

A. ORIGIN:

In compliance with verbal instructions from Maj General Cabell, Director of Intelligence, AFOI, this Hq proceeded to investigate the report concerning the sighting of an unidentified aerial object in the vicinity of Montgomery, Ala. occurring 24 July 1948 between the hours of 0140 and 0245 EST.

B. ACTION INITIATED

1. On 25 July 1948, Major R. A. Llewellyn, Project "SIGN" Officer, Mr. A. Deyarmond, Technical Assistant to Col Clingerman, Mr. A. C. Loedding, Assistant Deputy for Technical Analysis Division, and Capt R. J. Groseclose, Security Officer, proceeded to Atlanta, Georgia where they interviewed Capt C. S. Chiles and Mr. John B. Whitted, EAL pilots, and obtained their signed statements as to the anomaly observed. Copies of these statements together with drawings executed by Chiles and Whitted are appended as Exhibit "A". On 31 July 1948 Maj Llewellyn personally interviewed Mr. C. C. McKelvie, the sole passenger awake during the hours of 0140 and 0245 EST, as to what he saw while a passenger aboard the DC-3 piloted by Chiles and Whitted. His statement is attached as Exhibit "B".

2. Following the above interrogations, requests were disseminated to Hq, USAF, Naval and commercial airlines by priority teletypes 2 Aug 1948 requesting data on aircraft movements in the general vicinity of Alabama, Florida, Mississippi, Georgia, South Carolina, Tennessee and North Carolina. Charts of these aircraft movements are submitted as Exhibit "C".

3. In compliance with Hq AMC letter dated 6 July 1948, the Sixth Office of Special Investigations (IG) District undertook an investigation pertaining to an aerial phenomena reportedly seen by various people within the 6th OSI District. A complete report of the various sightings, pages 1-16 is appended hereto as Exhibit "D". Further reports and statements as to reliability are also appended.

4. After the statements were received, a complete analysis as to the date and time, geographical location, and description of the object was charted. The completely assembled data, i. e., statements of witnesses, reliability statements, airline schedules and the collated data chart were forwarded to the various technical agencies to effect an evaluation and interpretation of the technological factors involved.

C. FACTUAL DATA

1. The collated data chart (Exhibit "B") was drawn up to effect a trend or pattern in regard to the reported sightings.

a. From this chart it is evident that three or possibly four separate incidents were involved:

- (1) That pertaining to sightings by Massey, Chiles, Whitted and McKelvie
- (2) That of Feldvay, Mansfield and Kingsley
- (3) That of Avery, Russell, Nesmith, Skinner and Provesau
- (4) That of Gall, Shaw, Mr & Mrs. Sebring, Mrs. Hill and Mrs. Renfrow

b. To exclude irrelevant factors in a systematic manner, the information presented in Exhibit "B" is presented in the order of occurrence and significance.

(1) Incident #1

a. Object was sighted 24 July 1948 between 0140 and 0150 EST from the ground at Robins Air Force Base, Macon, Georgia.

LOW
altitude

b. Object was again sighted from an altitude of 5,000 feet by Chiles & Whitted while flying a DC-3 some 20 miles south of Montgomery, Alabama. The time of the sighting was 24 July 1948 at approximately 0245 EST

c. Both the Massey sighting and that of Chiles & Whitted describe the object as "cigar" or "cylindrical in shape." (McKelvie perceived only the glow emitted by

d. All observers agree that the object was traveling in a general southerly heading and that it was trailed by a flame varying in color and that it behaved like a normal craft insofar as disappearing from the line of sight was concerned.

NOTE: It is a known fact that atmospheric conditions such as varying degrees of humidity and incidence of light refraction often influence the color of the light observed. This would serve to explain why many observers conflict in their descriptions as to color of light displayed by the object or its trail.

e. Four witnesses to this sighting are involved; three are trained observers. In no instance were there any indications of subversive or ulterior influences involved.

f. Both the Massey account and that of Chiles, Whitted and McKelvie were officially made within a period of time that would preclude any chance of impressions being gained from radio or newspaper reports.

