Flying Unidentified Objects (Flying Saucers)

1. Attached is a proposed letter to Secretary Lovett from the DCI recommending the initiation of fundamental scientific research with respect to the nature and causes of unidentified flying objects (Flying Saucers).

2. While it is recognized that the implications of Flying Saucers are of primary concern to the Defense Department in carrying out its responsibility to defend the United States, it is also believed that intelligence must request of appropriate authority such assistance as it needs to carry out its responsibility. It is believed that the scientific research required and the intelligence research contingent thereon can be most fruitful if they go hand in hand.

3. Recommendations:

   a. That the IAC concur in the proposed letter to the Secretary of Defense.

   b. That the IAC request the Watch Committee to give close attention to indications which may reflect Russian actions are being taken with respect to or on the basis of cognizance of Flying Saucers or with respect to the state of United States public opinion in respect of Flying Saucers.
MEMORANDUM FOR: Secretary of Defense
SUBJECT: Unidentified Flying Objects (Flying Saucers)

1. The IAC has reviewed the current situation concerning unidentified flying objects which have caused extensive speculation in the press and have been the subject of concern to Government organizations. The Air Force, within the limitations of manpower which could be devoted to the subject, has thus far carried the full responsibility for investigating and analyzing individual reports of sightings. Since 1947, approximately 1500 official reports of sightings have been received and, of these, about 20% are as yet unexplained.

2. It is my view and that of the IAC that this situation has possible implications for our national security with respect to the vulnerability of the U.S. to air attack. Intelligence, however, cannot discharge its responsibilities with regard to estimating the capabilities of an enemy to create and use such phenomena against the U.S. unless we first determine through scientific research whether or not such phenomena can in fact be generated and controlled by humans.

3. It is therefore recommended, that the Department of Defense undertake an expanded scientific research program to reveal the nature of the various phenomena which are causing these sightings and means by which these phenomena may be identified immediately. It is also recommended that in such a project there be close cooperation between those conducting the research and scientific and technical intelligence research. The IAC agencies are prepared to do their part in such a project.
MEMORANDUM TO: Director of Central Intelligence
THROUGH: Deputy Director (Intelligence)
FROM: Assistant Director, Office of Scientific Intelligence

SUBJECT: Flying Saucers

1. PROBLEM—To determine: (a) Whether or not there are national security implications in the problem of "unidentified flying objects"; (b) whether or not adequate study and research is currently being directed to this problem in its relation to such national security implications; and (c) what further investigation and research should be instituted, by whom, and under what aegis.

2. FACTS AND DISCUSSION—OSI has investigated the work currently being performed on "flying saucers" and found that the Air Technical Intelligence Center, DI, USAF, Wright-Patterson Air Force Base, is the only group devoting appreciable effort and study to this subject, that ATIC is concentrating on a case-by-case explanation of each report, and that this effort is not adequate to correlate, evaluate, and resolve the situation on an overall basis. The current problem is discussed in detail in TAB A.

3. CONCLUSIONS—"Flying saucers" pose two elements of danger which have national security implications. The first involves mass psychological considerations and the second concerns the vulnerability of the United States to air attack. Both factors are amplified in TAB A.

4. ACTION RECOMMENDED—(a) That the Director of Central Intelligence advise the National Security Council of the implications of the "flying saucer" problem and request that research be initiated. TAB B is a draft memorandum to the NSC, for the DCI's signature. (b) That the DCI discuss this subject with the Psychological Strategy Board. A memorandum to the Director, Psychological Strategy Board, is attached for signature as TAB C. (c) That CIA, with the cooperation of PSB and other interested departments and agencies, develop and recommend for adoption by the NSC a
policy of public information which will minimize concern and possible panic resulting from the numerous sightings of unidentified objects.

25X1A

H. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

ANNEXES:
TAB A—Memorandum to DCI, through DDI, Subject: Flying Saucers.
TAB C—Memo to Director, Psychological Strategy Board with enclosure.

CONCURRENCES:

Date: ______________________

LOFTUS E. BECKER
Deputy Director/Intelligence

ACTION BY APPROVING AUTHORITY:

Date: ______________________

Approved (disapproved):

WALTER B. SMITH
Director

SECRET

-2-

Approved For Release 2001/04/02: CIA-RDP81R00560R000100020012-7
MEMORANDUM FOR: Director of Central Intelligence

THROUGH: Deputy Director (Intelligence)

SUBJECT: Flying Saucers

1. Recently an inquiry was conducted by the Office of Scientific Intelligence to determine whether there are national security implications in the problem of "unidentified flying objects," i.e., flying saucers; whether adequate study and research is currently being directed to this problem in its relation to such national security implications; and what further investigation and research should be instituted, by whom, and under what aegis.

