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G. R. Ford Congressional Papers	D9	U.F.O. 1966			14
"	D113	UFO'S			147
"	B48	B48-21	Letter to Rep. L. Mendel Rivers, Chairman	3/28/66	3
TOTAL					

GERALD R. FORD LIBRARY

Collection Title: *Ford Congressional/Box: D9
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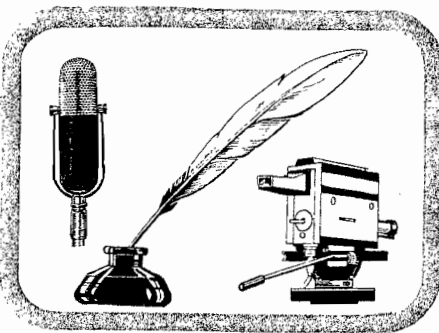
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UFO Enclosures

Library of Congress book	(UFO material)
Blue Book	"
Air Force Statement about UFO at Dexter, Michigan	"
March 25, 1966, News Release	(UFO statements)
March 28, 1966, News Release	"
April 3, 1966, News Release	"
April 21, 1966, News Release	"
April 16, 1967, Editorial from The New York Times	(UFO information)
April 17, 1967, Editorial from The Detroit Free Press	"
October 7, 1966, News Release	"
July 31, 1966, UFO Sighting	"
May 9, 1966, News Release	"
April 17, 1966, Ravenna, Ohio	"
September 3, 1965, Exeter, New Hampshire	"
March 2, 1965, Brooksville, Florida	"
April 24, 1964, Socorro, New Mexico	"
February 24, 1959, UFO over Pennsylvania	"
November 23, 1953, Kinross Incident	"
July 19/20 and 26/27, 1952, Washington, D. C.	"
January 7, 1948, The Mantell Case	"
June 24, 1957, Mt. Ranier, Washington	"
Air Force Regulations 80-17 and 80-17A <u>(Only in special cases; see page 5 of blue book)</u>	"

PHOTOCOPY FROM GERALD FORD LIBRARY



CONGRESSMAN
GERALD R. FORD
HOUSE REPUBLICAN LEADER

**NEWS
RELEASE**

FROM THE OFFICE OF HOUSE MINORITY LEADER GERALD R. FORD, R-MICH.

FOR RELEASE ON RECEIPT

MARCH 25, 1966

WASHINGTON--House Minority Leader Gerald R. Ford, R-Mich., today proposed that Congress investigate the rash of reported sightings of unidentified flying objects in Southern Michigan and other parts of the country.

Ford said he believes a congressional inquiry would be worthwhile because the American people are becoming alarmed by the UFO stories.

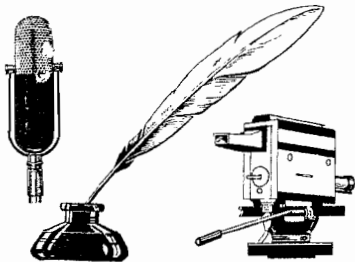
He noted that Air Force investigators have been checking on such reports for years but have come up with nothing conclusive.

"In the light of these new sightings and incidents," Ford said, "it would be a very wholesome thing for a committee of the Congress to conduct a number of hearings and to call responsible witnesses from the executive branch (of the government) and witnesses who say they have sighted these objects."

"I think the American people would feel better if there was a full-blown investigation of these incidents, which some persons allege have taken place."

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CONGRESSMAN
GERALD R. FORD
HOUSE REPUBLICAN LEADER

**NEWS
RELEASE**

FOR RELEASE TUESDAY, P.M.

MARCH 28, 1966

NOTE TO ALL NEWS MEDIA: House Minority Leader Gerald R. Ford, R-Michigan, today sent the attached letter to the chairmen and the ranking Republican members of the House Committees on Armed Services and Science and Astronautics, urging that one committee or the other investigate the subject of Unidentified Flying Objects (UFO's).

Ford is not satisfied with the Air Force explanation of the recent sightings in Michigan and describes the "swamp gas" version given by astrophysicist J. Allen Hynek as "flippant."

Ford has received a number of telegrams and letters from individuals anxious to see a congressional investigation of UFO's.

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PHOTOCOPY FROM GERALD FORD LIBRARY

March 28, 1966

Rep. George P. Miller, Chairman
Science and Astronautics Committee
U. S. House of Representatives
Washington, D.C.

Rep. L. Mendel Rivers, Chairman
Armed Services Committee
U. S. House of Representatives
Washington, D. C.

Dear Chairmen Miller and Rivers:

No doubt you have noted the recent flurry of newspaper stories about unidentified flying objects (UFO's). I have taken special interest in these accounts because many of the latest reported sightings have been in my home state of Michigan.

The Air Force sent a consultant, astrophysicist Dr. J. Allen Hynek of Northwestern University, to Michigan to investigate the various reports; and he dismissed all of them as the product of college student pranks or swamp gas or an impression created by the rising crescent moon and the planet Venus. I do not agree that all of these reports can be or should be so easily explained away.

Because I think there may be substance to some of these reports and because I believe the American people are entitled to a more thorough explanation than has been given them by the Air Force to date, I am proposing that either the Science and Astronautics Committee or the Armed Services Committee of the House schedule hearings on the subject of UFO's and invite testimony from both the executive branch of the government and some of the persons who claim to have seen UFO's.

I enclose material which I think will be helpful to you in assessing the advisability of an investigation of UFO's.

May I first call to your attention a column by Roscoe Drummond, published last Sunday in which Mr. Drummond says, "Maybe all of these reported sightings are whimsical, imaginary or unreal; but we need a more credible and detached appraisal of the evidence than we are getting."

Mr. Drummond goes on to state, "We need to get all the data drawn together to one place and examined far more objectively than anyone has done so far. A stable public opinion will come from a trustworthy look at the evidence, not from belittling it."

"The time has come for the President or Congress to name an objective and respected panel to investigate, appraise, and report on all present and future evidence about what is going on."

I agree fully with Mr. Drummond's statements. I also suggest you scan the enclosed series of six articles by Bulkley Griffin of the Griffin-Larrabee News Bureau here. In the last of his articles, published last January, Mr. Griffin says, "A main conclusion can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentification of familiar objects, such as balloons, stars, and aircraft."

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Rep. George P. Miller, Chairman
Rep. L. Mendel Rivers, Chairman
Page Two
March 28, 1966

Ronald Collier of Los Angeles, who identifies himself as "a scientist from M.I.T.," urges that you "do everything in your power to make Air Force Project Blue Book (the AF name for its study and verdicts on UFO reports) known to the people."

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In the firm belief that the American public deserves a better explanation than that thus far given by the Air Force, I strongly recommend that there be a committee investigation of the UFO phenomena.

I think we owe it to the people to establish credibility regarding UFO's and to produce the greatest possible enlightenment on this subject.

Kindest personal regards.

Sincerely,

/s/

Gerald R. Ford, M.C.

GRF:plr

Enclosures

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Science and Astronautics Committee
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Kindest personal regards.

Sincerely,

/s/

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GRF:plr

Enclosures

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PHOTOCOPY FROM GERALD FORD LIBRARY

APRIL 3, 1966

STATEMENT BY HOUSE MINORITY LEADER GERALD R. FORD, R-MICHIGAN

As I had expected, some persons have ridiculed my call for a congressional investigation of unidentified flying objects (UFO's). These people are a fraction of those who have given me their reaction to my proposal. The overwhelming majority of those expressing a view in letters to me believe a congressional investigation would be useful and is needed.

Those who scoff at the idea of a congressional investigation of UFO's apparently are unaware that the House Armed Services Committee has scheduled a closed-door hearing on the matter Tuesday with the Air Force and that Rep. Joseph E. Karth, D-Minn., headed a three-man subcommittee which held two days of hush-hush hearings five years ago on behalf of the House Science and Astronautics Committee. Karth has confirmed in conversation with a member of my staff that he conducted these secret hearings.

The present Science and Astronautics Committee chairman, Rep. George P. Miller, D-Calif., has shied away from a UFO probe at this time, saying his committee does not have jurisdiction over the Air Force. But the late Rep. Overton Brooks, D-La., obviously had different ideas because he tapped Karth to summon Air Force witnesses and question them after a flurry of UFO sightings in 1961.

Karth has informed me that his subcommittee made an oral report to the full committee but never released anything to the public. According to Charles F. Ducander, the committee's staff director, no record was made of conversation between Karth subcommittee members and Air Force witnesses. The hearings, he said, took place in Karth's congressional office.

I have never said that I believe any of the reported UFO sightings indicate visits to earth from another planet. Apart from pranks and natural phenomena, some of these objects may well be products of experimentation by our own military. If this is so, why doesn't the Air Force concede it and in this way reassure the American people? There would be no need to go into detail on the nature of the experiments.

APRIL 3, 1966

STATEMENT BY HOUSE MINORITY LEADER GERALD R. FORD, R-MICHIGAN

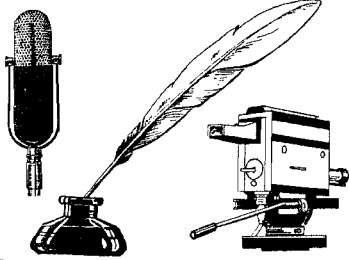
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CONGRESSMAN
GERALD R. FORD
HOUSE REPUBLICAN LEADER

**NEWS
RELEASE**

FOR RELEASE ON THURSDAY, P.M.,
APRIL 21, 1966

STATEMENT BY HOUSE MINORITY LEADER GERALD R. FORD, R-MICHIGAN.

The Air Force has informed me it is arranging for a study by high-caliber scientists of some of the UFO sightings which have never been explained.

This study will be placed under contract soon after July 1, start of the new fiscal year. It will be carried out by a university which has no close ties with the Air Force so that the findings will be completely objective, Air Force officials tell me.

Those people engaged in the study will be high-caliber scientists who have never taken a position on UFO's, the Air Force said. It will be made clear to them that they are not being hired to come up with findings in support of previous Air Force statements regarding UFO's, I am informed.

The Air Force said there is too much effort involved to ask these scientists to make this study without pay.

The report will definitely be made public, the Air Force assured me. The whole purpose of the study is to clear the air as far as the public is concerned.

This, of course, was my purpose in recently requesting that public hearings on the subject of UFO's be conducted by either the House Armed Services Committee or the House Science and Astronautics Committee.

It was as a result of my call for a congressional investigation that the Air Force now is arranging for a study of UFO's by topflight scientists not connected in any way with the Air Force.

I would have preferred a congressional investigation with witnesses to include reliable persons from among those who say they have seen UFO's. I still think this would be beneficial. But the UFO study by a panel of scientists, with the report to be made public, is a step in the right direction.

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NEWS RELEASE

OFFICE OF ASSISTANT SECRETARY OF DEFENSE (PUBLIC AFFAIRS)

WASHINGTON, D.C. - 20301

PLEASE NOTE DATE

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IMMEDIATE RELEASE

October 7, 1966

NO. 847-66

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AIR FORCE SELECTS UNIVERSITY OF COLORADO TO INVESTIGATE UNIDENTIFIED FLYING OBJECT REPORTS

The University of Colorado, Boulder, Colorado, has been selected by the Air Force to conduct independent investigations into unidentified flying object (UFO) reports.

A research agreement, valued at approximately \$300,000, is being negotiated with the university by the Air Force Office of Scientific Research to analyze phenomena associated with UFO sightings and to make recommendations on the Air Force's methods of investigating and evaluating UFO reports -- a program known as Project Blue Book. A report is expected to be made to the Air Force in early 1968.

Dr. Edward U. Condon will direct the scientific phases of the work, while Robert J. Low will serve as project coordinator. Principal investigators working with Dr. Condon will be Dr. Franklin E. Roach and Dr. Stuart W. Cook.

Dr. Condon, former director of the National Bureau of Standards (NBS), is a professor of physics at Colorado and a fellow of the Joint Laboratory for Astrophysics which is co-sponsored by the university and NBS. Mr. Low is an assistant dean of the university's graduate school. Dr. Cook is chairman of the university's psychology department, and Dr. Roach is an astrophysicist with the Environmental Science Services Administration (ESSA).

