (Aug. 1965) --- are also of great interest in that they apparently conform to a "mine-like" design, possessing numerous spiked arms or antennae. Indeed, rather similar antennae observed on a landed ufo near Brightwalton in December 1970, were described as retractable or telescopic, so that it is conceivable that all spherical or globular ufos possess antennae of this kind, which, under normal circumstances, are fully retracted. The "holes" in the Gills Rock ufo (Sept. 1959) may actually have represented the retraction mechanisms or the holes into which antennae or the like had been re-

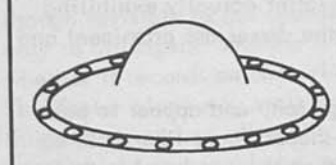

Oakland, New Jersey. 1957

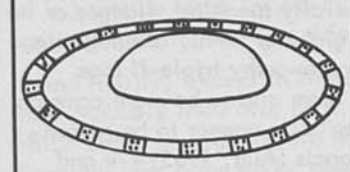


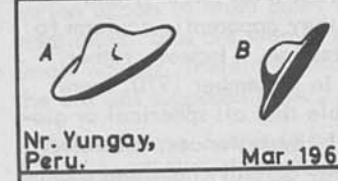
Kidsgrove, Staffs. Aug.1967


Bentilee, Staffs. Aug.1967

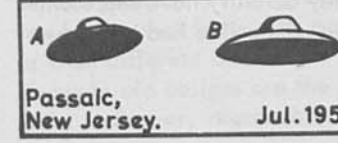

Jansen, U.S.A. Jul.1952


Hanley, Staffs. Aug.1967

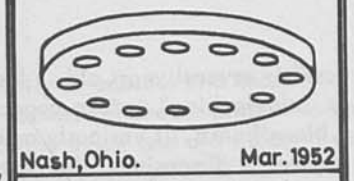

Montreal, Quebec. Nov. 1967

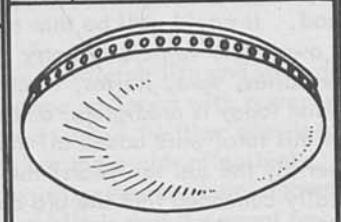


Nr. Yungay, Peru. Mar. 1967



Passaic, New Jersey. Jul. 1952

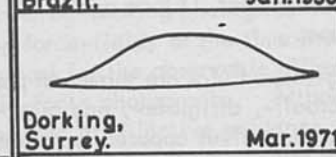

Nash, Ohio. Mar. 1952

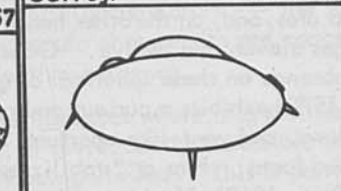

Gander, Newfoundland. 1956

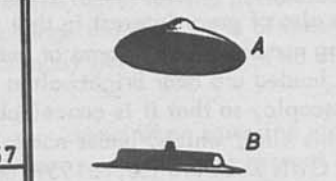