2. It was found that the only unit of Government currently studying the problem is the Directorate of Intelligence, USAF, which has charged the Air Technical Intelligence Center (ATIC) with responsibility for investigating the reports of sightings. At ATIC there is a group of three officers and two secretaries to which come, through official channels, all reports of sightings. This group conducts investigation of the reports, consulting as required with other Air Force and civilian technical personnel. A world-wide reporting system has been instituted and major Air Force Bases have been ordered to make interceptions of unidentified flying objects. The research is being conducted on a case basis and is designed to provide a satisfactory explanation of each individual sighting. ATIC has concluded an arrangement with Battelle Memorial Institute for the latter to establish a machine indexing system for official reports of sightings.

3. Since 1947, ATIC has received approximately 1500 official reports of sightings plus an enormous volume of letters, phone calls, and press reports. During July 1952 alone, official reports totaled 250. Of the 1500 reports, Air Force carries 20 percent as unexplained and of those received from January through July 1952 it carries 28 percent unexplained.

4. In its inquiry into this problem, a team from CIA's Office of Scientific Intelligence consulted with a representative of Air Force Special Studies Group; discussed the problem with those in charge of the Air Force Project at Wright-Patterson Air Force Base; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three CIA consultants, who have broad knowledge of the technical areas concerned.
5. It was found that the ATIC study is probably valid if the purpose is limited to a case-by-case explanation. However, that study does not solve the more fundamental aspects of the problem. These aspects are to determine definitely the nature of the various phenomena which are causing these sightings, and to discover means by which these causes, and their visual or electronic effects, may be identified immediately. The CIA consultants stated that these solutions would probably be found on the margins or just beyond the frontiers of our present knowledge in the fields of atmospheric, ionospheric, and extraterrestrial phenomena, with the added possibility that the present dispersal of nuclear waste products might also be a factor. They recommended that a study group be formed to perform three functions:

   a. analyze and systematize the factors which constitute the fundamental problem;

   b. determine the fields of fundamental science which must be investigated in order to reach an understanding of the phenomena involved; and

   c. make recommendations for the initiation of appropriate research.

25X1A

has indicated to CIA that such a group could be constituted. Similarly, Project [missing] the Air Force's air defense project [missing] could be charged with some of these responsibilities.

25X1A

6. The flying saucer situation contains two elements of danger which, in a situation of international tension, have national security implications. These are:

   a. Psychological - With world-wide sightings reported, it was found that, up to the time of the investigation, there had been in the Soviet press no report or comment, even satirical, on flying saucers, though Gromyko had made one humorous mention of the subject. With a State-controlled press, this could result only from an official policy decision. The question, therefore, arises as to whether or not these sightings:

      (1) could be controlled,

      (2) could be predicted, and

      (3) could be used from a psychological warfare point of view, either offensively or defensively.
The public concern with the phenomena, which is reflected both in the United States press and in the pressure of inquiry upon the Air Force, indicates that a fair proportion of our population is mentally conditioned to the acceptance of the incredible. In this fact lies the potential for the touching-off of mass hysteria and panic.

b. Air Vulnerability — The United States Air Warning System will undoubtedly always depend upon a combination of radar screening and visual observation. The U.S.S.R. is credited with the present capability of delivering an air attack against the United States, yet at any given moment now, there may be current a dozen official unidentified sightings plus many unofficial ones. At any moment of attack, we are now in a position where we cannot, on an instant basis, distinguish hardware from phantom, and as tension mounts we will run the increasing risk of false alerts and the even greater danger of falsely identifying the real as phantom.

7. Both of these problems are primarily operational in nature but each contains readily apparent intelligence factors.

8. From an operational point of view, three actions are required:

   a. Immediate steps should be taken to improve identification of both visual and electronic phantom so that, in the event of an attack, instant and positive identification of enemy planes or missiles can be made.

   b. A study should be instituted to determine what, if any, utilization could be made of these phenomena by United States psychological warfare planners and what, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

   c. In order to minimize risk of panic, a national policy should be established as to what should be told the public regarding the phenomena.