Colorado is expected to select several other universities to take part in the research. These and other consultants will bring the number of scientists involved to over 100.

The National Academy of Sciences has indicated its willingness to assist by appointing a panel--at the time the Colorado report becomes available to the Air Force--to review the investigating team's work. This panel will not be part of the investigating team, but will provide a further independent check on the scientific validity of the method of investigation.

In announcing the selection, Air Force Secretary Harold Brown said, "We are more than pleased to be able to place this grant with respected individuals in a university of such high standing in the scientific community. Additionally, the location of the university should prove invaluable to the investigators, since the National Center for Atmospheric Research and the research headquarters of the Environmental Science Services Administration are located at Boulder. These organizations conduct research on the properties of man's natural environment, specializing in the physical characteristics of the atmosphere and the near-space medium."

MORE

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Air Force Project Blue Book files, as well as any other UFO information in the possession of the Air Force, will be made available to the team. Additionally, all Air Force installations within the U.S. will assist the team if requested. The investigators will, however, conduct their research independently of and without direction from the Air Force.

The decision to enter into a research agreement for this work was based on a recommendation of the Air Force Scientific Advisory Board which completed a review of the resources, methods and findings of Project Blue Book earlier this year. While complimenting the Air Force on the organization of Project Blue Book, the Board recommended that the program be expanded to include investigation of selected sightings by independent scientists.

Within the Department of Defense, the Air Force has the responsibility of investigating UFO reports. The Air Force has been investigating such reports since 1948 under its role of air defense of the United States, and the university's research does not alter Project Blue Book responsibilities of receiving, investigating and evaluating UFO reports.

END

(DOD Release No. 388-66, May 9, 1966, refers.)

PHOTOCOPY FROM GERALD FORD LIBRARY

DEPARTMENT OF THE AIR FORCE
WASHINGTON

Office Copy

OFFICE OF THE SECRETARY

7 OCT 1966

Dear Mr. Ford:

Knowing of your continuing interest in Air Force matters the Secretary of the Air Force has asked me to inform you of our selection of the University of Colorado, Boulder, Colorado, to conduct independent investigations into unidentified flying object (UFO) reports.

Attached is a copy of the news story scheduled for release at 11:00 A. M. EDT today, October 7, 1966.

If further information would be helpful, please let us know.

Sincerely,

Bryce Poe

BRYCE POE, II, Colonel, USAF
Chief, Plans Group
Legislative Liaison

Attachment

Honorable Gerald R. Ford

U.S. House of Representatives

PHOTOCOPY FROM GERALD FORD LIBRARY

GERALD R. FORD LIBRARY

Collection Title: *Ford Congressional Box: B48
Papers*

Folder Title: *B48 - 21*

Document Title: *Letter to Rep. L. Mendel Rivers, Chairman* Date: *3/28/1966*

14-00000

UFO
(RIVERS, AM. MENDEL)
RE: House UFO Investigation

March 23, 1966

Rep. L. Mendel Rivers, Chairman
Armed Services Committee
U. S. House of Representatives
Washington, D. C.

Dear Chairman Rivers:

No doubt you have noted the recent flurry of newspaper stories about unidentified flying objects (UFO's). I have taken special interest in these accounts because many of the latest reported sightings have been in my home state of Michigan.

The Air Force sent a consultant, astrophysicist Dr. J. Allen Hynek of Northwestern University, to Michigan to investigate the various reports; and he dismissed all of them as the product of college student pranks or swamp gas or an impression created by the rising crescent moon and the planet Venus. I do not agree that all of these reports can be or should be so easily explained away.

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Photocopy from Gerald R. Ford Library

Rep. L. Mendel Rivers, Chairman
Page Two
March 28, 1966

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Rep. L. Mendel Rivers, Chairman
Page Three
March 24, 1966

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Kindest personal regards.

Sincerely,

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GRF:plr

Enclosures.

bcc: Rep. William H. Bates, R-Mass.
Armed Services Committee

Rep. Joseph W. Martin, Jr., R-Mass.
Science and Astronautics Committee

Rep. James G. Fulton, R-Pennsylvania
Science and Astronautics Committee

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Collection Title: *Ford Congressional* Box: *D113*
Papers

Folder Title: *UFO's*

Document Title:

Date:

[No. 55]

UNIDENTIFIED FLYING OBJECTS

HEARING

BY

COMMITTEE ON ARMED SERVICES

OF THE

HOUSE OF REPRESENTATIVES

EIGHTY-NINTH CONGRESS

SECOND SESSION

APRIL 5, 1966



[Pages of all documents printed in behalf of the activities of the House Committee on Armed Services are numbered cumulatively to permit a comprehensive index at the end of the Congress. Page numbers lower than those in this document refer to other subjects.]

U.S. GOVERNMENT PRINTING OFFICE

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WASHINGTON : 1966

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HOUSE COMMITTEE ON ARMED SERVICES

2D SESSION, 89TH CONGRESS

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O. C. FISHER, Texas
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SAMUEL S. STRATTON, New York
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LUCIEN N. NEPZI, Michigan
ALTON LENNON, North Carolina
WILLIAM J. RANDALL, Missouri
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FRANK E. EVANS, Colorado
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HERVEY G. MACHEN, Maryland
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RALPH MARSHALL, *Professional Staff Member*
JOHN FORD, *Professional Staff Member*

II

[No. 55]

UNIDENTIFIED FLYING OBJECTS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,

Washington, D.C., Tuesday, April 5, 1966.

The committee met, pursuant to call, at 10:35 a.m., the Honorable L. Mendel Rivers (chairman of the committee), presiding.

The CHAIRMAN. Let the committee come to order.

Members of the committee, Secretary Brown and General McConnell are back this morning for the purpose of responding to questions.

At the end of our last hearing I asked that Secretary Brown give us some information with respect to unidentified flying objects. I understand that he is prepared to do that this morning and I also understand that he has with him Dr. J. Allen Hynek, consultant to Project Blue Book, which is the group charged with responsibility with respect to UFO's. Also present this morning is Maj. Hector Quintanilla, Jr., UFO project officer.

I think it would be well to get the UFO business out of the way first. So I will ask Dr. Brown to give us his report at this time.

Mr. Secretary, see if you can shed some light on these highly illuminated objects.

We can't just write them off. There are too many responsible people who are concerned.

Mr. Ford has come out, he has a pretty good size stature in the Congress, and so tell me what you know, Mr. Secretary, and let's see if we can have some answers.

Go ahead, Mr. Secretary.

Secretary BROWN. Mr. Chairman, I have a letter here which is addressed to you, and I signed it. Let me run through it quickly, because it summarizes pretty well what our views are on unidentified flying objects.

Following that, if there are some questions, I can try to answer them, or the Chief, or Dr. Hynek, or Major Quintanilla.

The CHAIRMAN. Why don't we have the doctor come up to the table now, because when we start asking questions we will have him there, and we will just go all over the board.

Sit at the end of the table, Doctor.

Go ahead, sir.

STATEMENT OF HON. HAROLD BROWN, SECRETARY OF AIR FORCE

Secretary BROWN. This is in response of your recent request for information concerning Air Force activities in the area of reported unidentified flying objects.

Within the Department of Defense the Air Force has the responsibility of investigating reports on unidentified flying objects and of

(5091)

evaluating any possible threat to our national security that such objects might pose. In carrying out this responsibility let me assure you that the Air Force is both objective and thorough in its treatment of all reports of unusual aerial objects over the United States.

Under the name "Project Blue Book," the Air Force carries out a three-phase program. We (1) make an initial investigation of each report received; (2) make a more detailed analysis of reports not explained; and (3) disseminate information on sightings, findings, and statistics.

In order to evaluate this subject as thoroughly as possible, the capabilities of the Air Force Scientific Advisory Board have recently been focused upon the subject of UFO's. This Board has just completed a detailed review of this subject and concluded that the UFO phenomena presents no threat to the security of the United States, and that the present Air Force program dealing with UFO sightings has been well organized. Recommendations by the Board are presently under study and are expected to lead to even stronger emphasis on the scientific aspects of investigating the sightings that warrant extensive analysis.

Based upon 10,147 reported sightings from 1947 through 1965, a summary of which is attached, I believe it significant that the Air Force has succeeded in identifying 9,501 of these objects. Virtually all of these sightings were derived from subjective human observations and interpretations. The most common of these were astronomical sightings that included such things as bright stars and planets, comets and meteors, and fireballs and auroral streamers.

Other major sources of reported sightings include such objects as satellites, mirages, and spurious radar indications. The remaining 646 reported sightings are those in which the information available does not provide an adequate basis for analysis, or for which the information suggests an hypothesis but the object or phenomenon explaining it cannot be proven to have been here or taken place at that time.

In evaluating these sightings, the Air Force has used carefully selected and highly qualified scientists, engineers, technicians, and consultants. These personnel have utilized the finest Air Force laboratories, test centers, scientific instrumentation, and technical equipment for this purpose.

Although the past 18 years of investigating unidentified flying objects have not identified any threat to our national security, or evidence that the unidentified objects represent developments or principles beyond present-day scientific knowledge, or any evidence of extra-terrestrial vehicles, the Air Force will continue to investigate such phenomena with an open mind and with the finest technical equipment available.

I am attaching a special report of the USAF Scientific Advisory Board Ad Hoc Committee To Review Project "Blue Book," the latest edition of Project Blue Book, dated February 1, 1966, and an Air Force statement regarding the UFO sightings at Dexter, Mich., on March 20, 1966, and at Hillsdale, Mich., on March 21, 1966.

I trust that the above information will be of assistance to you. If I can help you further in any way, please do not hesitate to let me know.

(The information referred to is as follows:)

Sightings of unidentified flying objects

Year	Total sightings	Unidentified	Year	Total sightings	Unidentified
1947	122	12	1958	627	10
1948	156	7	1959	399	12
1949	186	22	1960	557	14
1950	210	27	1961	591	13
1951	169	32	1962	474	15
1952	1,501	303	1963	369	14
1953	509	42	1964	562	19
1954	457	46	1965	886	16
1955	545	24	Total	10,147	646
1956	670	14			
1957	1,006	14			

AIR FORCE STATEMENT REGARDING THE UFO SIGHTINGS AT DEXTER, MICH., ON MARCH 20, 1966, AND HILLSDALE, MICH., ON MARCH 21, 1966

The investigation of these two sightings was conducted by Dr. J. Allen Hynek, scientific consultant to Project Blue Book; personnel from Selfridge Air Force Base, Mich.; and personnel from the Project Blue Book office at Wright-Patterson Air Force Base, Ohio.

In addition to these two specific cases, there has been a flood of reports from this area both before and after March 20 and 21. The investigating personnel have not had the time to investigate all of these. It has been determined, however, that in Hillsdale, over and above the sincere and honest reporting by the young ladies at Hillsdale College, certain young men have played pranks with flares. It has also been determined that the photographs released yesterday through the press was taken on March 17 just before sunrise near Milan, Mich., and have nothing to do with the cases in question. The photograph clearly shows trails made as a result of a time exposure of the rising crescent moon and the planet Venus.

The majority of observers in both the Dexter and Hillsdale cases have reported only silent glowing lights near the ground—red, yellow, and blue-green. They have not described an object. The only two observers who did describe an object have stated that they were no closer than 500 yards—better than a quarter of a mile away—a distance which does not allow details to be determined.

Witnesses have described glowing lights—lights that seem to move but never far from a definite place or lights which suddenly disappeared and popped up at another place. The locale in both cases was a swamp. In both cases, the location of the glow was pinpointed—in Dexter it was seen between two distant groups of people and at Hillsdale it was seen in a swampy depression between the girls and the distant trees. It was in both cases a very localized phenomenon. The swampy location is most significant.

A swamp is a place of rotting vegetation and decomposition. Swamps are not a province of astronomers. Yet, the famous Dutch astronomer, Minnaert, in his book, "Light and Colour in the Open Air," describes lights that have been seen in swamps by the astronomer, Bessel, and other excellent observers. The lights resemble tiny flames sometimes seen right on the ground and sometimes rising and floating above it. The flames go out in one place and suddenly appear in another, giving the illusion of motion. The colors are sometimes yellow, sometimes red, and sometimes blue-green. No heat is felt, and the lights do not burn or char the ground. They can appear for hours at a stretch and sometimes for a whole night. Generally, there is no smell and no sound except for the popping sound of little explosions such as when a gas burner ignites.

