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## REPORT BY THE DIRECTOR OF INTELLIGENCE, USAF

to the

JOINT INTELLIGENCE COMMITTEE

on

UNIDENTIFIED AERIAL OBJECTSTHE PROBLEM

1. To advise the Joint Intelligence Committee of the findings of the Directorate of Intelligence, USAF, regarding the sightings of unidentified aerial objects and the Air Force organization established for further investigation and solution of the problem.

FACTS BEARING ON THE PROBLEM

2. Following the great number of reported sightings of flying discs during the summer of 1947, Hq, Air Materiel Command, in a letter dated 23 September 1947, requested that the Commanding General, Army Air Forces, issue a directive assigning a priority, security classification and code name for a detailed study of flying disc reports. Hq, Air Materiel Command explained that their action was based on the opinion that phenomena reported appeared to be real and that there were objects in existence which would approximate the shape of a disc. AIC concluded that some incidents might be caused by natural phenomena but that some incidents described characteristics which suggested evasive tactics. Awaiting a specific directive, Hq, AIC continued to collect information on flying disc incidents in order to more clearly define the nature of the phenomena. On the

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22nd of December 1947, in a memorandum, "Analysis of Flying Disc Reports," the Director of Intelligence concurred with Air Materiel Command's recommendation and forwarded their letter to the Director of Research and Development, DCS/M for reply.

3. In a letter dated 30 December 1947, the Director of Research and Development, DCS/M, advised the Commanding General, AMC, that Air Force policy was not to ignore reports of sightings and phenomena in the atmosphere but to recognize that part of its mission is to collect, evaluate and act on information of this nature. To implement this policy it was directed that Hq, Air Materiel Command set up a project with the purpose of collecting, collating, evaluating, and distributing to interested government agencies and contractors, all information concerning sightings and phenomena in the atmosphere which could be construed to be of concern to the national security. This directive assigned a priority of 2-A to the project, a RESTRICTED classification, and a code name of "SIGN".

4. At Air Materiel Command the Technical Intelligence Division was assigned the responsibility for accomplishing this mission with the full assistance of all divisions and activities within Air Materiel Command to permit successful completion of the project. The cooperation of the Army, Navy, Coast Guard and F.B.I. was solicited in order to facilitate the forwarding and investigation of all reports. Arrangements were effected for handling such reports directly with Air Materiel Command.

5. In addition to the collection, analysis and investigation activities directed by the project personnel at Hq, Air Materiel Command, Air Intelligence Memorandum dated 6 August 1948, subject: "Flying Saucers", required that a study be made by the Air Intelligence Division to examine the pattern of tactics of reported flying saucers and develop conclusions as to their probability. The results of this analysis were prepared as Air Intelligence Division (DI/USAF-ONI) Study No. 203,

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"Analysis of Flying Object Incidents in the United States." The Directorate of Intelligence has maintained close liaison with Project "SIGN" activities in order that appropriate staff sections of Headquarters, USAF may be adequately advised on the entire subject of unidentified aerial phenomena reports.

6. The code name of "SIGN" for the project was changed to "GRUDGE" by a request on 16 December 1948 by the Director of Research and Development, LGS/M, Hq, USAF. "GRUDGE" under the U.S. Joint Services Code Word Index refers to the title "Detailed Study of Flying Discs."

ASSUMPTIONS AND CONCLUSIONS

7. Hq, Air Materiel Command will continue its investigations under project "GRUDGE" and the Directorate of Intelligence, USAF, will maintain close liaison with that Command in order to advise Staff sections on the subject of unidentified aerial objects.

8. See Appendix "A" for discussion of the problem and conclusions drawn therefrom.

RECOMMENDATIONS

9. It is recommended that the Joint Intelligence Committee:

a. Furnish the Director of Intelligence, USAF, with comments on this paper.

UNIDENTIFIED AERIAL OBJECTSFACTS AND DISCUSSION

1. As of 10 March 1949, a total of 256 incidents involving unidentified aerial objects had been recorded, under Project "SIGN". The majority of these were domestic observations but there were many from reports from foreign sources. In each incident the observers have been interrogated by investigators and the results have been analyzed by technical personnel.

2. Condensed summaries have been prepared on each incident to provide basic information to individuals and agencies having a responsibility or interest in the project.