~~SECRET~~

(2) Incident #2

Object #2 was observed by Feldvary, Mansfield and Kingsley at 0230 hours 24 July 1948, while airborne, between Blackstone, Virginia, and Greensboro, North Carolina. This sighting is considered separately since the descriptions of speed as "meteoric" or "terrific", the manner of travel described as an arc or horizontal, and the fact that it "faded like a meteor" seem to indicate that the object seen was not the one observed in Incident 1.

(3) Incident #3

This object was observed between 2100 and 2300 hours 26th July 1948 at Chamblee, and Augusta, Georgia, by observers Avery, Russell, Bell, Battle, Atkinson, Mrs. Skinner, Proveau and Gall. This object was not thought to be a meteor in that it maneuvered. The glow was described as varied in color but predominantly brilliant blue-white. The course was described as generally "southern". Although the dates seem to indicate that this sighting could not be the same as that described in Incident 1, yet the major portion of this testimony refers to a "blue white light". Observations in the first instance describe a "blue glow" running the entire length of the fuselage. When viewed from the ground it is logical to assume that the blue glow would be mostly visible.

NOTE: In this connection, Dr. Josef Allen Hynek, astrophysicist, OSURF, who is presently to serve as consultant on this project, has advised that it is possible for a celestial body to appear to travel in a straight line and slant downwards. (It is extremely improbable, although aerodynamically possible, for some objects to achieve an effect of lift through the forces generated during their flight through the atmosphere). It is his further opinion that it is impossible for any celestial body to maneuver violently and make sharp turns. It is extremely unlikely for heavenly bodies to appear to move slowly when passing through the lower layers of the atmosphere, but, from greater distances, it is possible to observe far-distant bodies for extended periods of time. Objective size is contingent upon (1) distance of the heavenly body from the earth and (2) its mass. The manner of disappearance of a meteor is like a light suddenly blinking off.

(4) Incident 4

Object #4 was observed by Shaw, Mr & Mrs. Sebring, Mrs Hill, Mrs Renfro and Mr. Nesmith, between the hours of 2045 to 2050, 26 July 1948, at Chamblee, Georgia and Augusta, Georgia. Description of this object seems to indicate that it was a meteor. Five of the observers said that the object was "football shaped"; that it appeared to be a green light with a silvery tail and that it observed level flight. The last observer stated that the speed was "10,000 to 20,000 mph" and that "it appeared to be 1/4 the size of a full moon", and that "it was a multi-colored, brilliant light trailing burning fragments." The terrific speed together with the description of a multi-colored light trailing burning fragments seems to establish this object as a meteor.

D. COMMENTS

1. The only incident which possesses absolute intelligence significance is incident #1. It is obvious that this object was not a meteor. There has been no evidence to support any findings of unreliability, nor have there been any major inaccuracies on the part of the witnesses.

2. Weather reports establish areas of visibility as stated in the observers' reports.

3. Available information from Ordnance, Army, Navy and AF Weather Bureaus, Research Organizations, and other, failed to reveal any evidence of testing devices to which this incident could be attributed.

4. Apparently it is not of domestic origin since a thorough check of 225 flight schedules, both commercial and governmental, revealed that in only one instance did the reported flight paths cross. (See chart inclosed as Exhibit "1"). This single exception was the flight in a northwesterly direction of a C-47 enroute Robins AF Base to Olmsted Field, Pa. Its time of departure would have enabled it to have passed through the approximate areas on the 24 July 1948 where the sightings were reported. However, the factors of speed direction of flight, maneuvers, configurations, lights and other factors rule out this one possibility.

5. Objects similar in configuration have been reported as follows:

- a. Rocket-like objects capable of immense speed were seen during the past summer, in broad daylight, in Denmark, Norway and Sweden.
- b. A wingless aircraft was observed moving at high speed at Obrechtstreet, Arnheim, The Hague, Holland. The object was seen intermittently through clouds and was reported to have two decks.