The rotting vegetation produces marsh gas which can be trapped during the winter by ice. When the spring thaw occurs, the gas may be released in some quantity. The flame, Minnaert says, is a form of chemical luminescence, and its low temperature is one of its peculiar features. Exactly how it occurs is not known and could well be the subject of further investigation.

The glowing lights over the swamps near Dexter and Hillsdale were observed for 2 or 3 hours, and they were red, green, and yellow. They appeared to move sideways and to rise a short distance. No sound was heard except a popping sound.

PHOTOCOPY FROM GERALD R. BORD LIBRARY

It seems entirely likely that as the present swamp gas, the trapped gases, CH_4 , H_2S , and PH_3 , resulting from decomposition of organic material were released. The chemistry book by Sienko and Plane has this to say: "In air, Phosphine PH_3 , usually bursts into flame apparently because it is ignited by a spontaneous oxidation of the impure P_2H_4 . The will-of-the-wisp, sometimes observed in marshes, may be due to spontaneous ignition of impure PH_3 , which might be formed by reduction of naturally occurring phosphorus compound."

It has been pointed out to the investigating personnel by other scientists in this area that in swamps the formation of H_2S and CH_4 from rotting vegetation is common. These could be ignited by the spontaneous burning of PH_3 .

The association of the sightings with swamps in this particular instance is more than coincidence. No group of witnesses observed any craft coming to or going away from the swamp. The glow was localized, and Deputy Fitzpatrick described the glow from beyond a rise adjacent to the swamp as visible through the trees. He stated that the light brightened and dimmed such as stage do—smoothly and slowly—and this description exactly fits the Hillsdale sighting also. The brightening and dimming could have been due to the release of variable quantities of marsh gas.

The disappearance of the lights when people got close with flashlights or car-lights would indicate that the glow seemed bright to dark-adapted eyes. The night was dark and there was no moon. The Hillsdale girls kept their rooms dark in order to see the swamp lights.

It appears very likely that the combination of the conditions of this particular winter (an unusually mild one in that area) and the particular weather conditions of that night—it was clear and there was little wind at either location—were such as to have produced this unusual and puzzling display.

SPECIAL REPORT OF THE USAF SCIENTIFIC ADVISORY BOARD AD HOC COMMITTEE TO REVIEW PROJECT BLUE BOOK

I. INTRODUCTION

As requested in a memorandum from Maj. Gen. E. B. LeBailly, Secretary of the Air Force Office of Information, dated September 28, 1965 (tab A), a Scientific Advisory Board Ad Hoc Committee met on February 3, 1966, to review Project Blue Book. The objectives of the committee are to review the resources and methods of investigation prescribed by Project Blue Book and to advise the Air Force of any improvements that can be made in the program to enhance the Air Force's capability in carrying out its responsibility.

In order to bring themselves up to date, the members of the committee initially reviewed the findings of previous scientific panels charged with looking into the UFO problem. Particular attention was given to the report of the Robertson panel which was rendered in January 1953. The committee next heard briefings from the AFSC Foreign Technology Division, which is the cognizant Air Force agency that collates information on UFO sightings and monitors investigations of individual cases. Finally, the committee reviewed selected case histories of UFO sightings with particular emphasis on those that have not been identified.

II. DISCUSSION

Although about 6 percent (646) of all sightings (10,147) in the years 1947 through 1965 are listed by the Air Force as "Unidentified," it appears to the committee that most of the cases so listed are simply those in which the information available does not provide an adequate basis for analysis. In this connection it is important also to note that no unidentified objects other than those of an astronomical nature have ever been observed during routine astronomical studies, in spite of the large number of observing hours which have been devoted to the sky. As examples of this the Palomar Observatory Sky Atlas contains some 5,000 plates made with large instruments with wide field of view; the Harvard meteor project of 1954-58 provided some 3,300 hours of observation; the Smithsonian visual prairie network provided 2,500 observing hours. Not a single unidentified object has been reported as appearing on any of these plates or been sighted visually in all these observations.

The committee concluded that in the 19 years since the first UFO was sighted there has been no evidence that unidentified flying objects are a threat to our national security. Having arrived at this conclusion the committee then turned its attention to considering how the Air Force should handle the scientific aspects

of the UFO problem. Unavoidably these are also related to Air Force public relations, a subject on which the committee is not expert. Thus the recommendations which follow are made simply from the scientific point of view.

III. CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of the committee that the present Air Force program dealing with UFO sightings has been well organized, although the resources assigned to it (only one officer, a sergeant, and secretary) have been quite limited. In 19 years and more than 10,000 sightings recorded and classified, there appears to be no verified and fully satisfactory evidence of any case that is clearly outside the framework of presently known science and technology. Nevertheless, there is always the possibility that analysis of new sightings may provide some additions to scientific knowledge of value to the Air Force. Moreover, some of the case records which the committee looked that were listed as "identified" were sightings where the evidence collected was too meager or too indefinite to permit positive listing in the identified category. Because of this the committee recommends that the present program be strengthened to provide opportunity for scientific investigation of selected sightings in more detail and depth than has been possible to date.

To accomplish this it is recommended that—

(a) Contracts be negotiated with a few selected universities to provide scientific teams to investigate promptly and in depth certain selected sightings of UFO's. Each team should include at least one psychologist, preferably one interested in clinical psychology, and at least one physical scientist, preferably an astronomer or geophysicist familiar with atmospheric physics. The universities should be chosen to provide good geographical distribution, and should be within convenient distance of a base of the Air Force Systems Command (AFSC).

(b) At each AFSC base an officer skilled in investigation (but not necessarily with scientific training) should be designated to work with the corresponding university team for that geographical section. The local representative of the Air Force Office of Special Investigations (OSI) might be a logical choice for this.

(c) One university or one not-for-profit organization should be selected to coordinate the work of the teams mentioned under (a) above, and also to make certain of very close communication and coordination with the Office of Project Blue Book.

It is thought that perhaps 100 sightings a year might be subjected to this close study, and that possibly an average of 10 man-days might be required per sighting so studied. The information provided by such a program might bring to light new facts of scientific value, and would almost certainly provide a far better basis than we have today for decision on a long-term UFO program.

The scientific reports on these selected sightings, supplementing the present program of the Project Blue Book office, should strengthen the public position of the Air Force on UFO's. It is, therefore, recommended that—

(a) These reports be printed in full and be available on request.

(b) Suitable abstracts or condensed versions be printed and included in, or as supplements to, the published reports of Project Blue Book.

(c) The form of report (as typified by Project Blue Book dated February 1, 1966) be expanded, and anything which might suggest that information is being withheld (such as the wording on page 5 of the above cited reference) be deleted. The form of this report can be of great importance in securing public understanding and should be given detailed study by an appropriate Air Force office.

(d) The reports Project Blue Book should be given wide unsolicited circulation among prominent Members of the Congress and other public persons as a further aid to public understanding of the scientific approach being taken by the Air Force in attacking the UFO problem.

DEPARTMENT OF THE AIR FORCE,
OFFICE OF THE SECRETARY,
Washington, D.C., September 28, 1965.

Memorandum for military director, scientific advisory board
Subject: Unidentified flying objects (UFO's)

In keeping with its air defense role, the Air Force has the responsibility for the investigation of unidentified flying objects reported over the United States.

The name of this project is Blue Book (attachment 1). Procedures for conducting this program are established by Air Force regulation 200-2 (attachment 2).

The Air Force has conducted Project Blue Book since 1948. As of June 30, 1965, a total of 9,267 reports had been investigated by the Air Force. Of these 9,267 reports, 663 cannot be explained.

It has been determined by the Assistant Deputy Chief of Staff/Plans and Operations that Project Blue Book is a worthwhile program which deserves the support of all staff agencies and major commands and that the Air Force should continue to investigate and analyze all UFO reports in order to assure that such objects do not present a threat to our national security. The Assistant Deputy Chief of Staff/Plans and Operations has determined also that the Foreign Technology Division (FTD) at Wright-Patterson Air Force Base should continue to exercise its presently assigned responsibilities concerning UFO's.

To date, the Air Force has found no evidence that any of the UFO reports reflects a threat to our national security. However, many of the reports that cannot be explained have come from intelligent and technically well qualified individuals whose integrity cannot be doubted. In addition, the reports received officially by the Air Force include only a fraction of the spectacular reports which are publicized by any private UFO organizations.

Accordingly, it is requested that a working scientific panel composed of both physical and social scientists be organized to review Project Blue Book—its resources, methods, and findings—and to advise the Air Force as to any improvements that should be made in the program in order to carry out the Air Force's assigned responsibility.

Dr. J. Allen Hynek who is the chairman of the Dearborn Observatory at Northwestern University is the scientific consultant to Project Blue Book. He has indicated a willingness to work with such a panel in order to place this problem in its proper perspective.

Dr. Hynek has discussed this problem with Dr. Winston R. Markey, the former Air Force Chief Scientist.

E. B. LeBAILLY,
Major General, USAF, Director of Information.

AD HOC COMMITTEE ON UNIDENTIFIED FLYING OBJECTS (UFO's)

AGENDA

Thursday, 3 February 1966

- 0800 Welcoming remarks: Commander or vice commander, FTD.
- 0805 Introduction: Dr. O'Brien, SAB.
- 0810 The Air Force problem: Lieutenant Colonel Spaulding, SAFOI.
- 0830 Briefing on Project Blue Book: Major Quintanilla, FTD.
- 1000 Break.
- 1015 Review of selected case histories: FTD Staff.
- 1145 Lunch.
- 1315 Executive and writing session.

SPECIAL REPORT OF THE USAF SCIENTIFIC ADVISORY BOARD AD HOC COMMITTEE TO REVIEW PROJECT BLUE BOOK

Distribution

	Symbol	Copies
Secretary of the Air Force Office of Information.....	SAFOI.....	25
Military Director, DCS/R. & D.....	AFRDC.....	1
Committee members (1 each): Dr. Brian O'Brien (chairman), Dr. Launor F. Carter, Mr. Jesse Orlausky, Dr. Richard Porter, Dr. Carl Sagan, Dr. Willis H. Ware.....		6
Commander, Foreign Technology Division.....		5
DCS/Foreign Technology (AFSC).....	SCF.....	2
Chairman, SAB.....	AFBSA.....	1
SAB secretariat.....	AFBSA.....	1

Meeting statistics bearing on this report including all times, dates, places, a listing of persons in attendance and purposes therefor, together with their affilia-

tions and material reviewed and discussed, are available in the SAB secretariat offices for review by authorized persons or agencies.

Approved by:

HAROLD A. STEINER,
Lieutenant Colonel, USAF,
Assistant Secretary, USAF Scientific Advisory Board.

PROJECT BLUE BOOK

The U.S. Air Force has the responsibility under the Department of Defense for the investigation of unidentified flying objects (UFO's). The name of this program, which has been in operation since 1948, is Project Blue Book. It has been identified in the past as Project Sign and Project Grudge.

Air Force interest in unidentified flying objects is related directly to the Air Force responsibility for the air defense of the United States. Procedures for conducting this program are established by Air Force Regulation 200-2.

The objectives of the Project Blue Book are twofold: first, to determine whether UFO's pose a threat to the security of the United States; and, second, to determine whether UFO's exhibit any unique scientific information or advanced technology which could contribute to scientific or technical research. In the course of accomplishing these objectives, Project Blue Book strives to identify and explain all UFO sightings reported to the Air Force.

HOW THE PROGRAM IS CONDUCTED

The program is conducted in three phases. The first phase includes receipt of UFO reports and initial investigation of the reports. The Air Force base nearest the location of a reported sighting is charged with the responsibility of investigating the sighting and forwarding the information to the Project Blue Book Office at Wright-Patterson Air Force Base, Ohio.