Pilar de Goias, Brazil. Aug.1967


NE. of Detroit, U.S.A. Jan.1967

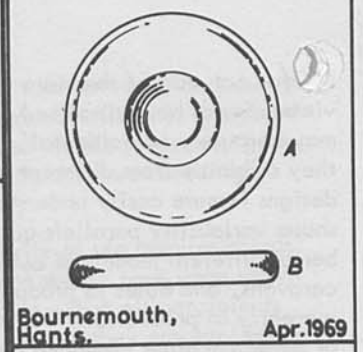

Negresse, Brazil. Jan.1958


Dorking, Surrey. Mar.1971

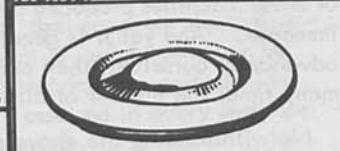

San Pedro, California. Dec.1957

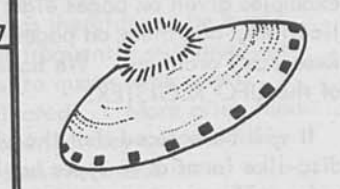


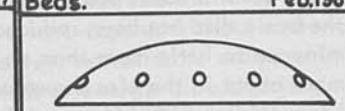
McMinnville, Oregon. May 1950

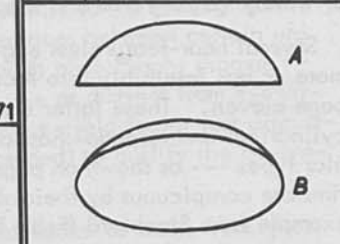


Bournemouth, Hants. Apr.1969


Nr. Maiquetia, Venezuela. 1965

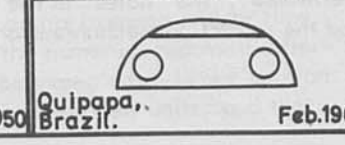

Ivinghoe, Beds. Feb.1962

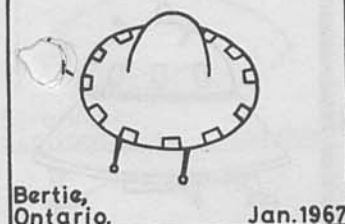

Manila, Philippines. Nov.1954

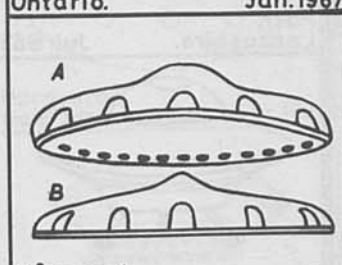


Redmond, Oregon. Sep.1959

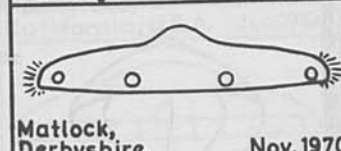
Courbevoie, Senlis, France. Jun.1971

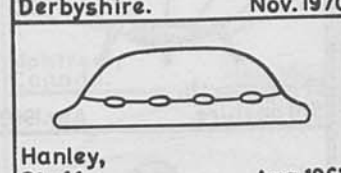

Quipapa, Brazil. Feb.1966

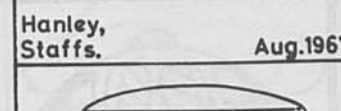

Bertie, Ontario. Jan.1967

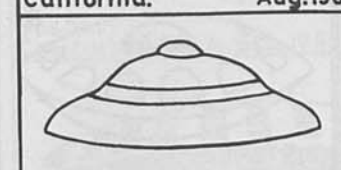


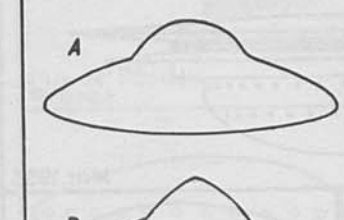
Kågsund, Norway. Aug.1963


Matlock, Derbyshire. Nov.1970

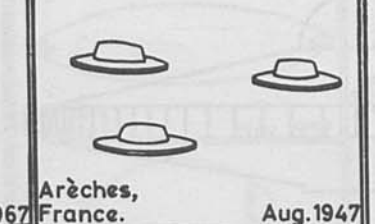

Hanley, Staffs. Aug.1967

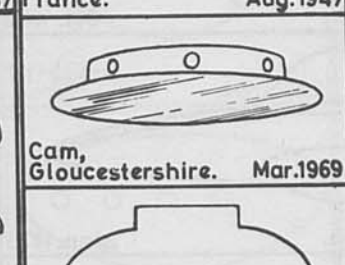

Santa Anna, California. Aug.1965

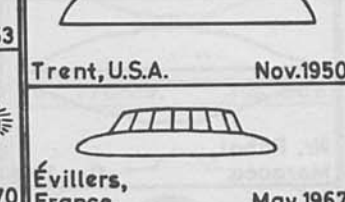

Wilmslow, Staffs. Jan.1966

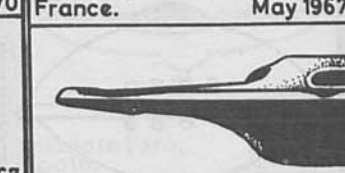