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Flying Fuselages (Torpedo or Cigar-Shaped Body)

6 a. While the cigar or torpedo shaped body represents an efficient form for the fuselage of an airplane or the body of a guided missile, in neither case has it been used as a primary lift producing surface. However, an extension of the Pradt theory of lift indicates that a fuselage of the dimensions reported by the Eastern Airlines pilots White and Chiles in the Montgomery, Alabama, incident could support a gross weight of approximately 12,000 pounds at an arbitrarily chosen stalling speed of 150 miles per hour, conservatively estimated. The Pradt theory probably gives very conservative values of maximum lift for bodies of this shape. If a lift coefficient twice as great were used (such a value has been given by a German scientist from memory of his wind tunnel researches in Germany), a gross weight of 24,000 pounds could be supported at the assumed stalling speed.

b. Although the craft sighted by White and Chiles was reported to be without wings or fins, it is possible it could have been equipped with extensible wings for take-off and landing, contained within the fuselage. In such a case a wing span of nearly 90 feet would be possible. If an aspect ratio of 5 were used (18 ft. mean aerodynamic chord), and if the wing design incorporated slots and flaps, the wing could support 115,000 pounds at a stalling speed of 150 mph. It is possible that the fuselage could also contribute lift with this arrangement, depending upon the incidence of the wing. This type of aircraft could also be partially supported in the take-off and landing condition by the vertical component of the jet thrust, if the landing and take-off took place with the fuselage axis, or the jet stream direction in a vertical or nearly vertical attitude. The further possibility that an extensible rotor, concealed within the fuselage, could have been used, would provide another method for landing and take-off that would allow wingless flight at very high speed. Such a design could result in a relatively large duration of flight and corresponding range.

c. While no stabilizing fins were apparent on the "flying fuselage" reported by White and Chiles, it is possible that vanes within the jet, operated by a gyro-servo system could have provided static stability, longitudinally, directionally and laterally. The same vanes could also have been used for accomplishing static balance or trim, as well as control for maneuvering. A square tailed body of the type reported with the center of gravity sufficiently far forward can develop, approximately, a neutral stability and the possibility exists that definite static stability could be produced by a judicious use of flow-control slots located somewhere along the fuselage.

d. The above estimates regarding weight, controllability, stability, etc, are not intended to represent deductions regarding the exact nature of the torpedo or cigar-shaped aircraft which were sighted by the airline pilots, White and Chiles, and others, they are merely statements of possibilities, which are intended to show that such an aircraft could support and control itself by aerodynamic means. The propulsive system of this type of vehicle would appear to be a jet or rocket engine. The specific fuel consumption of engines of this type would be rather high. This, coupled with the fact that aerodynamic lift

on such a body would be accompanied by high drag, places a serious limitation on the range of the aircraft for any particular gross weight. If this type of unidentified aerial object has extremely long range, it is probable that the method of propulsion is one which is far in advance of presently known engines.

POWER SOURCES

- (a) The foregoing discussion is predicated upon the assumption that power sources presently available would have to be used. If an atomic energy powered engine were available, a small mass flow at a large velocity would accomplish the required lift and propulsive forces and the large energy expenditure would be of small importance.
- (b) However, the heat exchange requirements for the atomic powered engine appear to demand physical dimensions of inordinate size that presently would preclude the use of this powerplant for aircraft. Experimental work in progress to convert the energy of the atomic pile directly to electricity, rather than heat, offer the promise of a more compact atomic powerplant.

- NSA 1*
- Conclusions:
1. The flying anomaly observed, remains unidentified as to origin, construction and power source.
 2. A definite trend of flight headings has evolved as generally south in bearing.
 3. Supporting evidence from separate reliable sources establish existence of this configuration.

4. It has been established by Project Rand investigations that world resources, ~~needed~~ *attainments* ~~and existing materials~~ *documented* are adequate to permit construction of a space ship. It is now aerodynamically feasible for subject configuration to fly *as a source of the configuration described could support itself in flight by aerodynamic means.*

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