If the initial investigation does not reveal a positive identification or explanation, a second phase of more intensive analysis is conducted by the Project Blue Book Office. Each case is objectively and scientifically analyzed and, if necessary, all of the scientific facilities available to the Air Force can be used to assist in arriving at an identification or explanation. All personnel associated with the investigation, analysis, and evaluation efforts of the project view each report with a scientific approach and an open mind.

The third phase of the program is dissemination of information concerning UFO sightings, evaluations, and statistics. This is accomplished by the Secretary of the Air Force, Office of Information.

The Air Force defines an unidentified flying object as any aerial object which the observer is unable to identify.

Reports of unfamiliar objects in the sky are submitted to the Air Force from many sources. These sources include military and civilian pilots, weather observers, amateur astronomers, business and professional men and women, and housewives, etc.

Frequently such objects as missiles, balloons, birds, kites, searchlights, aircraft navigation and anticollision beacons, jet engine exhaust, condensation trails, astronomical bodies and meteorological phenomena are mistakenly reported as unidentified flying objects.

The Air Force groups its evaluations of UFO reports under three general headings: (1) identified, (2) insufficient data, and (3) unidentified.

Identified reports are those for which sufficient specific information has been accumulated and evaluated to permit a positive identification or explanation of the object.

Reports categorized as "Insufficient Data" are those for which one or more elements of information essential for evaluation are missing. Some examples are the omission of the duration of the sighting, date, time, location, position in the sky, weather conditions, and the manner of appearance or disappearance. If the element is missing and there is an indication that the sighting may be of a security, scientific, technical, or public interest value, the Project Blue Book Office conducts an additional investigation and every attempt is made to obtain the information necessary for identification. However, in some instances, essential information cannot be obtained, and no further action can be taken.

The third and by far the smallest group of evaluations is designated "Unidentified." A sighting is considered unidentified when a report apparently contains all pertinent data necessary to suggest a valid hypothesis concerning the cause or explanation of the report but the description of the object or its motion cannot be correlated with any known object or phenomena.

TYPES OF UFO IDENTIFICATIONS AND EVALUATIONS

There are various types of UFO sightings. Most common are reports of astronomical sightings, which include bright stars, planets, comets, fireballs, meteors, auroral streamers, and other celestial bodies. When observed through haze, light fog, moving clouds, or other obscurations or unusual conditions, the planets, including Venus, Jupiter, and Mars have been reported as unidentified flying objects. Stellar mirages are also a source of reports.

Satellites are another major source of UFO reports. An increase in satellites reported as UFO's has come about because of two factors. The first is the increase of interest on the part of the public; the second is the increasing number of satellites in the skies. Positive knowledge of the location of all satellites at all times enables rapid identification of satellite sightings. Keeping track of manmade objects in orbit about the earth is the responsibility of the North American Air Defense Command space detection and tracking system. This sophisticated electronic system gathers complex space traffic data instantly from tracking stations all over the world.

Other space surveillance activities include the use of ballistic tracking and large telescope cameras. ECHO schedules are prepared by the NASA Goddard Space Flight Center at Greenbelt, Md., and schedules of the south-north Equator crossings are prepared by the Smithsonian Institution at Cambridge, Mass. From the data produced by these agencies, satellites mistakenly reported as UFO's can be quickly identified. Some of these are visible to the naked eye.

Aircraft account for another major source of UFO reports, particularly during adverse weather conditions. When observed at high altitudes and at some distance, aircraft can have appearances ranging from disc to rocket shapes due to the reflection of the sun on their bright surfaces. Vapor or condensation trails from jet aircraft will sometimes appear to glow fiery red or orange when reflecting sunlight. Afterburners from jet aircraft are often reported as UFO's since they can be seen from great distances when the aircraft cannot be seen.

The Project Blue Book Office has direct contact with all elements of the Air Force and the Federal Aviation Agency civil air control centers. All aerial refueling operations and special training flights can be checked immediately. Air traffic of commercial airlines and flights of military aircraft are checked with the nearest control center, enabling an immediate evaluation of aircraft mistakenly reported as UFO's. However, since many local flights are not carried, these flights are probable causes of some reports.

Balloons continue to be reported as UFO's. Several thousand balloons are released each day from military and civilian airports, weather stations, and research activities. There are several types of balloons—weather balloons, rawinsondes, radiosondes, and the large research balloons which have diameters up to 300 feet. At night, balloons carry running lights which cause an unusual appearance when observed. Reflection of the sun on balloons at dawn and sunset sometimes produce strange effects. This usually occurs when the balloon, because of its altitude, is exposed to the sun. Large balloons can move at speeds of over 100 miles per hour when moving in high altitude jet windstreams. These balloons sometimes appear to be flattened on top. At other times, they appear to be saucer-shaped and to have lights mounted inside the bag itself due to the sun's rays reflecting through the material of the balloon. The Balloon Control Center at Holloman Air Force Base, N. Mex., maintains a plot on all military upper air research balloons.

Another category of UFO evaluations labeled "Other" includes missiles, reflections, mirages, searchlights, birds, kites, spurious radar indications, hoaxes, fireworks, and flares.

Aircraft, satellites, balloons, and the like should not be reported since they do not fall within the definition of an unidentified flying object.

CONCLUSIONS

To date, the firm conclusions of Project Blue Book are: (1) no unidentified flying object 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 present-day scientific knowledge; and (3) there has been no evidence indicating that sightings categorized as unidentified are extra terrestrial vehicles.

The Air Force will continue to investigate all reports of unusual aerial phenomena over the United States. The services of qualified scientists and technicians will continue to be used to investigate and analyze these reports, and periodic reports on the subject will be made.

The former chairman of the House Armed Services Committee, Mr. Carl Vinson, recently commented on the conduct of the UFO program by the Air Force and stated that congressional hearings on this subject are unnecessary.

The Air Force does not deny the possibility that some form of life may exist on other planets in the universe. However, to date, the Air Force has neither received nor discovered any evidence which proves the existence and intraspace mobility of extra terrestrial life. The Air Force continues to extend an open invitation to anyone who feels that he possesses any evidence of extra terrestrial vehicles operating within the earth's near space envelope to submit his evidence for analysis. Initial contact for this purpose is through the following address: Project Blue Book Information Office, SAFOI, Washington, D.C.

Anyone observing what he considers to be an unidentified flying object should report it to the nearest Air Force base. Persons submitting a UFO report to the Air Force are free to discuss any aspect of the report with anyone. The Air Force does not seek to limit discussion on such reports and does not withhold or censor any information pertaining to this unclassified program.

NONAVAILABILITY OF MATERIALS

The following items are for internal use only and are not available for distribution to the public. These concern internal management and procedures for forwarding UFO reports to the appropriate agency:

1. Air Force Regulation 200-2.
2. JANAP 146.

The Air Force has no films, photographs, maps, charts, or graphs of unidentified flying objects. Photographs that have been submitted for evaluation in conjunction with UFO reports have been determined to be a misinterpretation of natural or conventional objects. These objects have a positive identification.

The Air Force no longer possesses, and thus does not have for distribution, outdated reports on Project Sign, Project Grudge, Blue Book Special Report No. 14, and outdated Project Blue Book press releases. Nonmilitary UFO publications should be requested from the publisher, not the Air Force.

SUGGESTED READING MATERIAL

Books listed below deal with facts and theories about our solar universe, the sun, planets, comets, meteorites, the universe, stars, constellations, and galaxies; telescopes, the computation of time as it relates to astronomy, star maps and charts, and the history of astronomy.

"Sky and Telescope," by Sky Publishing Corp., Harvard College Observatory, Cambridge, Mass. Monthly magazine, 60 cents per copy.

"Weather Elements," by Blair, published Prentice Hall. Has an excellent chapter on often misidentified weather phenomena.

"Planets, Stars, and Space," by Chamberlain, Joseph M., and Nicholson, Thomas D. An illustrated, untechnical explanation of the earth, planets, stars, and the universe. Prepared in cooperation with the American Museum of Natural History.

"Junior Science Book of Stars," by Crosby, Phoebe. An easy to read, exciting story of what scientists know about the stars, planets, the Moon, and the Milky Way.

"Challenge of the Universe," by Hynek, J. Allen and Anderson, Norman. Discusses the nature of the universe; astronomy and cosmology, published by Scholastic Press.

"The Story of the Stars," by Maloney, Terry. An introduction to the universe; our solar system, our galaxy, and other galaxies. Many interesting illustrated analogies help build concepts of size and distance. Includes reference to the Van Allen radiation belts and zodiacal light observation of 1960.

"The World of Flying Saucers," by Menzel and Roy. A scientific examination of the classic UFO reports.
"The Moon. Meteorites, and Comets," Dated 1963, by Middlehurst and Kuiper. Continuous analysis of Soviet moon photos. Chapter on Siberian meteorite and photos or comets computation of various comet orbital photos.
"The Nature of Light and color in the Open Air," by Minnaert, Dover Publications. This is an excellent paperback written in understandable lay language.
"Meteors," by Oliver. Standard text by foremost authority on meteors.
"Photographic History of Mars," 1905-61, by Slipher, E. C., published by Lowell Observatory.
"Anatomy of a Phenomenon," by Valle, Jacques.
"First Man to the Moon," by Von Braun, Wernher.

Total UFO (object) sightings¹

Year	Total sightings	Unidentified	Source
1947.....	122	12	Case files.
1948.....	156	7	Do.
1949.....	186	22	Blue book, page 108.
1950.....	210	27	Case files.
1951.....	169	22	Do.
1952.....	1,501	303	Blue book, page 108.
1953.....	509	42	Case files.
1954.....	487	46	Do.
1955.....	545	24	Do.
1956.....	570	14	Do.
1957.....	1,006	10	Do.
1958.....	827	14	Do.
1959.....	390	12	Do.
1960.....	557	14	Do.
1961.....	591	13	Do.
1962.....	474	15	Do.
1963.....	399	14	Do.
1964.....	562	19	Do.
1965.....	886	16	Do.
Total.....	10,147	646	

¹ Compiled Jan. 17, 1966.

Statistical data for years 1953-64¹

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	Total
TOTAL CASES BY CATEGORY													
Astronomical.....	175	137	135	222	341	221	144	235	203	136	85	123	2,107
Missile and rockets.....	73	60	124	148	210	104	63	66	77	68	73	71	1,107
Ballon.....	73	60	124	148	210	104	63	66	77	68	73	71	1,107
Insufficient data.....	73	60	124	148	210	104	63	66	77	68	73	71	1,107
Other.....	83	58	65	61	132	103	75	103	103	103	103	103	1,300
Satellite.....	0	0	0	0	0	0	0	21	21	21	21	21	217
Unidentified.....	42	46	24	14	14	10	12	14	13	15	11	19	357
Total.....	605	437	545	670	1,006	827	390	557	501	471	399	562	9,817
ASTRONOMICAL SIGHTINGS													
Meteors.....	70	92	79	88	179	108	100	187	110	95	57	61	1,265
Stars and planets.....	101	41	52	131	144	56	4	45	78	36	23	55	805
Other.....	4	1	4	3	18	7	4	3	6	5	5	7	67
Total.....	175	137	135	222	341	231	144	235	203	136	85	123	2,107
OTHER CASES													
Huaxes, hallucinations, unreliable reports and psychological causes.....	15	6	18	16	37	29	14	13	17	11	16	31	225
Missile and rockets.....	2	1	1	3	2	6	14	12	13	9	13	7	83
Ballon.....	4	4	4	4	2	7	11	9	3	3	0	2	51
Insufficient data.....	3	3	4	6	6	5	5	4	4	3	3	0	59
Other.....	8	6	14	9	12	8	6	6	1	3	0	0	57
Search and rescues.....	6	3	2	1	19	5	3	4	3	4	5	4	47
Clouds and contrails.....	0	0	0	0	1	1	0	4	3	2	2	4	27
Chaff.....	4	7	3	6	1	1	0	4	3	2	2	1	31
Birds.....	15	7	1	3	27	3	4	6	9	0	3	6	87
Radar analysis.....	1	1	2	4	1	7	4	6	3	3	3	3	40
Photo analysis.....	1	1	0	3	5	10	0	7	4	15	3	3	70
Physical specimens.....	1	0	0	0	0	1	0	0	0	0	0	0	23
Satellite decay.....	1	7	4	0	0	5	3	3	4	3	4	6	46
Other.....	62	59	65	61	130	93	75	94	77	65	58	85	916
Total.....	605	437	545	670	1,006	827	390	557	501	471	399	562	9,817

¹ Compiled Nov. 1, 1965.