9. Other intelligence problems which require determination are:

   a. The present level of Soviet knowledge regarding these phenomena.

   b. Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of United States security interests.
c. The reasons for silence in the Soviet press regarding flying saucers.

10. Additional research, differing in character and emphasis from that presently being performed by Air Force, will be required to meet the specific needs of both operations and intelligence. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more is known regarding the exact nature of these phenomena.

11. I consider this problem to be of such importance that it should be brought to the attention of the National Security Council in order that a community-wide coordinated effort towards its solution may be initiated.

25X1A

H. MARSHALL CHADWICK
Assistant Director
Scientific Intelligence
MEMORANDUM FOR: Director of Central Intelligence
THRU: Deputy Director (Intelligence)
SUBJECT: Flying Saucers

1. PROBLEM

To determine:

a. Whether there are national security implications in the problem of "unidentified flying objects" i.e., flying saucers;

b. Whether adequate study and research is currently being directed to this problem in its relation to such national security implications; and

c. What further investigation and research should be instituted, by whom, and under what aegis.

2. FACTS BEARING ON THE PROBLEM

a. OSL has investigated the work currently being performed on flying saucers and has found that:

   (1) The only unit of Government currently studying the problem is the Directorate of Intelligence, USAF, which has charged the Air Technical Intelligence Center (ATIC) with responsibility for investigating the reports of sightings.

   (2) At ATIC there is a small group consisting of a reserve Captain, two Lieutenants and two secretaries to which come all reports of sightings through official channels, and which conducts investigation of the reports either itself or through consultation with other Air Force officers or with civilian technical consultants.

   (3) A world-wide reporting system has been instituted and major Air Force bases have been ordered to make interceptions of unidentified flying objects.

   (4) The research being carried on is strictly on a case basis and appears to be designed solely to attempt a satisfactory explanation of each individual sighting as it occurs.

   (5) ATIC has concluded an arrangement with Battelle Memorial Institute for the latter to establish a machine indexing system for official reports of sightings.
(6) Since 1947, ATIC has received approximately 1500 official reports of sightings plus an enormous volume of letters, phone calls and press reports. During the month of July 1952 alone, official reports totaled 250. Of the 1500 reports, Air Force carries 20% as unexplained and of those received January through July 1952 it carries 20% unexplained.

3. DISCUSSION

a. OSI entered into its inquiry fully aware that it was coming into a field already charged with partisanship, one in which objectivity had been overridden by numerous sensational writers, and one in which there are pressures for extravagant explanations as well as for oversimplification. The OSI Team consulted with a representative of Air Force Special Studies Group; discussed the problem with those in charge of the Air Force Project at Wright Field; reviewed a considerable volume of intelligence reports; checked the Soviet press and broadcast indices; and conferred with three OSI consultants, all leaders in their scientific fields, who were chosen because of their broad knowledge of the technical areas concerned.

b. OSI found that the ATIC study is probably valid if the purpose is limited to a case-by-case explanation. However, the study makes no attempt to solve the more fundamental aspect of the problem which is to determine definitely the nature of the various phenomena which are causing these sightings, or to discover means by which these causes and their visual or electronic effects may be immediately identified. Our consultant panel stated that these solutions would probably be found on the margins or just beyond the frontiers of our present knowledge in the fields of atmospheric, ionospheric, and extraterrestrial phenomena, with the added possibility that our present dispersal of nuclear waste products might also be a factor. They recommended that a study group be formed to perform three functions:

(1) Analyze and systematize the factors of information which form the fundamental problem;

(2) Determine the fields of fundamental science which must be investigated in order to reach an understanding of the phenomena involved; and

(3) Make recommendations for the initiation of appropriate research.

25X1A

has indicated to OSI that such a group could be constituted. Similarly, Project [redacted] the Air Force air defense project [redacted] could be charged with these responsibilities.
h. CONCLUSIONS

a. The flying saucer situation contains two elements of danger which, in a situation of international tension, have national security implications. These are:

(1) Psychological - With world-wide sightings reported, it was found that, up to the time of our investigation, there had been in the Russian press no report or comment, even satirical, on flying saucers, though Andrei Gromyko had made one humorous mention of the subject. With a state-controlled press, this could result only from an official policy decision. The question, therefore, arises as to whether or not these sightings:

   (a) Could be controlled,
   (b) Could be predicted, and
   (c) Could be used from a psychological warfare point of view either offensively or defensively.