Hanley, Staffs. Sep.1967

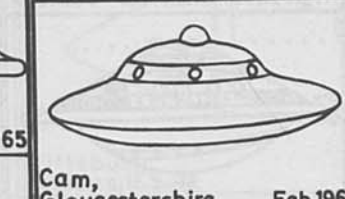

Arèches, France. Aug.1947

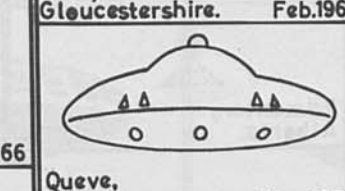

Cam, Gloucestershire. Mar.1969

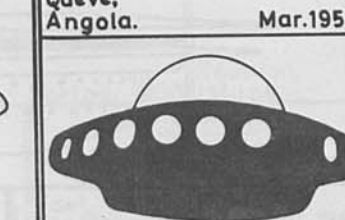

Trent, U.S.A. Nov.1950


Évillers, France. May 1967

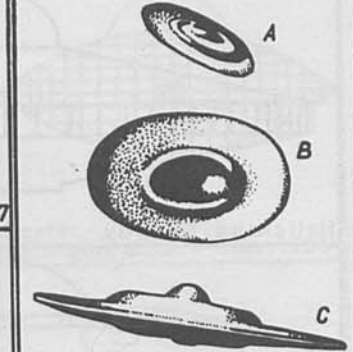
Nr. São Paulo, Brazil. Jun.1969


Cam, Gloucestershire. Feb.1969


Queve, Angola. Mar.1954

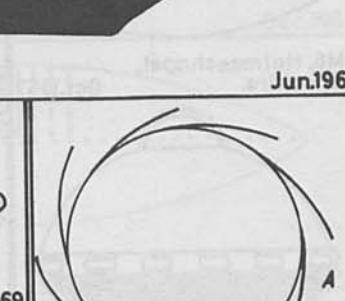


Lawrenceville, Illinois. Jun.1964

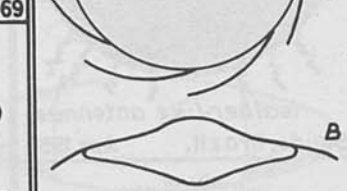


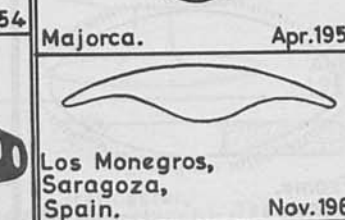
Nr. Recife, Brazil. 1952


Hawke Bay, New Zealand. Jan.1969



Majorca. Apr.1950


Los Monegros, Saragoza, Spain. Nov.1968


Trindade Is. Jan.1954

Catalogue Reference:AIR/2/19086

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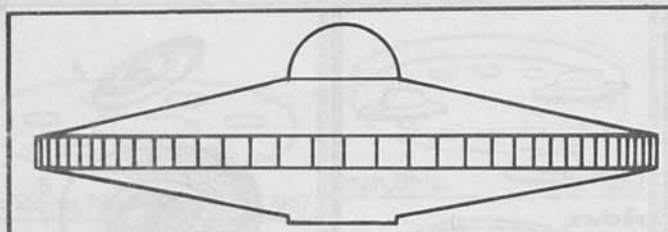
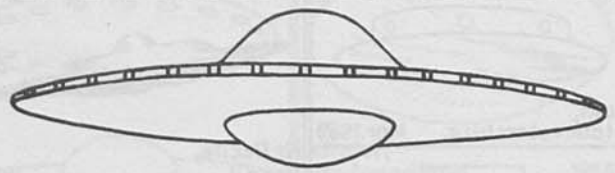
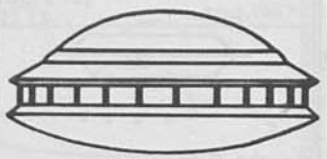


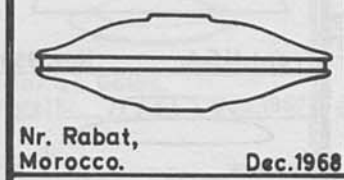
Helleland, Norway. Oct. 1970



Cowichan, British-Columbia. Jan. 1970

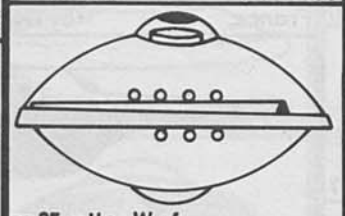


New Mexico, U.S.A. 1963



Nr. Rabat, Morocco. Dec.1968

M6, Holmeschapel, Cheshire. Oct.1967



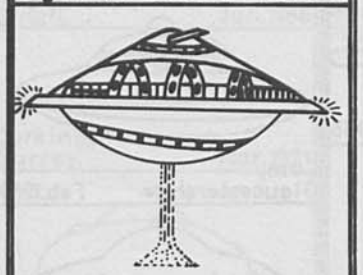
ca.35 miles W. of High River Alberta. Oct.1967