Persons observing a fireball or meteor should report the information to the American Meteor Society. The information desired is contained below.

A very brilliant meteor or fireball is reported to have passed in your vicinity on ---- at the hour of ----. Will you please answer as fully as possible the following questions, which are asked on behalf of the American Meteor Society in order that permanent records of such phenomena may be obtained. When these reports are published each contributor whose report is fairly complete will be mentioned, if possible, and due credit given. It is only by the help of those who can give personal information that data can be secured for the computation of the orbits of meteors. These data are of great scientific value and all reasonable efforts should be made to obtain them. You will be unable probably to answer all questions below, but answer those you can, as they may be of the greatest importance.

- (1) Give your name and address.
- (2) Where were you when you saw the meteor? (If the town is small please give county as well.)
- (3) Give the date, hour, and minute when the meteor appeared; also kind of time used.
- (4) In what direction did it appear (or in what direction was it first seen)? This is not asking in what direction it was going.
- (5) In what direction did it disappear (or in what direction was it last seen)? For questions (4) and (5), simply N, E, S, or W is not accurate enough, unless those were the exact directions. If compass is used, state it; also if magnetic correction has been applied to compass reading.
- (6) At what height did it appear? (Use degrees in answering.)
- (7) At what height did it disappear? (Use degrees in answering.)
- (8) Did it pass directly overhead (i.e., through the zenith)?
- (9) If not, to which side of the zenith did it go, and how far from it? (Use degrees in answering.)
- (10) Did it appear to reach the horizon? What sort of a horizon have you?
- (11) What angle did the path of the meteor make with the horizon and in which direction was it then going?
- (12) If you are familiar with constellations describe the path of the meteor through the sky with reference to stars.
- (13) Did the meteor appear to explode?
- (14) What was the duration of its flight in seconds?
- (15) Describe the train if one was left. If it lasted long enough to show drift, most carefully tell in what direction train drifted. Give sketch, if possible, showing this with regard to horizon.
- (16) What was the duration of the train in seconds?
- (17) Did you hear any sound?
How long after seeing the meteor was it before you heard this sound?
Did you hear an actual explosion?
How long after seeing the explosion was it before you heard it?
- (18) Of what color was the meteor?
- (19) What was the size of the meteor? (Compare it with the moon or with a planet or star.)
- (20) Was more than one body seen before the explosion (if any)?
- (21) What was condition of sky at time?
- (22) Give names and addresses of others who saw the meteor.
- (23) Please mail this reply to: Charles P. Oliver, American Meteor Society, 521 North Wynnewood Avenue, Narberth, Pa., 19072.

The CHAIRMAN. Mr. Secretary, let me ask you this. Should this be an executive session?

Secretary BROWN. No, nothing I have said so far has been classified, and nothing I will say.

The CHAIRMAN. Is there any reason to keep this executive? I think we have a lot of people outside of the door. Let them come in.

Mr. PRICE. In view of the reason you are having it, I see no objection.

The CHAIRMAN. I don't either. Why not open the door?

Mr. BRAY. I would like to make this observation off the record.

[illegible]

(Discussion off the record.)

The CHAIRMAN. We are going to decide what the future is going to be. I am talking about this testimony now. If there is no reason for them not being here, let them in here.

Secretary BROWN. This letter is unclassified. Some of the questions you ask may lead to classified material.

Mr. SCHWEIKER. Are all the files unclassified?

The CHAIRMAN. Let them come in and listen to the testimony. When we get into the questions we will decide.

Open the doors.

Mr. Secretary, we will let you start.

You gentlemen who have come in, the Secretary is explaining a letter he is sending to the committee.

You gentlemen of the press, TV, and radio, whatever you represent, listen. That is the best way to find out.

Go ahead.

(Secretary Brown repeats his statement previously read to the committee.)

The CHAIRMAN. Mr. Secretary, I have before me some pages from Life magazine. I don't know what the date is, but it is recent.

Mr. KELLEHER. Two weeks ago, I think.

The CHAIRMAN. Two weeks ago.

It mentioned 10,000-odd sightings of these mysterious objects. I note it has a picture.

Have you seen this? I will pass it on to you.

Secretary BROWN. Yes, I have seen the picture.

The CHAIRMAN. Here are two pictures. One taken in Oregon in 1950 and the other taken 4 years later in France. They both look very much alike. Actually it looks something like a battleship.

Then here is something on another page here that is alleged to have been seen in Michigan, and it is even sketched here with an antenna and all that goes with it.

Here is my question: Responsible, well-trained people, like pilots—I think some B-52 people, Mr. Kelleher?

Mr. KELLEHER. I don't recall that. I do remember sightings by commercial pilots.

The CHAIRMAN. Certainly commercial pilots have reported all kinds of things.

How do you explain away these clearly defined mysterious things that these responsible people allege having seen.

How do your experts reconcile this?

Secretary BROWN. I will turn this over to my experts in a moment, Mr. Chairman.

However, I should like to say this: We haven't explained all of the reported sightings which we have investigated. We have explained 95 percent of them, but are not sure about the other 5 percent. There are possible explanations for the other 5 percent in most cases. However, since we can't prove that our findings are the correct explanations they are regarded as sightings which have not been completely accounted for.

The CHAIRMAN. Well, now, does anybody, in authority or of stature, allege that these things, whatever they may be, have come from other planets or from somewhere outside of this universe?

Secretary BROWN. To the best of my knowledge, no one in the Air Force, and no one in the executive branch has expressed such a belief. Nor have I ever heard a Member of Congress make such a statement. I know of no one of scientific standing or executive standing, or with a detailed knowledge of this, in our organization who believes that they come from extraterrestrial sources.

The CHAIRMAN. But you have found parts of meteors and things of this character that have been continuing to hit the earth forever?

Secretary BROWN. Meteors, of course, are of extraterrestrial origin. I am talking about extraterrestrial flying craft.

The CHAIRMAN. Objects that are made for the purpose of coming to earth?

Secretary BROWN. That is right.

The CHAIRMAN. That is what I have in mind.

Secretary BROWN. That is right.

The CHAIRMAN. So then your testimony, or your answer in response to my letter in effect is that there are things caused by various phenomena, reflection of radar waves, the northern lights, somebody has said marsh gases.

Secretary BROWN. Yes; that is another explanation of some of the phenomena.

The CHAIRMAN. As well as meteors?

Secretary BROWN. Yes, sir.

The CHAIRMAN. What else?

Secretary BROWN. Some of them turn out to be balloons. Some of them turn out to be aircraft seen under peculiar circumstances, and so on.

And we can explain 95 percent of them this way. This does not imply that a large part of the remaining 5 percent, the unexplained ones, are not also of this character, but we simply have not been able to confirm this because we don't have enough information about these sightings.

It may also be that there are phenomena, the details of which we don't understand, which are natural phenomena, and which account for some of the sightings we have not identified. In certain instances, I think a further scientific explanation is a possibility. Therefore, we will continue to develop this approach.

The CHAIRMAN. Now, we have here Dr. Hynek, and Major Quintanilla.

We have these two gentlemen who are authorities on the Blue Book. One is a scientist, the other is the UFO project officer.

Now, we have asked that you gentlemen come. Dr. Hynek, is there anything you would like to say to us?

Dr. HYNEK. Mr. Chairman, the press has recently treated me rather unkindly.

The CHAIRMAN. You ought to be chairman of this committee.

Dr. HYNEK. The press has described me as "a puppet of the Air Force," and has stated that I say only what the Air Force tells me to say. I would like to do something which may be a little daring, and read to the committee a statement I have prepared which has certainly not been dictated by the Air Force.

The CHAIRMAN. At this point, I want you to turn the loud speaker up.

Now, Doctor, before you give us this, would you give your background for the record?

Dr. HYNEK. Yes, sir. This information is included in my statement.

STATEMENT OF DR. J. ALLEN HYNEK, SCIENTIFIC CONSULTANT TO THE AIR FORCE

Dr. HYNEK. My name is J. Allen Hynek, and I reside at 2623 Ridge Avenue, Evanston, Ill. I am director of the Dearborn Observatory and of the Lindheimer Astronomical Research Center, and Chairman of the Department of Astronomy at Northwestern University. Since 1948 I have acted as a frequent scientific consultant to the Air Force on the problem of the UFO (Unidentified Flying Objects) phenomenon.

The UFO phenomenon might be defined as (1) the persistent reporting by a wide cross section of the public, in this and in other countries, of alleged aerial objects which, to the observer, seem to defy explanation because of their appearance and behavior, and (2) the widespread and growing interest in these matters by segments of the public which, in some cases, has led to the formation of civilian organizations dedicated to the investigation of the said reports, often accompanied by vilification of the Air Force for their handling of the problem, a matter not beneficial to the Air Force image. Such people generally charge either (a) that UFO's are in reality secret devices of the Air Force, whose existence is kept from the public, or (b) that the Air Force knows all about visitors from space and is deliberately withholding information to prevent panic.

A third aspect of the UFO phenomenon has been the association of the terms UFO or "flying saucer" with the idea of visitation of intelligences from outer space, an association which is not warranted either by the data on hand, or by logical inference. It is entirely conceivable that there might be unidentified aerial phenomena about us which have no connection with extraterrestrial visitation.

Thus, the phenomenon should essentially be viewed in its entirety: The fact that the recent sightings in Michigan caused a reaction far out of proportion to the original sightings, the fact that my press conference in Detroit the week before last was the largest in the history of the Detroit Press Club, the fact that I receive many letters from schoolchildren who are writing class reports on UFO's and indeed the fact that I am speaking here before you, are all parts of the UFO phenomenon.

In this context, the kind of activity that the press has reported in Michigan is not unusual. It only happened that the Dexter and Hillsdale incidents, although of little scientific significance, have attracted national interest. Now, similar incidents, and some considerably more intriguing, have been occurring for many years, without such treatment on the part of the news media. While such glamorous attention is quick to wane, the underlying concern about UFO's, fed by a continuous trickle of reports, is indeed growing in the mind and sight of the public.

During this entire period of nearly 20 years I have attempted to remain as openminded on this subject as circumstances permitted, this despite the fact that the whole subject seemed utterly ridiculous, and

many of us firmly believed that, like some fad or craze, it would subside in a matter of months. Yet in the last 5 years, more reports were submitted to the Air Force than in the first 5 years.

Despite the seeming inanity of the subject, I felt that I would be derelict in my scientific responsibility to the Air Force if I did not point out that the whole UFO phenomenon might have aspects to it worthy of scientific attention. What we have here is a signal-to-noise ratio problem: There is indeed a fantastic amount of noise, represented by the many misidentifications of familiar objects seen under unusual or surprising circumstances—balloons, birds, satellites, meteors, aircraft, stars—yet, in all scientific honesty, one is led to ask whether there might not indeed be a signal somewhere in the noise.

As a scientist, I must be mindful of the lessons of the past: all too often it has happened that matters of great value to science were overlooked because the new phenomenon simply did not fit the accepted scientific outlook of the time. Thus, the evidence of fossils for biological evolution was overlooked; X-rays were overlooked, meteorites were overlooked as astronomers steadfastly refused to accept stories of stones which fell from the sky.

Therefore, I have set aside for further study some 20 particularly well-reported UFO cases which, despite the character, technical competence and number of the witnesses, I have not been able to explain. I have done this to illustrate that neither I nor the Air Force hide the fact there are unexplained reports, and to illustrate also that the Air Force does not maintain, contrary to some public opinion, that reporters of UFO's are lacking in intelligence or are objects fit only for ridicule.

For of these reports, 10 are from scientists and highly trained individuals, 5 are from members of the Armed Forces, and members of the police force, and 5 are reports made by reliable American civilians. In my view, the reliability of the observers was above average in all 20 cases. The recent cases in Michigan have not been included in this particular collection since I feel that they are subject to simple, albeit somewhat unusual, explanation.