The public concern with the phenomena, which is reflected in the United States press and in pressure of inquiry upon the Air Force, indicates that there is a fairly proportion of our population which is mentally conditioned to the acceptance of the incredible. In this fact lies the potential for the touching-off of mass hysteria and panic.

(2) Air Vulnerability - The United States Air Warning System will undoubtedly always depend upon a combination of radar screening and visual observation. We give Russia the present capability of delivering an air attack against us, yet at any given moment now, there may be current a dozen official unidentified sightings plus many unofficial. At any moment of attack, we are now in a position where we cannot, on an instant basis, distinguish hardware from phantom, and as tension mounts we will run the increasing risk of false alerts and the even greater danger of falsely identifying the real as phantom.

b. Both of these problems are primarily operational in nature but each contains readily apparent intelligence factors. From an operational point of view, three actions are required:

(1) Immediate steps should be taken to improve identification of both visual and electronic phantom so that in the event of an attack, instant and positive identification of enemy planes or missiles can be made.
(2) A study should be instituted to determine what, if any, utilization could be made of these phenomena by United States psychological warfare planners, and what, if any, defenses should be planned in anticipation of Soviet attempts to utilize them.

(3) A national policy should be established as to what should be told the public regarding the phenomena, in order to minimize risk of panic.

c. Intelligence problems include:

(1) The present level of Russian knowledge regarding these phenomena.

(2) Possible Soviet intentions and capabilities to utilize these phenomena to the detriment of US security interests.

(3) The reasons for silence in the Soviet press regarding flying saucers.

d. Intelligence responsibilities in this field as regards both collection and analysis can be discharged with maximum effectiveness only after much more is known regarding the exact nature of these phenomena.

e. The problem transcends the level of individual departmental responsibilities, and is of such importance as to merit cognizance and action by the National Security Council.

f. Additional research, differing in character and emphasis from that presently being performed by Air Force, will be required to meet the specific needs of both operations and intelligence.

5. RECOMMENDATIONS

It is recommended that:

a. The Director of Central Intelligence advise the National Security Council of the security implications inherent in the flying saucer problem with the request that, under his statutory coordinating authority, the Director of Central Intelligence be empowered to initiate through the appropriate agencies, either within or without the Government, the investigation and research necessary to solve the problem of instant positive identification of "unidentified flying objects".

b. CIA, under its assigned responsibilities, and in cooperation with the Psychological Strategy Board, immediately investigate possible offensive or defensive utilization of the phenomena for psychological warfare purposes both for and against the United States, advising those agencies charged with US internal security of any pertinent
findings affecting their areas of responsibility.

c. On the basis of these programs of research, CIA develop and recommend for adoption by the National Security Council a policy of public information which will minimize the risk of panic.

M. MARSHALL CHADWELL
Assistant Director
Scientific Intelligence

25X1A

OSI, [REDACTED]bmd (11 September 1952)

Orig. & 1 - Addresser
1 - Ad/SI
1 - Daily Reading
1 - Subject
1 - Chrono
22 August 1952

MEMORANDUM FOR: Deputy Director (Intelligence)

SUBJECT: USSR and Satellite Mention of Flying Saucers

1. A search of Foreign Documents Division files has so far produced no factual evidence that subject has been mentioned in the Soviet Satellite press within the past two years. It is believed that a derisive comment was made in a Russian newspaper in 1948 on this subject but so far the article has not been found.

STATSPEC

2. [REDACTED] has one broadcast on this subject, dated 10 June 1951, which is quoted below:

Summary - In what appears to be Moscow's first mention of Flying Saucers "Listener's Mailbag" answers questions on the subject to the effect that "The Chief of Nuclear Physics in the US Naval Research Bureau" explained recently as used for stratospheric studies. US Government circles knew all along of the harmless nature of these objects, but if they refrained from denying "false reports, the purpose behind such tactics was to fan war hysteria in the country."

3. A State Department cable recently received from Budapest quotes the August 14th copy of Szabad Nep as follows:

"Flying Saucer stories are another American attempt to fan war hysteria." Radar detection of saucers is quoted in the article and it comments on the ridiculous aspects of the source of the mystery. The article concludes that it is part of American rulers propaganda to prove the Western countries are threatening.

