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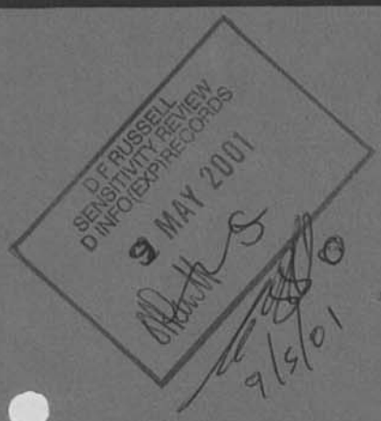

MINISTRY OF DEFENCE

DIRECTORATE OF

SCIENTIFIC INTELLIGENCE

AND

JOINT TECHNICAL INTELLIGENCE COMMITTEE

UNIDENTIFIED FLYING OBJECTS

June 1951

D.S.I./J.T.I.C. REPORT No. 7

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UNIDENTIFIED FLYING OBJECTS

Report by the "Flying Saucer" Working Party

Introduction: Historical

1. Unidentified flying objects were first reported after the war from Sweden in the summer of 1946, and for some months there was a considerable number of alleged sightings, mostly in Sweden, but a few also in Norway, Finland and Germany. The descriptions given were usually of some sort of wingless missile travelling at very high speed, cigar-shaped or circular, sometimes emitting bright lights, and occasionally sound. The reports attracted considerable attention in the press, where the objects became known as "ghost rockets" or "spook bombs." The reports died away after the summer of 1946, and very few have appeared since the end of that year.

2. The first report of a "flying saucer" came from the United States in June 1947; the name arose because the observer (Mr. K. Arnold, of Boise, Idaho) described what he had seen as a "saucer-like disc." The report received much publicity, and was quickly followed by a great many more. Since then reports of sightings have been made at intervals in large numbers, mostly from the United States, but some from other parts of the world, including Great Britain, where there was a notable outbreak during the summer and autumn of 1950. The objects reported have become popularly known by the generic title "flying saucers," but the descriptions given have included not only flying disc-like objects of the original "saucer" type, but also wingless torpedo or cigar-shaped bodies, spherical or balloon-shaped objects, and luminous phenomena of various types.

3. The reported observations have been almost exclusively visual; reports of any associated sound have been rare. In no case has any tangible, material, or objective evidence, been submitted. It is therefore extremely difficult, if not impossible, to arrive at anything like scientific proof of the nature of the phenomena.

Review of previous evidence

4. A systematic and extensive investigation of all the reported incidents in the United States was carried out between 1948 and 1950 by the U.S.A.F., in conjunction with the Rand Corporation, Dr. Hynek, a well-known astronomer from Ohio State University, and other specialist consultants.

we have been enabled to study two reports (Project "Sign" and Project "Grudge") covering the investigation of incidents up to the beginning of 1949.

Deletion (put in place 24/1/07)

5. On the Scandinavian sightings in 1946, Project "Grudge" reports as follows:—

> "The Swedish Defence Staff conducted a comprehensive study of the early incidents. Several thousand reports were thoroughly investigated and plotted, with resultant conclusions that all evidence obtained of sightings was explicable in terms of astronomical phenomena."

6. Dealing with reports from the United States, Project "Grudge" quotes the opinion of the Rand Corporation after an examination of 172 incidents: "to date, we have found nothing which would seriously controvert simple rational explanations of the various phenomena in terms of balloons, conventional aircraft, planets, meteors, bits of paper, optical illusions, practical jokers, psychopathological reports, and the like."

Dr. Hynek investigated 228 incidents and concluded that approximately 33 per cent. were astronomical with varying degrees of probability; 37 per cent. were not astronomical but suggestive of other explanations, such as birds, rockets, balloons, ordinary aircraft, &c.; the remaining 30 per cent. either lacked sufficient evidence or the evidence offered suggested no explanation, though some of these might conceivably be astronomical.

Summing up their own conclusions and those of their consultants, the authors of the " Grudge " report finally concluded that, of the 228 incidents considered, thirty must be disregarded for lack of workable evidence, while 164 can be satisfactorily explained. For the balance of thirty-four, containing some evidence, there is no apparent ready explanation, if the evidence is accepted as accurate and reliable. When psychological and physiological factors are taken into consideration, the opinion is expressed that all these incidents can also be rationally explained.

7. All the more spectacular incidents, of which much has been made recently in the British press and publications, have been fully explained. Two examples may be quoted.

The incident at Fort Knox, Kentucky, in January 1948, which caused the death of Lieutenant Mantell, U.S.A.F., is fully analysed, and all the evidence collated in the " Grudge " report. The conclusion is reached that without any doubt whatever Lieutenant Mantell met his death while pursuing the planet Venus, which was of unusual brightness on the night in question.

We have been informed, in conversation with a member of the United States investigating team, that the even more sensational report of the discovery of a crashed " flying saucer," full of the remains of very small beings, was ultimately admitted by its author to have been a complete fabrication.