3. The extreme lack of accurate observed details and the unpredictable occurrence of incidents have made positive identification extremely difficult. Data on unidentified aerial objects has grouped the incidents as follows:

13.3%	-	discs
43.0%	-	spherical or elliptical shape (including balls of fire)
6.0%	-	cylindrical shape
2.5%	-	winged objects
32.2%	-	shapes other than those above

4. In order to identify ordinary and conventional objects, that have probably been included in the list of reported incidents, graphical methods have been applied as follows:

5. Prepared graphical data includes:

a. Charts concerning unidentified aerial objects, to indicate:

(1) Type of object observed

(2) Vicinity <sup>of</sup> <sub>in</sub> which particular type of object was observed

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(3) Direction of flight

- b. Locations of guided missiles, research and related centers
  - c. Locations of airlines, airfields, both military and commercial
  - d. Locations of radio beacon stations
  - e. Known or projected radar stations from which reports and assistance may be derived
  - f. Meteorological stations from which balloon release data, radiosonde or theodolite readings may be obtained
  - g. Past, current, and projected celestial phenomena
  - h. Flight paths of migratory birds
6. A psychological analysis of the reported data is being prepared by Aero-Medical Laboratory, AMC, for the purpose of determining those incidents that are probably based upon errors of the human mind and senses. A preliminary verbal report from the professional psychologists indicates that a considerable number of incidents can be explained as ordinary occurrences that have been misrepresented, as the result of human errors.
7. Specialist services, supplementary to those of AMC technical offices, are being provided by a number of agencies.
8. The Air Weather Service has reviewed incident data and has provided the information that 24 of the first 172 coincide, both with respect to location and time, with the release of weather balloons.
9. The Ohio State University has contracted with AMC to supply astronomical services in an effort to identify meteors, planetoids and associated phenomena. Professor Hynak, Ohio State University Astrophysicist and head of the University Observatory has reviewed the
10. Preliminary report of Dr. Hynak, indicates that 30 per cent of the first 200 incidents are positively attributable to astronomical phenomena, and 45 per cent could be explained on the basis of such

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phenomena or the sighting of weather balloons and other objects. This gives a total of 75 per cent of all incidents with possible explanation.

11. Members of the Scientific Advisory Board to the Chief of Staff, USAF, who have provided consultant services to Project "Grudge", include Dr. Irving Langmuir, Chief, General Electric Research and Dr. G. E. Valley of MIT.

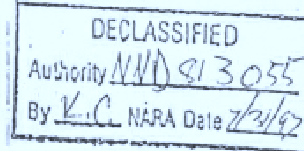
12. Dr. G. E. Valley has displayed an active interest in Project "Grudge" to the extent of reviewing the reported incidents and writing an overall type of analysis in which he groups the various objects and then analyzes each group from the standpoint of scientific feasibility.

13. Inasmuch as various surmises have been advanced that some of the reported observations may have represented "space ships" or satellite vehicles, a special study has been initiated with the Rand Corporation, under the Rand Project, to provide an analysis from this standpoint and also to provide fundamental information, pertaining to the basic design and performance characteristics that might distinguish a possible "space ship." Rand Corporation has also informed AMC that their analysis of all incidents leads them to the conclusion that there is nothing in any reported incidents which would go against a rational explanation.

14. The Weather Bureau Library of the Department of Commerce has supplied information on "ball lightning." This was requested because of the belief by some persons that some of the observations may have represented "ball lightning." It appears that the subject of "ball lightning" occupies an undetermined status and authorities are not at all convinced that such a phenomenon actually exists.

15. On 8 April 1949 the repeated occurrence of green fireball phenomena in New Mexico was discussed with Dr. Joseph Kaplan, member of the USAF Scientific Advisory Board. This phenomenon has caused

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considerable concern on the part of Hq. Fourth Army and has occupied the interests of Dr. Lincoln LaPaz of the University of New Mexico. Dr. LaPaz believes that the phenomena are not meteorites. Because of Dr. LaPaz' outstanding ability for accurate observation and his experience in identification of meteoritic phenomena, Dr. Kaplan expressed the belief that the green fireball phenomena should be further investigated. Dr. Kaplan's views and this phenomena were discussed

on 12 April 1948 with Dr. Theodore von Karman, Chairman, USAF Scientific Advisory Board, who feels that the problem is more properly in the field of upper atmosphere research than the field of intelligence.

16. A summary of the incidents reported would indicate that:

a. All incidents which coincide with explainable serial activities or recorded natural phenomena should be eliminated from further consideration.

b. Creditable unexplained incidents involving light phenomena should be further investigated and analyzed by highly competent scientists who can establish the identity either within or without the limits of known natural phenomena.

c. Creditable unexplained incidents which might involve the use of atomic powered craft of usual design should be considered jointly by the Atomic Energy Commission and highly competent aerodynamicists to determine the necessity for further consideration of such incidents by National Defense Intelligence Agencies.

#### CONCLUSIONS

17. The majority of reported incidents are reliable to the extent that they have involved the sighting of some object or light phenomenon.

18. In spite of the lack of accurate data provided by witnesses, the majority of reported incidents have been caused by mis-identifica-

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tion of weather balloons, high altitude balloons with lights and/or electronic equipment, meteors, bolides, and the planet Venus.

19. There are numerous reports from reliable and competent observers for which a conclusive explanation has not been made. Some of these involve descriptions which would place them in the category of new manifestations of probable natural phenomena but others involve configurations and described performance which might conceivably represent an advanced aerodynamical development. A few unexplained incidents surpass these limits of credibility.

20. It is unlikely that a foreign power would expose a superior aerial weapon by a prolonged ineffectual penetration of the United States.