STATSPEC
The Air Force Stand on "Flying Saucers" -- as stated by CIA, in a briefing on 22 August 1952

I. The Air Force has primary responsibility for investigating "flying saucers". The unit concerned with these investigations is a part of the Air Technical Intelligence Center at Dayton, Ohio, and consists of three officers (a Captain in charge) and two civilians. They receive reports of sightings, analyze and attempt to explain them. A standard reporting form has been prepared which is used on a world-wide basis. The Air Force Office of Special Investigations checks into each sighting attempting to determine its authenticity and the reliability of the observer.

II. (A) The Air Force officially denies that "flying saucers" are:

1. U.S. secret weapons
2. Soviet secret weapons
3. Extra-terrestrial visitors

(B) It is believed that all sightings of "flying saucers" are:

1. Well known objects such as balloons (over 4,000 are released daily in the U.S.), aircraft, meteors, clouds, etc. not recognized as such by the observer.
2. Phenomena of the atmosphere which are at present poorly understood, e.g., refractions and reflections caused by temperature inversions, ionization phenomena, ball lightning, etc.

III. Not a shred of evidence exists to substantiate the belief that "flying saucers" are material objects not falling into category II.B(1) above.

IV. A study of "flying saucer" sightings on a geographical basis showed them to be more frequent in the vicinity of atomic energy installations (which is explained by the greater security consciousness of persons in those areas). That by-products of atomic fission may in some way act catalytically to produce "flying saucers" has not been disproved. The greatest number of sightings has been made at or near Dayton, Ohio where the investigations are going on.

V. Of the thousands of "flying saucers" sighted of which there are records, the Air Force says that 78% have been explained by either IIB(1) or II.B(2) above, 2% have been exposed as hoaxes and the remaining 20% have not been explained primarily because of the vague descriptions given by observers.

VI. The Air Force is most interested in the "saucer" problem because of its psychological warfare implications. In reviewing publications designed for Soviet consumption, there has not been a single reference to "flying saucers". On the other hand, several "saucer" societies in the United States have been investigated. Key members of some of these societies which have been instrumental in keeping the "flying saucer" craze before the public have been exposed as being of doubtful loyalty. Furthermore, the societies, in some cases, are financed by an unknown source. The Air Force realizes that a public made jump by the "flying saucer" scare would be a serious liability in the event of air attacks by an enemy.
defense could not operate effectively if the Air Force were constantly called upon to intercept mirages which persons had mistaken for enemy aircraft.
The purpose of this presentation is to report the findings of
the 201 Study Group as to the implications of the Flying Saucer problem.

I will start with a resume of what we have done and a short history of
the subject — — will outline the Air Force effort — — will go into the explanations of sightings — I will give you our
conclusions.

Our group reviewed available intelligence, official reports, press
and magazine coverage and the main popular books. Indexes of the Soviet
press were scanned. We spent a day at Wright Field with the officers
conducting the Air Force study, and finally we took the problem to a
group of our own consultants.

The Saucer furore in this country started in June 1947 with a
report of nine discs flying in formation past Mount Rainier at an
estimated speed of 1000 miles per hour. This was followed immediately
by a continuing and increasing flood of reports over the months.

Therefore, in 1948, Air Force initiated Project Saucer to study
the phenomena and in December 1949 released sections of its secret report to the press. The conclusion was that the sightings stemmed from three causes:

1. Mass hysteria

2. Hallucination and hoax

3. Misinterpretation of known objects

This satisfied much of the public but not certain sensational writers. The resulting highly speculative books and magazine articles combined with increasing reports of sightings built up such a resurgence of public interest that Air Force, early in 1951, reopened its study, instituted a world-wide reporting system, and alerted its bases to intercept the unidentified objects. General Samford gave their interim conclusions in his recent press conference. These were that analysis of the cases showed "no pattern of anything consistent with any menace to the United States"; that the recent Washington reports were probably due to "temperature inversions"; and that the unexplained sightings could not have resulted from any experiments or tests conducted by the United States.
In summarizing this discussion, I would restate that on three of
the main theories in explanation of these phenomena, — a US development,
a Russian development, and space ships — the evidence either of fact
or of logic is so strongly against them that they warrant at present
no more than speculative consideration. However, it is important that
there are many who believe in them and will continue to do so in spite
of any official pronouncement which may be made. This whole affair
has demonstrated that there is a fair proportion of our population which
is mentally conditioned to acceptance of the incredible. Thus we arrive
at two danger points which, in a situation of international tension,
seen to have National Security implications.