leather-like antennae

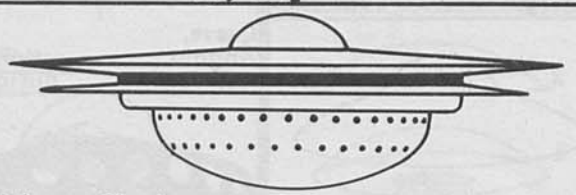
Saude, Brazil. Apr.1958

Frome, Somerset. Jul.1969

Sauvigny-le-Bois, France. Feb.1967

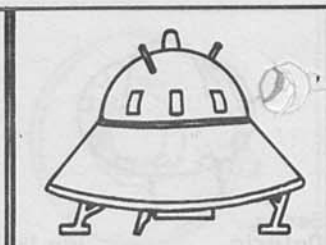


Edmonton, Alberta. May 1967



Fort Lamy, Chad. Mar.1955

Bolvice, Czechoslovakia. 1944

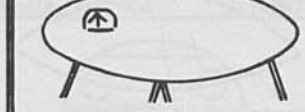


Parr, Lancashire. Jul.1963

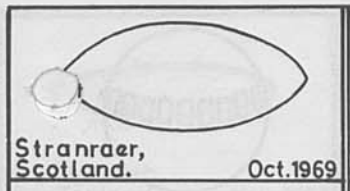
Pirassununga, Brazil. Nov.1969

Bridgenorth, Shropshire. Apr.1969

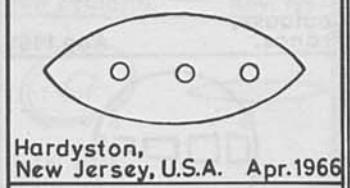
São Paulo, Brazil. Sep.1965



Socorro, New Mexico. Apr. 1964

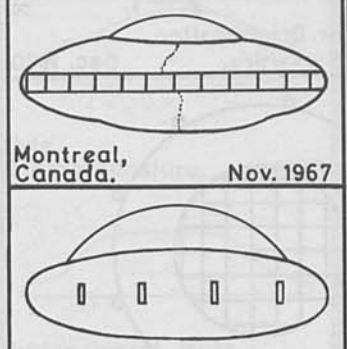


Stranraer, Scotland. Oct.1969

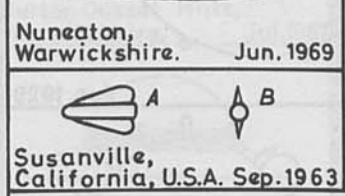


Hardyston, New Jersey, U.S.A. Apr.1966

Sunnyvale, California, U.S.A. Jun.1964

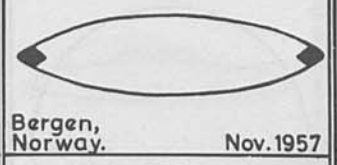


Montreal, Canada. Nov. 1967

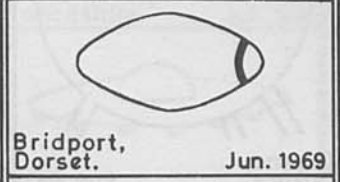


Nuneaton, Warwickshire. Jun. 1969

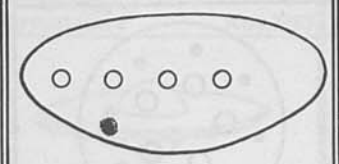
Susanville, California, U.S.A. Sep.1963



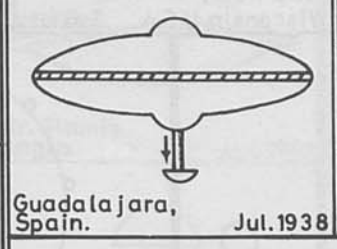
Bergen, Norway. Nov.1957



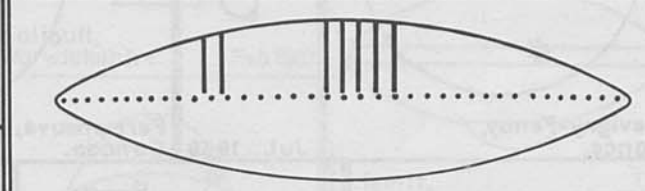
Bridport, Dorset. Jun. 1969



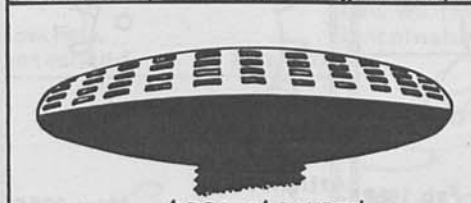
Rebouillon, Var, France. Jul.1966



Guadalajara, Spain. Jul.1938

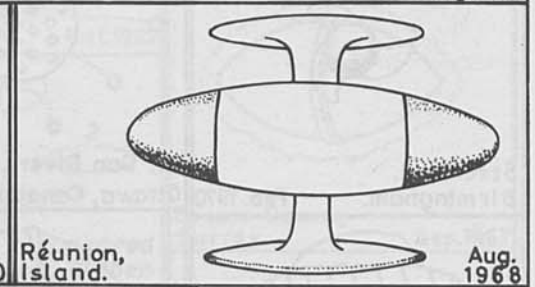


Pittsburg, Kansas, U.S.A. Aug.1952

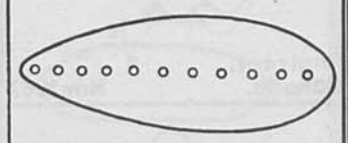


base obscured

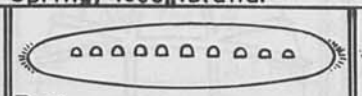
Puy de Dôme, France. Spring, 1960



Réunion, Island. Aug. 1968

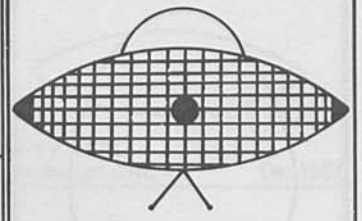