I cannot prove beyond doubt that this is the case, but these two now famous reports illustrate the method the Air Force has used with great success in finding logical explanations for the great majority of the reports.

We have used as a working hypothesis, when first confronted with a report, that a conventional explanation existed, either as a misidentification or an otherwise well-known object or phenomenon, a hallucination, or a hoax. This has been a very successful and productive hypothesis. One must be aware, however, that complete adherence to one hypothesis may turn out to be a roadblock in the pursuit of research endeavors.

As the saying goes, "If one digs too intently for coal he is apt to miss diamonds." Scientists should never be guilty of poverty of hypotheses. And in dealing with the truly puzzling cases, we have tended either to say that, if an investigation had been pursued long enough, the misidentified object would have been recognized, or that the sighting had no validity to begin with.

The UFO public, on the other hand, is equally prone to poverty of hypotheses: Either UFO's mean utter bilge and nonsense, or they

jump to the far-out conclusion that the earth is host to space visitors. Surely, in scientific fairness, we must examine other hypotheses.

As early as 1952, in a paper written for the journal of the Optical Society of America, I called for scientific attention to the problem, pointing out that "ridicule is not a part of the scientific method and the public should not be taught that it is."

In 1953, I had further recommendations to make, when I wrote in a report to the Air Force:

It occurs to me that the public interest in "flying saucers" may be dormant, but can be excited with small provocation. I would recommend that: (1) selected "unknowns" continue to be worked upon and due publicity be given them when a satisfactory solution is reached; (2) an announcement be made that the Air Force is interested in the phenomena which cause reports on a scientific basis; (3) use of a small civilian scientific panel to examine a few selected "unknowns."

And this, I repeat, was my recommendation in 1953. In 1965, in my capacity as scientific consultant, I again advised that the reports be studied by a civilian scientific group, in a letter to the Office of the Secretary of the Air Force:

If there be any potential scientific value in the fragmentary UFO reports, as scientific consultant it is clearly my duty to point this out. I have done so, in the past on a less formal basis, in private conversation with, and informal reports to, Air Force officials—I feel it is my responsibility to point out that enough puzzling sightings have been reported by intelligent and often technically competent people, to warrant closer attention than Project Blue Book can possibly encompass at the present time. * * * If the preliminary survey of the problem should bear me out; namely, that there exists the possibility of new scientific information in the UFO phenomenon, then definitely let the recommendation be made to have the National Academy of Sciences, or some other civilian group of recognized stature, undertake a longer study of the reported phenomena.

I am happy that my appearance before this committee affords me a chance to once again reiterate my recommendations.

Specifically, it is my opinion that the body of data accumulated since 1948 through the Air Force investigations deserves close scrutiny by a civilian panel of physical and social scientists, and that this panel should be asked to examine the UFO problem critically for the express purpose of determining whether a major problem really exists.

I would, of course, be willing to assist such a panel in whatever way I might and would even be willing to take a short leave of absence from my university if it would help place this problem in its proper perspective.

Thank you.

The CHAIRMAN. You say you can't write these reports off. You can't ridicule those who have made them. They are highly responsible people, in various walks of life, that have reported them. And that sometime in the past you recommended that a panel be set up to clear these things, a civilian panel, to obviate the accusation that the Air Force is or has been hiding their reports.

Now, are you saying to us this morning that there should be a panel set up of scientists authorized by the Air Force before whom these things may be brought, and from whom a report could come?

Dr. HYNEK. Yes, sir. I am saying that. This would be the gist of my statement.

However, I have been scooped by Secretary Brown who has mentioned that the Scientific Advisory Board has recommended the same thing.

The CHAIRMAN. What you have recommended is being done now?

Dr. HYNEK. It is about to be done, I believe.

The CHAIRMAN. Is about to be done?

Dr. HYNEK. Yes. I should like to make one comment:

The puzzling thing is that one would think many more people would see these flying objects than do. There should be many more witnesses. We should see a craft, if it actually exists as a tangible thing, and we should see it go from point to point. This doesn't seem to happen. Also, there should be far more radar sightings. During the international geophysical year, I was in charge of the optical satellite tracking program, and you would think with the surveillance that the astronomers placed on the sky, if these objects existed as tangible objects, surely these astronomers would have seen more than they did. It is a dilemma. It is a puzzle, as you say, as to how responsible people can report such objects, and that they are not obvious to scientists.

The CHAIRMAN. And then they see them and they disappear and they don't know where they go, and they laud in these remote places where there is no intelligence to procure?

Dr. HYNEK. I would say so, yes, sir.

The CHAIRMAN. We don't know where they go, who they have on board, we see them a few moments, and then they are gone. This is the end of that.

This is what puzzles me. I am not going to ask further questions, because I am not knowledgeable with respect to the varying reports that have been made.

So I will turn it over to some of the experts, and I will start with Mr. Bates.

Mr. BATES. Mr. Chairman, I don't know—if I have to qualify on that basis.

But, Secretary Brown, you indicated no one of scientific knowledge in your organization has concluded these phenomena come from extraterrestrial sources?

Secretary BROWN. That is correct. We know of no phenomena or vehicles, intelligently guided, which have come from extraterrestrial sources. I excluded meteors, which do come from extraterrestrial sources.

Mr. BATES. Is this your conclusion, Doctor?

Dr. HYNEK. This is also my conclusion. I know of no competent scientist today who would argue the sightings which do puzzle intelligent people. Puzzling cases exist, but I know of no competent scientist who would say that there objects come from outer space.

Mr. BATES. Then what you are looking for is an explanation in natural phenomena, thus far you have not determined the factors involved in it?

Dr. HYNEK. Yes.

Mr. BATES. But the interesting thing, of course, is we have so many prominent people in the scientific world here who have taken a position, a rather strong position—I have here a letter from a constituent of mine. He is a project administrator or engineer in the MINUTEMAN program. That is a responsible position, would we say?

General McCONNELL. Yes.

Mr. BATES. On the basis of scientific ability he has been given a rather important position toward the security of this country; is that correct?

Secretary BROWN. I would like to know who he is and what his responsibilities are before I comment on this, Mr. Bates. Certainly, from the information contained in the letter that you quote, he appears to occupy a position of some responsibility.

Mr. BATES. It does seem to be. And as I read the letter which he has written to me, it is certainly written by a well-educated person. And of course, we here all kinds of comments on the other side of the issue now, with this Lunar II excursion around the moon, people say I suppose the people up there are making the same kind of reports as the doctor has just made to us. They are making these kinds of statements.

Doctor, to be more specific, the paper which I have—Mr. Chairman, I would like to get unanimous consent to insert in the record the information which has been provided to me.

The CHAIRMAN. Without objection.

(The letter to Congressman Bates is as follows:)

WENHAM, MASS., April 1, 1966.

CONGRESS OF THE UNITED STATES,
House of Representatives,
Washington, D.C.

(Attention, Speaker John W. McCormack).

DEAR SIR: My name is Raymond E. Fowler. I am employed as a project administrative engineer in the Minuteman Program Office for Sylvania Electric Products, Waltham, Mass. I am presently serving as chairman of a Technical Investigating Subcommittee for the National Investigations Committee on Aerial Phenomena, Wash., D.C.

The reasons for my writing are twofold, firstly—I have been asked by NICAP to submit to you our subcommittee's complete file covering our investigation of the Exeter, New Hampshire UFO sighting witnessed at close range by local citizens and police officers on September 3, 1965. I am sure that you are aware of this sighting as it gained nationwide publicity recently through NICAP-backed articles in the Saturday Review and Look magazines. Secondly, I do want to put myself on record as supporting the claims and views of NICAP and others which indicate that congressional hearings on the matter of UFO's are long overdue.

I feel that the American people are capable of understanding the problems and implications that will arise if the true facts about UFO's are made known officially. The USAF public information program and policy, as directed by the Pentagon, of underrating the significance of UFO's and not releasing true, pertinent facts about UFO's, is not only a disservice to the American people now but in the long run could prove to have been a foolish policy to follow. After years of study, I am certain that there is more than ample high-quality observational evidence from highly trained and reliable witnesses to indicate that there are machine-like solid objects under intelligent control operating in our atmosphere. The aerodynamic performance and characteristics of the true UFO rule out manmade or natural phenomena. Such observational evidence has been well supported in many instances by reliable instruments such as cameras, radar, geiger-counters, variometers, electrical interference, physical indentations in soil and scorched areas at landing sites, etc.

I am reasonably sure that if qualified civilian scientists and investigators are able to come to this conclusion, that the USAF, supported by the tremendous facilities at its disposal, have come to the same conclusion long ago. However, present official policy deliberately attempts to discredit the validity of UFO's and a wealth of data and facts are not being released to the public.

I trust that you will examine the attached UFO report and related correspondence in detail. Sightings such as the Exeter, N.H., sighting have and are occurring throughout the world at night and in the daytime. It is high time that the real facts about UFO's are released. A public information program should

be inaugurated that presents facts. I am urging you to support a full congressional open inquiry on the UFO problem.

Sincerely,

RAYMOND E. FOWLER,
Chairman NICAP Massachusetts Subcommittee.

(The attachments to the previous letter are as follows:)

[Excerpt from Manchester (N.H.) Union Leader, Sept. 6, 1965]

POLICE, CIVILIANS SIGHT UFO IN EXETER AREA

EXETER.—At least five people here, including two police officers, have reported seeing a flying saucer in this area.

The incidents occurred early Friday morning. According to those who saw the unidentified flying object, it was about the size of a house and had a red glow around it, and moved silently through the night.

When Exeter police investigated a parked car on the Exeter-Hampton bypass at about 12:30 investigating officer Eugene Bertrand, who approached the car and found two women in a state of near shock. They told that they had been chased along Route 101 all the way from Epping, about 12 miles, by flying object which glowed with a brilliant halo of red. According to the women, the "thing" followed their car until they stopped.

As the one woman told their story one of them sighted the object once more, about 2 miles away, which Bertrand thought was a star low on the horizon.

REPORTS CHASE

At 12 a.m., Norman J. Muscarello, 18, of 205½ Front Street, Exeter, came into the police station with a hair-raising report of having been chased by a flying object as he was hitchhiking toward Exeter on Route 150 in Kensington.

Muscarello told Desk Officer Reginald Toland that as he walked along the highway, a large, brilliant object began making passes on an adjacent field and house and along the highway. Not knowing what it was and being understandably shaken, he crouched in a ditch along the road as the object, so brilliantly red that its shape could not be determined in the glow, made what seemed to him to be searching passes at him.

Shortly thereafter the "thing" disappeared silently, as quickly as it had appeared. Muscarello then hitched a ride to the police station and related what he had seen.

Although Muscarello's story was extraordinary, Patrolman Bertrand drove him back to the scene of the incident in the police cruiser. When they arrived, nothing was there.

POLICE SEE UFO

Officer Bertrand suggested that they walk into the field where the flying object was last seen, and they were joined there by Exeter Patrolman David Hunt, who also drove to the scene. Bertrand was talking reassuringly when Muscarello shouted "Look, there it is, rising up from behind those trees." The officers spun around and looked.

From behind a stand of trees in the black of the night, a huge blinding glow of brilliant red light surrounding it, the object rose, not fast but waveringly.

It traveled slowly and yawed slightly from side to side. They were stunned by the blinding red light as it moved toward them across the field. The object seemed to be coming toward them and Bertrand made a move toward his police service revolver but thought better of it. Then the three men ran to the police cruisers. When questioned on the size of the object, Officer Bertrand estimated it to be "about the size of a house."

Usually, when incidents such as this are reported, the sightings take place over a period of a few seconds, but in this instance, the men observed the object for 15 or 20 minutes at what appeared to be a relatively short distance.

One of the most amazing points which Officer Bertrand made while being interviewed was the complete absence of sound as the flying object hovered over

a nearby farm building, casting a brilliant glow over the dwelling, while the farm animals in the barn caused a tremendous commotion. Horses whinnied and kicked the walls of their stalls. Then the object disappeared rapidly in the distance.