Earlier, we mentioned our search of Soviet press. ATIC made a
similar search. With world-wide sightings reported, we have found not
one report or comment, even satirical, in the Russian press. This could
result only from an official policy decision and of course raises the
question of why and of whether or not these sightings could be used
from a psychological warfare point of view either offensively or defen-
sively. Air Force is aware of this and had investigated a number of the
civillian groups that have sprung up to follow the subject. One — the
Civillian Saucer Committee in California has substantial funds, strongly
influences the editorial policy of a number of newspapers and has
leaders whose connections may be questionable. Air Force is watching
this organization because of its power to touch off mass hysteria and
panic. Perhaps we, from an intelligence point of view, should watch for
any indication of Russian efforts to capitalize upon this present
American credulity.

Of even greater moment is the second danger. Our air warning
system will undoubtedly always depend upon a combination of radar
scanning and visual observation. We give Russia the capability
of delivering an ian attack against us, yet at any given moment
now, there may be current a dozen official unidentified sightings plus
many unofficial. At the moment of attack, how will we, on an instant
basis, distinguish hardware from phantom? The answer, of course,
is that until far greater
knowledge is achieved of the causes back of the sightings — the little understood phenomena has described — we will run the increasing risk of false alerts and the even greater danger of tabbing the real as false. This is primarily an operational research problem but as long as it exists it will have intelligence implications because of its bearing on air vulnerability.

One purpose in this survey has been to examine what is being done and make some assessment of its validity. The Air Force study is valid.

On a case by case basis, the great bulk of the sightings have been and will continue to be explained — but the limited case approach will never solve this second real problem — positive identification.

As to what should be done, we propose to discuss the research problem with the Research and Development Board and to pass on to Air Force an offer to assist in a study of some of the fundamentals. We suggest that the psychological possibilities both for and against us should be investigated. From an intelligence point of view, OSI has been and will continue watching Russian research and development in the scientific fields involved.
In the next few minutes, I intend to touch briefly upon the official explanations of the great majority of sightings of unidentified flying objects (or UFO's) and mention possible phenomena which may account for some of the open cases.

Before we elaborate upon the current explanations I would like you to keep in mind certain facts which are generally common to all reports.

First, is the earnestness of those making reports. These people are certain that they have seen something.

Secondly, objects sighted almost always are reported to be against the sky thereby providing no point of reference.

Thirdly, without a reference point, a valid estimation of size, speed, distance of relative motion is virtually impossible.

Finally, no debris or material evidence has ever been recovered following an unexplained sighting.

In each case of reported sightings exists the personal element. This is the combined effect of psychological and physiological factors which
individually or together may have outstanding importance in the accuracy of a person's report. These factors generally cannot be determined adequately.

The psychological factors are:

- Mental conditioning by newspaper stories of earlier reported sightings.
- Individual emotional response with respect to the unknown.
- Desire for publicity resulting in "embroidering" of facts or complete fabrication.
- Emotion of chase of interceptor pilots.

The major physiological factors are:

- General physical condition of the person at time of sighting;
- Conditions of fatigue, anoxia;
- Existence and extent of eye strain immediately preceding sighting;
- Insufficient night adaptation.

Now let us take up the explanations which have been used to account for well over a thousand cases. Under the category of: "Misinterpretation of identifiable objects," ATRC feels that the most prevalent misinterpretations have been: free balloons, aircraft, astronomical bodies, atmospheric
phenomena, instrument errors and windblown objects.

There are two types of high altitude balloons, radiosonde and the Navy Skyhook. They may reach altitudes as high as 20 miles. Although both types are tracked and plotted for some distance, there generally is no accurate confirmation of destruction. Consequently, because of the large number released daily by the weather services and research groups in the U.S., it is possible that they might appear over almost any geographic location. The longevity of the gas bags is not known but is believed to be possibly weeks. Night-launched balloons carry a bright light to facilitate tracking. Many others have radar-reflecting panels.