Nr. Great Gorge, New Jersey, U.S.A. Nov. 1967

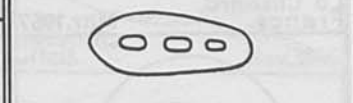


Foxt, Staffordshire. Jul. 1967

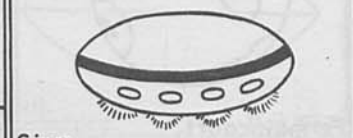
Montreal, Canada. Nov. 1967



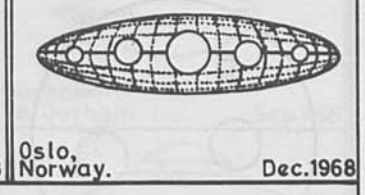
Dexter, Michigan, U.S.A. Mar. 1965



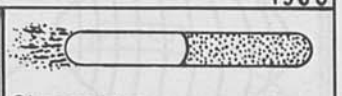
Bengough Saskatchewan. Feb.1968



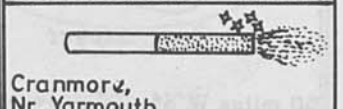
Giwa, New Guinea. Jun.1959



Oslo, Norway. Dec.1968



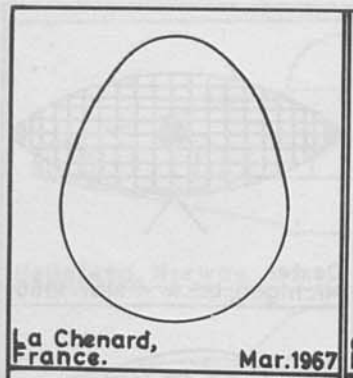
Cirencester, Gloucestershire. Jul.1970



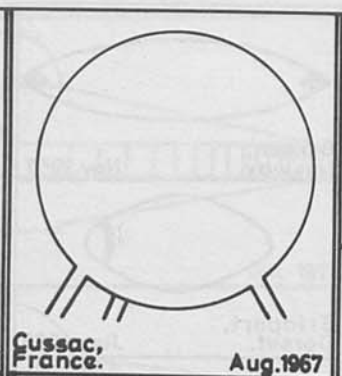
Cranmore, Nr. Yarmouth, I.O.W. Feb.1969

Catalogue Reference:AIR/2/19086

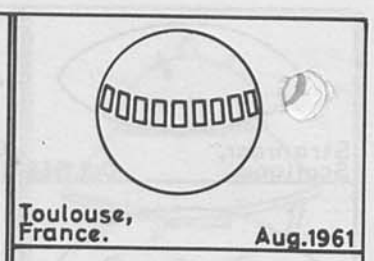
Image Reference:24



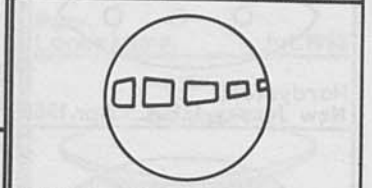
La Chenard, France. Mar.1967



Cussac, France. Aug.1967

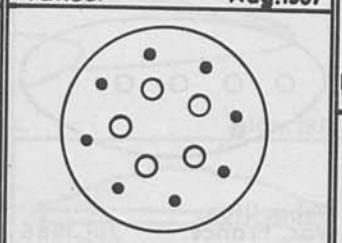


Toulouse, France. Aug.1961



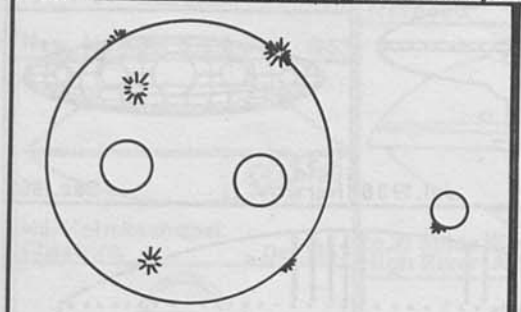
Indianapolis, U.S.A. Oct.1961

Fermaincourt, France. Aug.1965

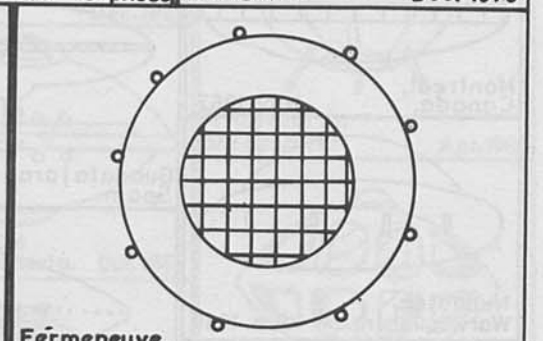


Gills Rock, Wisconsin, U.S.A. Sep.1959

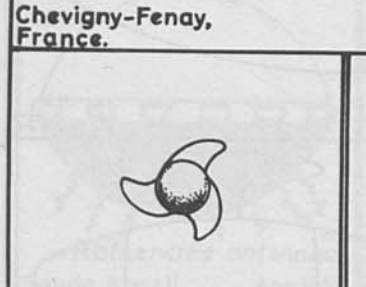
Nr. Brightwalton, Berkshire. Dec. 1970



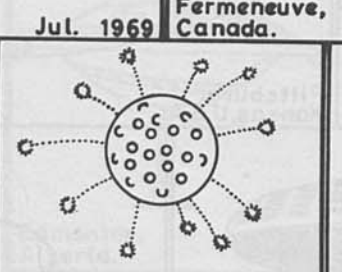
Chevigny-Fenay, France. Jul. 1969



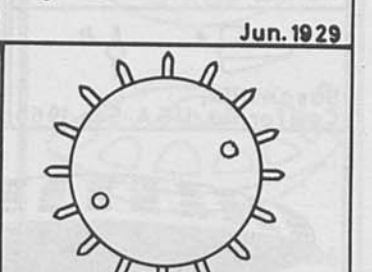
Fermeneuve, Canada. Jun. 1929



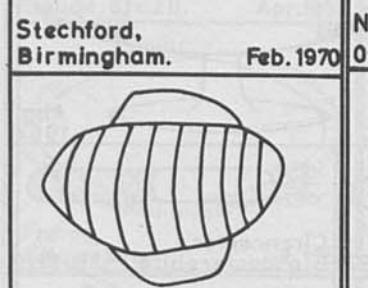
Stechford, Birmingham. Feb. 1970



Nr. Dan River, Ottawa, Canada. Feb. 1968



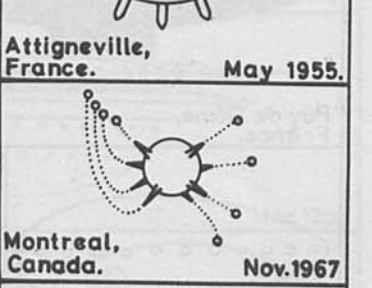
Attigneville, France. May 1955.