ANOTHER SIGHTING

Officer Eugene Bertrand's report on the trio's sighting of the strange object was made to Officer Toland, desk man at the Exeter police station, at 2:55 a.m.

Then at 3:30 p.m. Officer Hunt reported from his cruiser that he had again sighted the UFO, while he was at the intersection of the Route 101 bypass in Exeter and Route 87 to Newfields from Exeter.

Topping the strange activities, Exeter police reported that a telephone call from an unidentified pay station in Hampton had been made by a hysterical man, but that the line had gone dead before the call could be completed or the pay phone station identified. The man had dialed the operator and cried "Get me the police" and said he had been chased by a flying saucer.

Hampton police were notified, but nothing was determined about the point from which the call was made, what had frightened the man—or why the call was so abruptly broken off.

NATIONAL INVESTIGATIONS COMMITTEE ON AERIAL PHENOMENA, Washington, D.C., September 15, 1965.

RAYMOND FOWLER,
Wenham, Mass.

DEAR RAY: Your excellent report on the September 3 New Hampshire sightings has been received. You certainly are to be commended for a prompt and thorough investigation. The information is most interesting and will be of great value. We are very fortunate to have people of your ability donating their services to us.

Mr. John Fuller of Saturday Review may be getting in touch with you about these sightings. He is doing a straightforward column (he writes "Trade Winds") on the recent wave of sightings, and has long had a sincere interest in the subject. We are cooperating fully, and I have given him a lot of specific information.

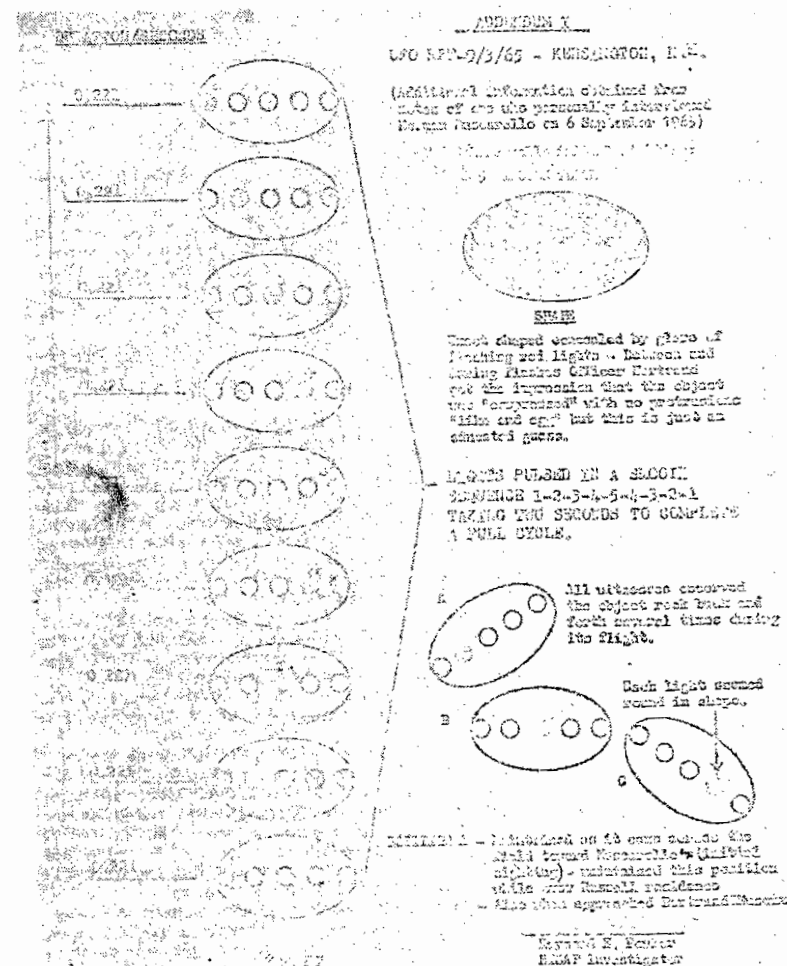
Our New York No. 2 Subcommittee in Chautauqua County (western New York.) and an intelligent young member have been investigating a landing report near Buffalo (Cherry Creek) August 19. It appears to be a solid case, and caused several E-M effects.

On the same night as the New Hampshire sightings, two police officers near Angleton, Tex. (Between Houston and gulf coast) saw a reddish UFO on the ground in a field, started to investigate until the object moved toward them—whereupon they fled in panic. Sounds very similar to New Hampshire, but we may not be able to get much details.

Thanks again for your hard work on our behalf.

Sincerely,

DICK HALL.



ADDENDUM II

(UFO Report, September 3, 1965, Kensington, N.H. (Bertrand-Hunt-Muscarello))

Subject: Weather, September 3, 1965, a.m.

To: NICAP, Washington, D.C.

From: Raymond E. Fowler, chairman: NICAP Massachusetts Investigating Subcommittee.

U.S. Weather Forecast: Skies: Clear. Wind direction: Northwest, Wind velocity: 5 miles per hour. Temperature: Lower fifties.

Respectfully submitted.

RAYMOND E. FOWLER,
NICAP Investigator.

[From the Saturday Review, Oct. 2, 1965]

ADDENDUM IIA (UFO RPT, SEPTEMBER 3, 1965, KENSINGTON, N.H. (BERTRAND-HUNT-MUSCARELLO))

TRADE WINDS

(By John G. Fuller)

When the tidal wave of reports about unidentified flying objects hit even the august pages of the New York Times last summer, we made a mental note to follow the story through to see just what conclusions might eventually be drawn. State police in Oklahoma, Texas, Kansas, and New Mexico had risked their jobs and reputations for sanity in reporting a wide number of observations, corroborated by radar trackings from the Tinker and Carswell Air Force Bases. Later, however, the Air Force made it a point to release a statement that the radar trackings did not correspond to the visual findings of the Oklahoma Department of Public Safety, and the story disappeared from the pages of the press.

Skepticism is a healthy thing, especially when you get involved with whirling saucers that defy the laws of aerodynamics. But curiosity is also a powerful force, and it was for this reason that we decided to track down at least one specific case of UFO chasing.

A phone call to the National Investigations Committee on Aerial Phenomenon in Washington, D.C., put us in touch with Richard H. Hall, its acting director. We learned from Mr. Hall that the Oklahoma State Police had released a nine-page report through its department of public safety, contradicting the Air Force statement and indicating that without question the Carswell Air Force Base radar trackings and the State police visual reports were identical. What's more, a steady stream of new findings had been received by NICAP. Most interesting was a report that the NICAP representative in New England, Mr. Raymond Fowler, was just completing a survey on an alleged landing of a UFO in Exeter, N.H., witnessed by not just one but two police officers.

We talked successively and at length to Mr. Fowler: Lieutenant Cottrell of the Exeter police; the Hampton, N.H., police desk; James R. Bucknam, managing editor of the Manchester (N.H.) Union Leader; Officer Bertrand, of the Exeter police force; and the Pease Air Force Base in nearby Portsmouth, N.H.

Understandably, the Air Force is extremely wary about the matter of UFO's, and the Pease base could only confirm that a large number of sightings had been reported locally.

Beyond that, however, we were able to piece together the following story:

Shortly after midnight, on September 3, Officer Eugene Bertrand of the Exeter police force was on routine duty cruising along an overpass on Route 101 near the town. He pulled up besides a parked car and found in it two women who were visibly disturbed. They reported to him that an airborne object, bright red and flashing, had been trailing them for nearly 12 miles, all the way from the town of Epping. Bertrand, an Air Force veteran of the Korean war, was skeptical, made a routine radio report, and went on with his cruising.

Within that same hour, Norman Muscarello, an 18-year-old resident of Exeter, was hitchhiking home from Amesbury, Mass., and had reached a point 2 miles out of town along Route 150, near Kensington. According to his statement to the police, he looked up into the sky and saw a similar object approaching him with a yawing, kitelike motion. He threw himself against a stone wall while the object hovered over a nearby farmhouse, lighting up the entire area. He finally made a run for the farmhouse as the object sailed out of sight. Unable to make sense of his hysterical story, the farmer took no further action and the boy hitchhiked into town. Here he reported the story to the police, even though he was in a state bordering on shock.

It was now about 2 a.m., Officer Bertrand was called on his car radio and instructed to take the boy back to the farm area to investigate.

"I was sure that these women and this kid had seen a helicopter, or something like that," Officer Bertrand told us. "But we went out to the spot, and I parked the cruiser. It was a clear night. No wind. No fog. We walked about a hundred yards out on the field, near a barn where a lot of horses were kept. Then, the kid yelled, 'There it is!'"

"He was right. It was coming up over a row of trees. There was no noise at all. It was about 100 feet in the air, and about 200 feet away from us. I could see five bright red lights in a straight row. They dimmed from right to left, and then from left to right—just like an advertising sign does. It lit up everything around us. But it was silent. The horses started kicking and making an awful fuss, and the dogs in the farm started barking. The kid froze in his tracks, and I grabbed him and pulled him toward the police car. I reached for my revolver and then thought better of it. Then Officer David Hunt arrived in another patrol car.

"We sat there and looked at it for at least 10 minutes. My brain kept telling me that this doesn't happen—but it was, right in front of my eyes. There was no tail, no wings, and again no sound. It hovered there, still about 100 feet away, sort of floated and wobbled. I don't know what it was. All I can say is that it was there, and three of us saw it together."

Nobody else can tell you exactly what it was, either. Lieutenant Cottrell will tell you that the whole story is on the police blotter, and that you can't find two better officers than Hunt and Bertrand. "If I didn't believe these guys, I'd put 'em in a locked room and give 'em some blocks to play with," he says. The Hampton police will tell you that too many reliable people have reported these sightings to doubt them. The editors at the Manchester Union Leader and the Exeter News-Letter will tell you that the reports are from too many reliable sources to doubt.

Moreover, officials suspect other local UFO landings have gone unreported. As Lieutenant Cottrell said, "If I had seen that thing—and I was all alone, nobody else would have ever heard about it."

[From the Haverhill Gazette, Oct. 27, 1965]

PENTAGON DOESN'T BELIEVE UFO EXETER SIGHTINGS

WASHINGTON, D.C.—The Pentagon believes that, after intensive investigation, it has come up with a natural explanation of the UFO sightings in Exeter, N.H., on September 3.

A spokesman said the several reports stemmed from "multiple objects in the area," by which they mean a high-altitude Strategic Air Command exercise out of Westover, Mass., was going on at the time in the area.

A second important factor was what is called a weather inversion wherein a layer of cold air is trapped between warm layers.

The Pentagon spokesman said this natural phenomena causes "stars and planets to dance and twinkle."

The spokesman said "We believe what the people saw that night was stars and planets in unusual formations."

(This is the official Air Force "explanation" for the September 3, 1965, UFO sightings in the Kensington-Exeter, N.H. area. I have asked the USAF public information officer at the Pentagon for a copy of their official evaluation for the subcommittee and NICAP files.)

RAYMOND E. FOWLER,
Chairman, NICAP Massachusetts Subcommittee.

NICAP MASSACHUSETTS INVESTIGATING SUBCOMMITTEE.

Wenham, Mass.

Subject: Addendum IV, UFO report, September 3, 1965 (Kensington, N.H.)

(Bertrand-Hunt-Muscarello).

Date: October 10, 1965.

From: Raymond E. Fowler, chairman, NICAP Massachusetts Subcommittee.

To: NICAP.

This newsclip identifying UFO reports in the southern New Hampshire area is misleading. At the time of the September 3, 1965 UFO sighting I checked with the manager of "Sky-Lite Aerial Advertising Co." and its aircraft was not flying on this night. On October 9 I went over the advertising plane's flight paths between August and October 8. The plane was not even airborne between August 21 and September 10.

¹ See later USAF letter in file which reverses their position.

Joseph Rodina also informed me that his aircraft rarely flies into southern New Hampshire and when it does it is usually in the Salem and Manchester area, miles away from the Exeter area. He told me that he had told the Amesbury News that perhaps some UFO's reported in New Hampshire could have been his aircraft. Unfortunately, this newspaper used his statement to explain the sightings in the Seabrook area which borders Kensington, N.H.