25X1A

The Mantell case, referred to by [redacted] has been explained as a misinterpretation of a Navy Skyhook balloon. This was in January 1947. There were three interceptor aircraft. One, piloted by Capt. Thomas Mantell radioed in that he was going to climb to 20,000 feet in an attempt to close in. His rather wild report that the object was "tremendous" and his subsequent crash are laid to the effects of anoxia since his plane carried no oxygen equipment.
A case under known conditions occurred some months ago at Wright Field which illustrates the fact that objects at high altitudes may be in sharp illumination even one or two hours before dawn or after. This case also points up interesting psychological factors.

The time was near dusk. Captain Ruppelt was called out to witness a sighting of three red lights in the sky. Even through binoculars he could not determine their nature. An F-94 interceptor climbed to 43,000 feet. At this altitude the pilot could see clearly that the objects were a cluster of three Skyhook balloons still well above him, sailing an even course across the sky. By this time, telephone reports had started to come in. The objects were described as violently maneuvering "saucers" of various shapes and colors. Even "looping" maneuvers were reported. The medical staff at Wright Field, including the senior psychologist, witnessed the sighting.

The next day this staff turned in a report stating that, despite the official statement that these objects were balloons, they felt that this was in error and that the sighting must have been of some other unknown origin.

Probably the second most common misinterpretation is that of conventional aircraft.
In the daytime, aircraft, particularly those that are unpainted, can give extremely brilliant reflections of sunlight. An interesting case under known conditions is one which occurred last year in Maryland.

A group of aircraft design engineers went into the country to witness tests of their own jet airplanes. The three test aircraft, with unpainted wings and red fuselages, passed directly overhead. All engineers agreed that if they had not known what the objects were, and since they could not observe the silver wings against the sky, they would have reported the red fuselages as flaming trails and they would have imagined objects emitting them.

At nighttime the possibility for misinterpretation of aircraft increases. First, there are the dusk and dawn illuminations already mentioned. Similarly, misinterpretations have been made of running lights or reflections of aircraft in clouds. There are a number of reports of cylindrical objects with square tails or having lighted "portholes" which have been explained as distorted images of conventional aircraft profiles on clouds of ice crystals.

Some time ago a pulsating bright yellow light was reported moving through the sky near Pittsburgh, Pennsylvania. For months this report was relegated to the "unexplained" file. A few weeks ago in Washington a man
who was familiar with this report saw an anti-collision light installation
on a Capital Airlines airplane. This new safety device, a light mounted
on the nose of the airplane, oscillates back and forth laterally similar
to those installed on some ambulances and police cars. A check with Capital
Airlines revealed that an airplane fitted with such a light had "checked in"
while flying near Pittsburgh at the exact time and place of the reporting
sighting.

Let us turn now to astronomical phenomena. In the daytime some planets,
particularly Venus, can be seen clearly as a bright white object, even at
high noon under certain conditions. At night, meteors of various varieties
have been mistaken for maneuvering lights. The luminous meteor trail of
ionized gas has been picked up by radar and at times misunderstood. This
ionized trail may remain visible to the eye for as long as one hour.

Natural phenomena in the Earth's atmosphere have caused many misinter-
pretations. High altitude "jet streams" traveling at high velocities,
temperature inversions and conditions of turbulent mixing of air of greatly
different temperatures and densities exist and are not charted. They account
for optical as well as radar aberrations in a number of cases. In one case
of a ground radar sighting in Maryland the pilot of an interceptor aircraft, with his AI gear "locked on" a "blip", found himself on a steeply sloping downwards course at low altitude. This occurred three times indicating that the target was on the ground and that the course of the radar beam had been distorted. It should be noted that radar anomalies both internal and external in nature still exist in disturbing numbers. The ability of a radar observer to accurately determine the validity of "blips" on his scope is directly proportional to the length and breadth of his experience.

Cloud effects have affected the accuracy of a number of sightings. Rapidly scudding clouds lend an apparent motion to a fixed body. The moon or a bright planet shining through a cloud hole at times does appear as a "flaming object." Other "explainable" misinterpretations which are known to have accounted for reports of sightings include a wide variety of objects. Windblown objects is one. Such an incident was reported by the U.S. Consul at Merida, Yucatan, Mexico. Here is his actual report:

"At about 2:00 p.m. last Sunday, I observed a silvery, shining, disc-like object floating in the clear, blue sky almost directly
overhead, travelling in a northwesterly direction. I believed that the object was a flying disc and was about to run to the house and fetch my camera when I noticed that the object was below the level of some vultures maneuvering at a great height. This proved to me that the disc-like object was considerably smaller than a vulture. During the course of two hours I saw a total of three of these objects, all going in the same direction, but at times appearing to be stationary. Later in the afternoon I found one of these 'discs' on my front lawn. It was a seed enclosed in a fluffy mass of silken fiber . . . . But it not been for the soaring birds and my curiosity, I would undoubtedly have reported that I had seen several 'flying discs'. . . . I am enclosing the 'flying disc' which I captured...in my front yard."