ventral aspect

50 miles W. of Monroe, La., U.S.A. May 1956

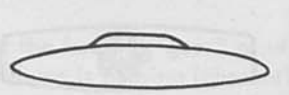
Siggerud, Norway. Jan. 1969



Montreal, Canada. Nov.1967

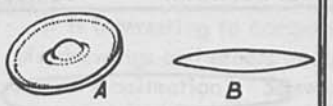
Verdun-en-Lauragais, France. Aug.1965

New Plymouth, New Zealand. Nov. 1957



Heywood, Lancashire. Jul. 1971

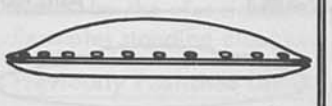
Perry Barr, Birmingham. Dec.1967



Pole Hill, Chingford, Essex. Aug.1967

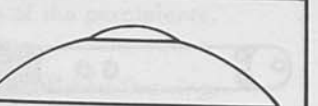
Bradford, Lancashire Nov.1967

Lowestoft, Suffolk. Nov.1966

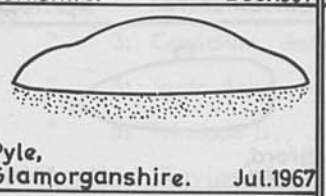


Nab Wood, Shipley, Yorkshire. Dec.1967

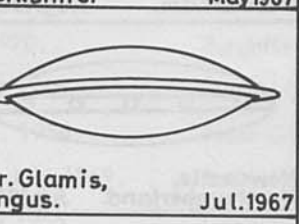
Burghfield, Berkshire. May1967



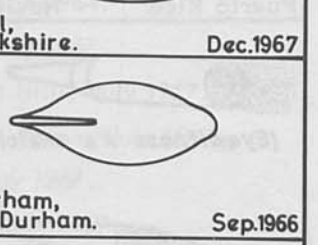
Hull, Yorkshire. Dec.1967



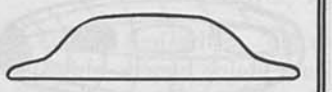
Pyle, Glamorganshire. Jul.1967



Nr. Glamis, Angus. Jul.1967

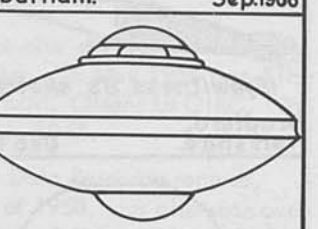


Durham, Co. Durham. Sep.1966

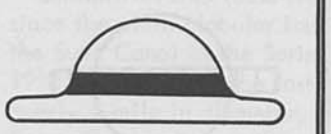


Burton-Dasset Hills, Warwickshire. Jul.1967

Solihull, Warwickshire. Feb.1967

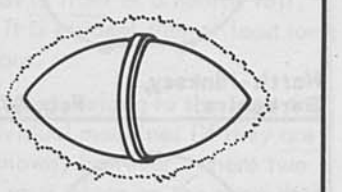


Nr. Izmir, Turkey. Apr. 1960

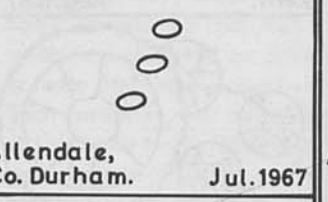


Low Fell, Gateshead. Aug.1967

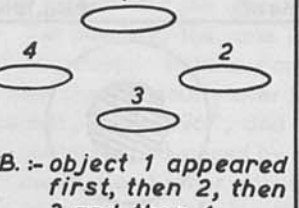
New Waltham, Lincolnshire. Jul.1967



Epsom Downs, Surrey. Sep.1967

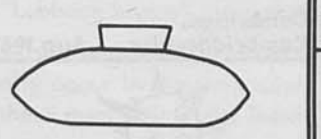


Allendale, Co. Durham. Jul.1967

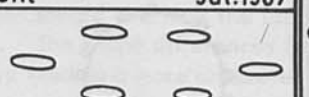


N.B. :- object 1 appeared first, then 2, then 3, and then 4.