8. The " Grudge " report includes a " frequency distribution " curve of the reports of incidents received between May 1947 and December 1948. This shows a marked tendency towards peaks in the few weeks immediately following an incident which received wide publicity, and is of interest in indicating the extent to which sightings may be psychological in origin.

9. The final conclusion reached by the Americans is that all reports of unidentified flying objects may be categorical as either—

(1) misinterpretation of various conventional objects (*e.g.*, aircraft, balloons, meteors or meteorites, stars, fireballs);
(2) a form of mass hysteria; or
(3) deliberate hoaxes.

Investigation of incidents in the United Kingdom

10. During the summer and autumn of 1950 the British press gave considerable publicity to reports of alleged sightings of luminous bodies travelling at high speed, usually after dark, but occasionally in daylight. The Air Ministry also received a number of letters from members of the public with similar reports. One of these, from a locomotive fireman at Derby, who was clearly a careful and accurate observer, gave an excellent description of what was undoubtedly a meteorite. We have not attempted any systematic investigation of all the evidence presented, but can find no reason for supposing that any of the phenomena reported cannot be similarly explained; in certain cases, when observations were reported at approximately the same time from widely separated localities, this was undoubtedly the explanation.

11. Three incidents were reported officially by experienced officers from R.A.F. Stations. These have been investigated in as much detail as is possible with reports of visual observations.

12. On 1st June, 1950, the pilot of a Meteor reported on landing at Tangmere that at 1430, while flying at 20,000 feet on an easterly course over the Portsmouth area, he had sighted an object travelling at very high speed on a reciprocal course, 1,000–2,000 feet above him and roughly 1,200 yards to starboard. He described the object as circular, and of bright metallic appearance. He could not give any real estimate of its speed, but thought it might be about 800 knots. He had observed it for about 15 seconds, during which period he had looked away to port and back, having no difficulty in picking up the object again.

Tangmere made enquiries of the radar station at Wartling, and were informed that, at about the same time as the pilot's report, the Duty Controller and three radar operators had observed an unusual response on the P.P.I., which appeared to be due to a target moving at 1,300–1,650 knots, first approaching and then receding from the station. The Controller stated that the response " looked to be very thick, leaving more afterglow than a usual response behind." The operator, observing on a separate display, said that it was " slim, short and weaker than

aircraft," and that a series of " shadows " appeared in the space between successive points.

As the receding course of the radar target could have tallied with the course of the object reported by the Meteor pilot, all the people concerned were interviewed by a member of Research Branch, Fighter Command, from whose report the above data have been taken. It was established that there was in fact a discrepancy of ten minutes between the times of the two reports, which were estimated as individually accurate to ± 1 minute. It must therefore be concluded that there was no connection between the unusual P.P.I. response and the pilot's visual observation.

We believe that the radar response can be very simply explained as due to interference from another transmitter, a phenomenon which has been frequently observed, and which is described in detail in Appendix A. It is impossible to be entirely definite about the pilot's report. Assuming that he was not merely the victim of an optical illusion, the most probable explanation, which is borne out by his description of the object as " circular," implying a spherical body, is that he saw a meteorological balloon and greatly over-estimated its speed. We can find no reason whatever for adopting any less simple hypothesis.

13. The remaining two incidents were reported from the Royal Aircraft Establishment, Farnborough, and the officers concerned were interviewed by members of this Working Party.

F/Lt. Hubbard, an experienced pilot, said that at 1127 on 14th August, 1950, he and two other officers on the airfield heard a subdued humming noise, like a model Diesel motor, which caused them to search the sky overhead. The weather was fine and visibility good. The other two officers saw nothing, but F/Lt. Hubbard, who alone was wearing sun-glasses, states that he saw, almost directly overhead at first sighting, an object which he describes as a flat disc, light pearl grey in colour, about 50 feet in diameter at an estimated height of 5,000 feet. He stated that he kept it under observation for 30 seconds, during which period it travelled, at a speed estimated at 800–1,000 m.p.h., on a heading of 100°, executing a series of S-turns, oscillating so that light reflection came from different segments as it moved.

We have no reason to doubt that F/Lt. Hubbard honestly described his own impression of what he saw, but we find it impossible to believe that a most unconventional aircraft, of exceptional speed, could have travelled at no great altitude, in the middle of a fine summer morning, over a populous and air-minded district like Farnborough, without attracting the attention of more than one observer. We conclude, either that F/Lt. Hubbard was the victim of an optical illusion, or that he observed some quite normal type of aircraft and deceived himself about its shape and speed.