Another misinterpretation is that of searchlights on clouds which has been the cause of several reports of sightings as in the recent case described by the Secretary of Defense. Finally, there is a case which occurred at Frenchman's Flat, Nevada.

"Blips" in formation were picked up on the radar scope. They were
reported to be traveling at terrific speed at 30,000 feet. It happened that the reporting station had a searchlight and it was turned on in the direction of the radar sighting. It was immediately discovered that the objects were Canadian geese flying at 300 feet altitude.

The above explanations are believed by ATIC to account for some 80% of the sightings reported. They feel that the remaining 20% might be reducible to 10% were it not for these reasons:

Insufficient information reported.

Incorrect information unwittingly or purposely reported.

Insufficient or total lack of subsequent investigation of details.

This still leaves ATIC with a possible 10% of sightings for which there is no available explanation.

Considering that the remaining cases might have been caused by little understood natural phenomena, the OSI Panel conferred at length with three of our consultants in Boston. These men are outstanding in the fields of geophysics, electronics and chemistry. They emphasized to us that there

- 9 -
are many scientific frontiers which have as yet been little explored or charted. In these areas occur phenomena which may account for optical or electronic aberrations as well as for things actually seen. They listed three categories: atmospherics, ionization, and extra-terrestrial phenomena. They suggested also that products of nuclear fission might have some effect upon these.

In the field of atmospherics would be the temperature inversions stressed by General Samford. This phenomenon exists but the exact mechanics of its cause, its nature and manner of dissipation are not well understood. Neither is its effect upon electromagnetic and light beams causing their refraction or reflection. Little is known of clouds of ice crystals which exist at altitudes to 60,000 feet. Studies of the winds and the physical and chemical properties of air at very high altitudes have only recently commenced with the availability of such agents as high altitude balloons and research rockets.

The second category was ionization. The Heaviside (or "E") layer of ionization, the "F" layer above it, and their relation to radio transmission
were thought ten years ago to be fairly well understood. Within the past year, however, the whole concept of the "F" layer has been changed. It has been discovered that it splits sometimes into two layers of ionization known as F-1 and F-2. Recent tests utilizing these layers have shown it possible to transmit as far as 1,000 miles using certain VHF frequencies. This is totally opposed to the previous well accepted opinion that maximum VHF transmission distance was limited to "line of sight."

Clouds of ice crystals become luminous under certain conditions of ionization. The factors affecting the way in which the electrostatic charge on the earth is continuously rejuvenated by thunderstorm lightning are obscure. Ball lightning, a luminous phenomenon which has been reported for centuries, appears in various colors but its nature is not known. St. Elmo's fire, corona discharge and Aurora Borealis are catalogued in a variety of forms but their exact nature is unknown. The movement of vortices of smoke particles, clouds of moisture and ice crystals will cause changes in electrostatic potential and may be affected by the earth's magnetic field.
material tossed aloft could appreciably affect atmospheric phenomena.

For instance, the cosmic and gamma natural radiation which pours in daily from outer space is many thousands of times greater than the radiation produced by atomic bomb blasts.

This list could be extended at length. Suffice to say, our ignorance of the nature and controlling factors of all of the above is immense. Effects of interaction between these natural phenomena and radioactive material in the air can only be conjectured. The appearance of unusual optical or radar sightings caused by these phenomena is possible. Their occurrence cannot be predicted.

There is some strength to the hypothesis that many of the unexplained sightings of UFO's may be electromagnetic or electrostatic in character. Factors supporting this hypothesis are:

Absence of sound, although apparently moving rapidly in the atmosphere.

Phenomena are apparently affected by shock waves or electromagnetic radiation of aircraft.

Reports of erratic operation of various kinds of instruments in
the vicinity of sightings.

Sightings of UFO's reported at Los Alamos and Oak Ridge, at a time when the background radiation count had risen inexplicably.

Here we run out of even "blue yonder" explanations that might be tenable.

and, we still are left with numbers of incredible reports from credible observers.