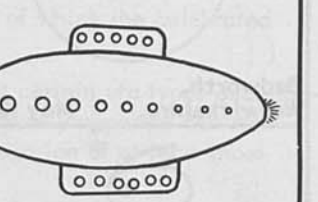
Westcliffe Kent Jul.1967



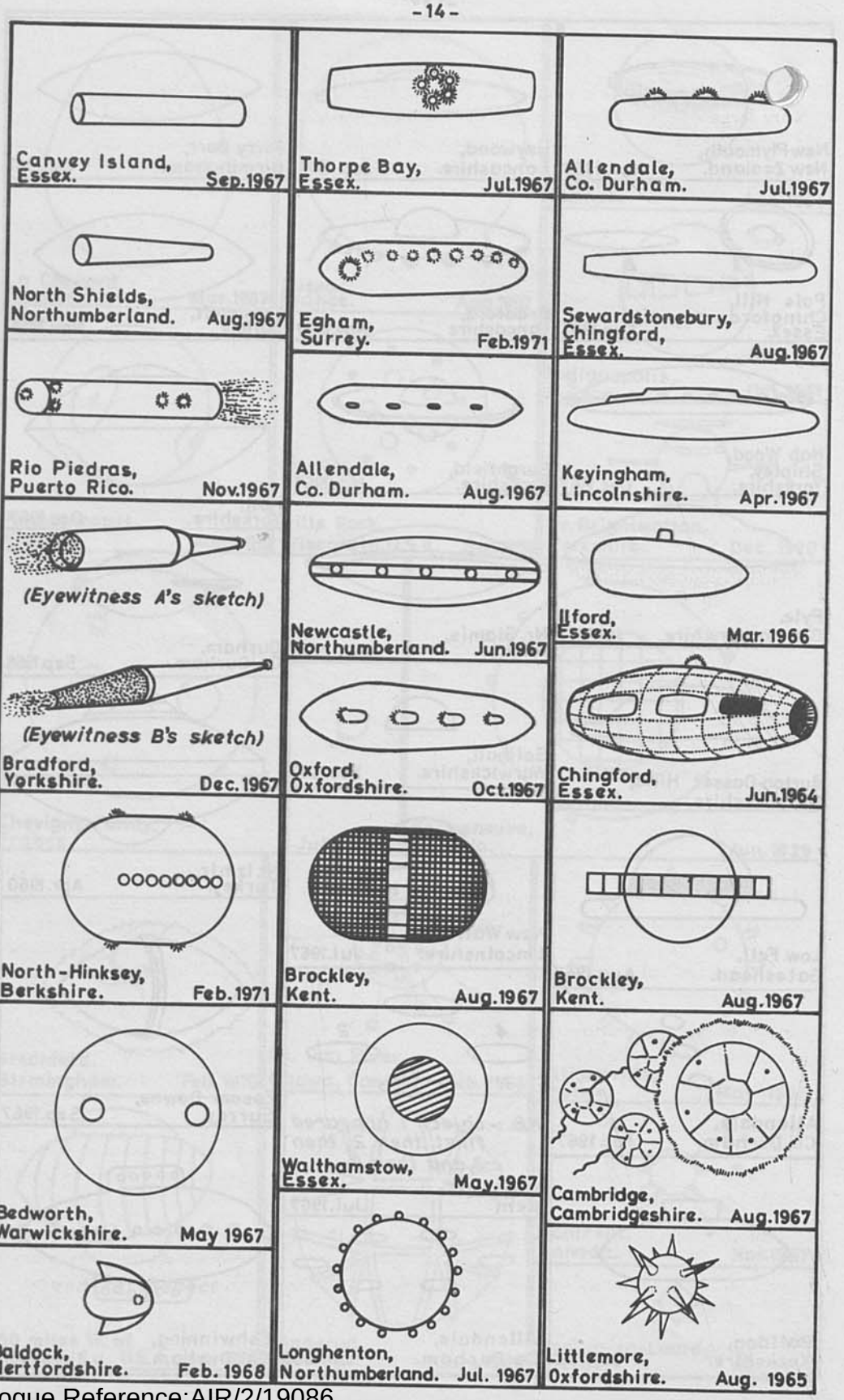
Baildon, Yorkshire. Jul.1967



Allendale, Co. Durham. Jul.1967



Eshwinning, Co. Durham. Jul.1967



ted. It is well known that the landing "gear" of ufos is retractable, at least in a very large number of forms, so there is nothing inherently unnacceptable in any of the foregoing observations. Some examples of landed ufos, in which various kinds of landing "gear" can be seen, are given on pages ten and twelve --- Parr (1963), Pirassununga (1969), Bridgenorth (1969), Socorro (1964), Cussac (1967) and Brightwalton (1970).

It is interesting to compare the similarities between many of the previously published ufo drawings and others accompanying certain hitherto undescribed reports in Data Research's collection. Some of these similarities are exceedingly close, and strongly suggest that the same ufo types were observed at the different dates involved, such differences as occured being attributable to distances, angles of observation, duration of the sightings, local meteorological conditions, the presence or absence of luminous emissions by the ufos themselves, and the observational abilities of the percipients. Examples standing close comparison are tabulated below.

Previously Published Drawings.	Previously Unpublished Drawings.
Example 1: Stranraer, Oct. 1969.	Perry Barr, Birmingham, Dec. 1967.
" 2: Oslo, Dec. 1968.	Chingford, June 1964.
" 3: Cowichan, Jan.1970.	Burghfield, May 1967.
" 4: Santa Anna, Aug. 1965.	Burton-Dasset Hills, July 1967.
" 5: Trindade Is., Jan. 1954.	Near Glamis, Angus, July 1967.
" 6: Chevigny-Fenay, July 1969.	Bedworth, May 1967.
" 7: Attigneville, May 1955.	Longhenton, July 1967.