14. F/Lt. Hubbard was also concerned in the other incident, when, at 1609 on 5th September, 1950, he was standing on the watch-tower with five other officers, looking south in anticipation of the display by the Hawker 1081. The sky was about 3/8 obscured, with a strato-cumulous cloud base at 4,000 feet. At about the same moment they all saw, at an estimated range of 10–15 miles, an object which they described as being a flat disc, light pearl grey in colour, and " about the size of a shirt button." They all observed it to follow a rectangular flight path, consisting in succession of a " falling leaf," horizontal flight " very fast," an upward " falling leaf," another horizontal stretch, and so on; finally it dived to the horizon at great speed. The pattern was estimated to be executed somewhere over the Guildford–Farnham area.

F/Lt. Hubbard was satisfied that the objects he saw on the two occasions were identical; the other observers agreed that the second object fitted the description they had been given of the first.

We have no doubt that all these officers did in fact see a flying object of some sort. We cannot, however regard the evidence of identification of this object, which was only seen at very long range, with the earlier one as of any value whatever. Further, we again find it impossible to believe that an unconventional aircraft, manœuvring for some time over a populous area, could have failed to attract the attention of other observers. We conclude that the officers in fact saw some quite normal aircraft, manœuvring at extreme visual range, and were led by the previous report to believe it to be something abnormal—an interesting example of one report inducing another. We are reinforced in this belief by an experience of one of our number (Wing Commander Formby, R.A.F.) which is recounted in Appendix B and illustrates the ease with which mistaken identifications may be made, even by experienced observers.

Conclusions and Recommendations

15. When the only material available is a mass of purely subjective evidence, it is impossible to give anything like scientific proof that the phenomena observed are, or are not, caused by something entirely novel, such as an aircraft of extra-terrestrial origin, developed by beings unknown to us on lines more advanced than anything we have thought of. We are, however, satisfied that the bulk of the observations reported do not need such an explanation, and can be accounted for much more simply. There is a very old scientific principle, usually attributed to William of Occam, which states that the most probable hypothesis is the simplest necessary to explain the observations.

We believe that this principle should be applied to the present case, and accordingly conclude that all the observations reported were due to one or other of the following causes: —

(1) Astronomical or meteorological phenomena of known types.
(2) Mistaken identification of conventional aircraft, balloons, birds, or other normal or natural objects.
(3) Optical illusions and psychological delusions.
(4) Deliberate hoaxes.

We consider that no progress will be made by attempting further investigation of unco-ordinated and subjective evidence, and that positive results could only be obtained by organising throughout the country, or the world, continuous observation of the skies by a co-ordinated network of visual observers, equipped with photographic apparatus, and supplemented by a network of radar stations and sound locators. We should regard this, on the evidence so far available, as a singularly profitless enterprise. We accordingly recommend very strongly that no further investigation of reported mysterious aerial phenomena be undertaken, unless and until some material evidence becomes available.

Metropole Buildings, W.C. 2.

APPENDIX A

A Note on an unusual Radar response by Mr. G. E. G. Graham, D.S.I. 1

With reference to the unusual response observed at Wartling on 1st June, 1950, it is suggested that the signal observed was received directly from another radar transmitter, possibly ship-borne, in the Portsmouth–Isle of Wight area. This will be termed the " Western " transmitter.

Assuming the modulation pulses of the " Western " transmitter to be isochronous with those of the Wartling set, and that the pulse of the former was occurring anything up to, say, 1·2 milliseconds minus the transmission time later than that of the latter, the received signal would be visible on the P.P.I. display. Moreover, unless the " Western " transmitter were very far away it is probable that the received signal would be of large amplitude and would therefore, as stated in the report, " appear very thick leaving more afterglow than a usual response behind."

It is reasonable to suppose that the repetition rates mentioned above would not remain identical for more than a few seconds. A relatively small drift in the repetition rates will produce a considerable change in the time interval between the transmitter pulse and the firing instant of the receiver time base. This would result in a large displacement of the received signal along the scan, which would be interpreted as a high speed movement of the " target " in the radial direction. It will be appreciated that if at the instant of first sighting the repetition rate of the " Western " transmitter were above but slowly approaching that of the Wartling set, the " target " would appear to close range rapidly; as the repetition rates became equal the " target " would appear stationary, and as the " Western " repetition rate fell below that of the Wartling set, the " target " would appear to open range rapidly. It may further be noted that one would expect reflections from objects (hills, &c.) relatively close to the " Western " transmitter to be of sufficient amplitude to be displayed also on the P.P.I., which would give the impression of " shadows " between successive points as described in the report.

APPENDIX B

An Observation of a "Flying Saucer" by Wing Commander Formby, R.A.F.

While on the rifle range at Tipner, Portsmouth, an object having the appearance of a "Flying Saucer" was observed in the distance. Visibility was good, there being a cloudless sky and bright sunshine. The object was located and held by telescope (× 20 magnification), and gave appearance of being a circular shining disc moving on a regular flight path. It was only after observation had been kept for several minutes, and the altitude of the object changed so that it did not reflect the sunlight to the observer's eye, that it was identified as being a perfectly normal aircraft.