Further similarities, not as close as those just indicated, are also obvious between the dirigible-shaped object seen some 50 miles NW. of Monroe, La., in May 1956 (see "The Reference for Outstanding UFO Sighting Reports", edited by T.M. Olsen: UFOIRC, 1966 3-47), and the one seen over Eshwinning, Co. Durham, in July 1967.

Similarities like these find additional confirmation in early Data Research records, since the plain globular form seen over Durban in the summer of 1958, was also seen over the Suez Canal in the Spring of 1952, and some four miles north of Greer, Idaho, in Feb. 1910. The size of the last mentioned object was estimated by eyewitnesses to have been nearly $\frac{1}{4}$-mile in diameter, and the ufo itself was seen to pass in front of a nearby hill. Even allowing for gross exaggeration in the estimated size, it is evident that at least some of these spherical or globular ufos are of very large dimensions.

Collectively, these similarities suggest that the ufos concerned belong to the same few basic designs and that they are, just possibly, the same individual machines (if they are machines) observed on different occasions. Instances are known, however, where two or more identical objects were seen simultaneously over the same place on the same date. Such instances, for example Areches, August 1967, and Allendale, July 1967, are proof of this, and instantly refute the contention advanced by certain earlier ufologists that no two ufos are identical. In this connection further attention should be given to the several known reports of formations of unidentified flying lights, of which the celebrated "Lubbock Lights" are probably the best known.

No consideration of ufo shapes should overlook the fact that certain ufo types occasionally occur in close association. The shape differences immediately apparent between these associating ufos inevitably lead to a more accurate segregation of at least those

particular forms. The amazing series of associated ufos noticed over Homer, New York state, on April 11th, 1964 (op.cit., 3-89 to 3-92), was highly illustrative of this. Again, the large cigar-shaped object, with several rotating discoidal ufos flying below it, seen over various parts of Denmark on September 29th, 1952 (D.E. Keyhoe: "Flying Saucers from Outer Space", 1954 (London), p.157), was another instance, as also was the celebrated sighting of a cigar-shaped object accompanied by a whole convoy of disc-like ufos over Lens and Oleron, France, on October 14th the same year (op.cit., pp.157-8). Many additional cases, of course, exist, and one of these, previously unpublished, and involving a cylindrical object of large size which despatched and received numerous smaller rod-like objects, centred around Melbury, Dorset, on November 3rd, 1949 (Data Research files). The incredible events at Aveyron, France, early in 1967 (see "Flying Saucer Review", vol.16, 1970, and vol.17, 1971), were still further examples.

Sufficient evidence has been presented here, it is hoped, to show that numerous ufos, despite various apparent differences in detail, can be grouped around several distinct basic ufo designs, and that the differences themselves are not necessarily real but due, in at least some cases, to a combination of a whole range of variables involving sighting duration, meteorological conditions then extant, eyewitnesses observational ability, etc., etc. Evidence has also been forwarded to demonstrate that identically shaped ufos are occasionally seen. It has also been pointed out that, since it is possible, even probable, that ufos originate from two or more different sources, a considerable variety of shapes and designs should be expected.

In the foregoing drawings, emissions (smoke, vapour, or light-rays) have been indicated by broken lines, thereby readily distinguishing them from the ufo proper. Two or more views, sometimes sequentially arranged, of the same object are indicated alphabetically; colours, however, which are markedly contrasted in some ufos, are not given. In due course, cone-shaped, pyramidal, triangular, crescentiform, ring-shaped, and other shaped ufos will be similarly treated through the same presentation methods adopted here.

A PRELIMINARY CATALOGUE OF SOURCES FOR STUDYING UFO "NESTS" & "CIRCLES".

Students of the ufo phenomenon will scarcely need reminding that unusual circular areas of calcined or discoloured earth, gravel, or tarred surfaces, and similarly shaped areas of crushed or withered vegetation, have been found from time to time in districts where ufo activity has occured, and that the general conclusion has been that these areas resulted from actual ufo landings at those spots. As this aspect of ufology requires further attention, the following references to ufo "circles" and "nests" are presented here as a preliminary guide for those able to investigate the subject more deeply. Many further records of "nests" and "circles" exist for localities omitted from the list below; plotting of all these on a map could be enlightening.

Australian "nests"	Ufolog, no:58, 1969, p.5; Flying Saucer Review, vol.16, no: 4, 1970, p.36; M. Hervey: "Ufos Over the Southern Hemisphere", 1969 (Sydney), p.81.
Brazilian "circles"	Flying Saucer Review, vol.16, no:1, 1970, pp. 15-9.
Canadian "circle"	Saucers, Space, and Science, no: 59, 1970, p.6.
New Zealand "circle"..	Flying Saucer Review, vol. 16, no: 2, 1970, p.27.
" " "nests" ...	loc.cit., pp.31-2; op.cit., vol.16, no:1, 1970, p.32.
Spanish "circle".....	op.cit., vol.17, no:1, 1971, p.iii.
U.S.A. (Iowa) "circles"	Saucers, Space, and Science, no: 61, 1971, pp.7-8.
U.S.A. (Colorado) circles	J. Lorenzen, and C. Lorenzen: "Ufos Over the Americas", (New York), pp.162-3.

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