The "Sky-Lite" aircraft* does not carry red flashing lights. It carries a rectangular sign carrying white flashing lights. It was not airborne during the southeast New Hampshire UFO flap. I have notified the Amesbury News of the true facts and have asked them to set the record straight. I am issuing this addendum to avoid further confusion.

RAYMOND E. FOWLER,
Chairman, NICAP Massachusetts Subcommittee.

[From the Amesbury (Mass.) News, Oct. 6, 1965]

UFO IDENTIFIED AS AD GIMMICK

The unidentified flying object spotted in this area by many residents has finally been identified.

It's a flying billboard which contains 500 high-intensity lights that spell out an advertising message.

The electronic billboard is towed by a specially rigged light aircraft owned by Sky-Lite Aerial Advertising Agency of Boston and piloted by Daniel C. Vale of Londonderry, N.H.

Recently the rig has been flown over the Amesbury, Seabrook, and southern New Hampshire area carrying the advertising message, "Put a Tiger in Your Tank—See Your Esso Dealer."

However, when spotted from an angle not directly below the aircraft, it gives the appearance of a flying saucer, quite like the "UFO's" described by the area residents.

A spokesman for the firm said the sign is 10 feet wide and 40 feet long. "The plane can turn on a dime, and when it turns, it gives the appearance of being stationary," the spokesman said.

Earlier flights of the night-flying billboard south of Boston also prompted a flash to UFO reports before the "secret" was discovered.

UFO SUMMARY SHEET

UFO reports—Sept. 3, 1966

Number	Witness—Name and address	Age	Location of UFO sighting	Time e.d.t.
1.....	Unidentified woman motorist.....	(1)	Route 10L, Epping to Exeter, N.H.	—12:30 a.m.
2 and 3...	Norman J. Muscarello, 205½ Front St., Exeter, N.H.	18	Route 150, Kensington, N.H. Russell and Dining properties.	±1:00 a.m. ±2:25 a.m.
3.....	Officer Eugene F. Bertrand (Exeter Police Department) Pickpocket Road, Exeter, N.H.	32	do.....	Do.
3.....	Officer David R. Hunt, 11 Charles St., Exeter, N.H. (Exeter Police Department)	26	do.....	±2:35 a.m.
4.....	Officer David R. Hunt		Route 85/101 Bypass, Exeter, N.H.	3:30 a.m.
5.....	Unidentified man.....		Hampton, N.H.	Early a.m.

¹ Not available.

BACKGROUND

I received news of the sighting through newsclips and from a friend whose niece is a policewoman for the Exeter, N.H., Police Department. I arrived at the Exeter police station at 6:40 a.m., on September 11, and interviewed Officer

*NOTE.—This aircraft flies out of Beverly Airport, Beverly, Mass. Usually the aircraft flies along the coast to Boston and back. It rarely is airborne after 11 p.m.

Hunt who filled out and signed an eight-page UFO questionnaire and later gave permission to use his name in connection with the report. I proceeded to the residence of Norman Muscarello and discovered that he was out of State until September 14. Arrangements have been made for a personal interview upon his return. I then drove out to the sighting area of sightings two and three, and interviewed residents in the general area. Next, I went to the home of Officer Bertrand and drove him back to the area of sighting two and three where he filled out a UFO questionnaire, signed it and gave NICAP permission to use his name in connection with his sighting. While at the sighting area he gave me a detailed description of the sightings and related information. I interviewed others in the area who had related information and arrived back home at 2:45 p.m. My brother, Richard A. Fowler, and I returned to the area and took photographs. We walked several miles along some powerlines near the sighting area examining this area for any signs of a UFO landing. We feel that the UFO might have been attracted to the area by these powerlines. We found nothing.

SIGHTING ACCOUNT NO. 1

At approximately 12:30 a.m., e.d.t., Officer Bertrand came upon one woman (not two as reported by newspapers) parked in an automobile on route 101 just outside Exeter. When asked if she needed help she said excitedly that she had been chased along Route 101 between Epping and Exeter for 12 miles by a flying object which was encircled with a brilliant red glow. She stated that the object dived at her moving automobile several times. When Bertrand asked where the object was, she pointed to what he thought was a bright star on the horizon. He dismissed the incident and after watching the light source for a few minutes to reassure the woman he proceeded on in the cruiser. He dismissed the incident and did not attach enough importance to the woman's account to warrant obtaining her name.

SIGHTING ACCOUNT NO. 2 (MORE DETAILS FORTHCOMING PENDING PERSONAL INTERVIEW)

At approximately 1 a.m., e.d.t., Norman Muscarello was walking along Route 150 in Kensington, N.H., about 2 miles from Exeter. He had been visiting in Amesbury, Mass., and had been thumbing rides home to Exeter. As he approached the Clyde Russell residence he was alarmed to see an object carrying at least four extremely bright red pulsating lights emerge from nearby woods and maneuver over the field adjoining the road which belongs to Carl Dining. It moved over the Clyde Russell home and hovered there. The house was only 20 to 30 feet from where Muscarello stood and the object appeared to be just a matter of several feet from the roof. Frightened thoroughly he crouched down beside the stone wall which runs along the field. Several times it seemed to move closer to him. Its lights were so bright that the Russell home was bathed with a red glow. The size of the object seemed to be much larger than the Russell home and Muscarello later told the police it was 80 to 90 feet long. The object was completely silent. Then it moved back over the Carl Dining field and disappeared over the trees. Muscarello pounded on the door of the Clyde Russell home shouting that he had seen a "flying saucer." The Russells woke up but refused to answer the door thinking that the boy was drunk or something. Muscarello finally gave up and started down the road toward Exeter. He flagged down a passing automobile and received a ride to the Exeter police station.

(The above account is based upon information received from Officers Hunt and Bertrand. I hope to receive more detailed information from Norman Muscarello personally as soon as he returns from Rhode Island.)

SIGHTING ACCOUNT NO. 3

Muscarello reported the incident to Desk Officer Reginald Towland at about 1:45 a.m., e.d.t. He was white with fear and hardly able to talk. A radio call was made to Officer Bertrand asking him to return to the station, pick up Muscarello and investigate at the scene of the sighting which he did. Upon arriving at the Carl Dining field the object was nowhere to be seen. After waiting and looking from the cruiser for several minutes, Bertrand radioed headquarters that there was nothing there and that the boy must have been imagining things. It was then suggested that he examine the field before

returning, so Bertrand and Muscarello advanced into the field. As the police officer played his flashlight beam back and forth over the field, Muscarello sighted the object rising slowly from behind some nearby trees and shouted. Bertrand swung around and saw a large dark object carrying a straight row of four extraordinarily bright red pulsating lights coming into the field at tree top level. It swung around toward them just clearing a 60- to 70-foot tree and seemingly only 100 feet away from them. Instinctively Officer Bertrand drew his service revolver. (He stated that Muscarello said that he shouted "I'll shoot it!") but thinking this unwise replaced it and yelled to Muscarello to take cover in the cruiser. He told me that he was afraid that they both would be burned by the blinding lights closing in on them. They ran to the cruiser where Bertrand immediately put in a radio call to headquarters for assistance. Officer Hunt arrived within minutes and the trio observed the object move away over and below the tree line.

Data (sighting No. 3)—Based on signed questionnaires and interviews with Officers Bertrand and Hunt.

There is confusion concerning the exact times of the sighting. The police stated that the newspaper account stated that Muscarello arrived at the station at 12 a.m. is incorrect and that it was probably close to 2 a.m., e.d.t. I have arbitrarily assigned the time as being 1:45 a.m., e.d.t., after taking everything into consideration. Muscarello's mother also thought it was closer to 2 a.m. Perhaps after my interview with Muscarello, I will be able to pinpoint the time more exactly. Based upon the 1:45 a.m. time and the fact that when the trio returned to headquarters and reported the sighting No. 3 to Desk Officer Towland at exactly 2:55 a.m., I figure that sighting No. 3 took place approximately between 2:25 and 2:40 a.m.

Sighting No. 3 took place over the field of Carl Dining in Kensington, N.H., on Route 150 about 3 miles south of Exeter, N.H. The duration of the observation was about 10 minutes by Officer Bertrand and Norman Muscarello and about 5 minutes by Officer Hunt when he joined the pair at the field. There was no trace of daylight at the sighting time. The weather was dry and cool with a slight breeze. Observing conditions were excellent. The moon had set at 11:15 p.m., e.d.t., and the sky was studded with stars. The exact shape of the object could not be seen by either police officer although Bertrand told me that it seemed compressed as if it were round or egg-shaped with definitely no protrusions like wings, rudder or stabilizer. I hope to obtain more details from Muscarello concerning the shape, size, and so forth of the object.

The object carried at least four extremely brilliant pulsating red lights which appeared to flash in a steady sequence. They were arranged in a fixed straight line position. Officer Bertrand said that they were brighter than any light he had ever seen and at close range he found that he could not look directly at them. He had the impression that he and Muscarello might have been burned if they did not run from the object as it approached them. He compared their brightness to that of automobile headlights shining directly in one's face at less than several yards away. The manner in which they pulsed gave Bertrand the distinct impression that this was an intelligently constructed vehicle and definitely not some natural phenomenon. The lights were definitely seen to be part of a large dark solid object. The reflection off the object's body caused a halo effect around it. Both officers had eyeglasses on when viewing the object. Neither officer would give an estimate of how large the object itself was although Bertrand was quoted to have said that it was as "big as a house." Bertrand told me that it was very large but the lights obscured it preventing him from seeing enough of it to know how large. When Officer Hunt arrived the object had moved off so what he thinks he only saw two of the lights. I was, however, able to obtain a statement from Bertrand concerning the apparent size of the object. He stated that when the object was at its closest that it was almost the apparent size of a "grapefruit" held at arm's length. When he first sighted it the size seemed to be that of a "baseball" held at arm's length. He estimated that it was 200 yards away when he first spotted it after Muscarello shouted. He said that at its closest approach it just cleared a nearby 60- to 70-foot tree. He said the object was very close and that it appeared to be about 100 feet away. While viewing it from the cruiser it maneuvered over the field at about 500 yards away before moving out over the tree line. As it moved the object seemed to tilt back and forth from side to side.

The sighting area was open countryside with farms, fields, and woods. The object was first seen in the northeast and last seen in the north moving in an east

to west flight pattern in a straight line with an elevation of about 10° above the tree-line. Both officers had read a little on UFO's. Neither would venture an opinion as to what the object was but Officer Bertrand stated that it was definitely not an airplane or helicopter and that in his opinion that it was an intelligently constructed and operated vehicle. No sound was heard by the witnesses, even at close range but apparently the animals in the nearby barn of Carl Dining could hear or sense something that frightened them as during sighting No. 2 and No. 3 they whinnied and kicked their stalls. The dog which belonged to people across the road was barking furiously. No interference was noticed on the police radio nor were the lights and ignition of the cruiser affected. Neither officer would estimate the object's speed but stated it was very slow. No scorched marks or indentations were found in the field. Both officers agreed that their signed statements and names could be used by NICAP in connection with the report.

SIGHTING ACCOUNT NO. 4

At 3:30 a.m. e.d.t., Officer Hunt sighted what appeared to be the same object hovering in the distance while at the Route 85-100 bypass in Exeter. He radioed Officer Bertrand who told him it was probably a star. Shortly after this he looked for it again but it had disappeared. Since there was little detail in this sighting I did not bother to probe for details.

SIGHTING ACCOUNT NO. 5

To add to the excitement the police and others told me that an unidentified hysterical man tried to call the police during these early morning hours to report a UFO. He dialed the operator from a pay station in Hampton, N.H., and excitedly asked the operator to connect him with the police as he had been chased by a "flying saucer." Before the call could be put through to the police, the telephone connection went dead. Neither the man or the particular Hampton pay station could be traced.

MILITARY INVESTIGATION

Officer Bertrand informed me that soon after they made their report of sighting No. 3 to Desk Officer Towland they notified Pease AFB, Portsmouth, N.H., of the sighting by phone. Later Pease AFB phoned back and arranged for the police officers to be interviewed. At around 9 a.m. that same morning, a USAF major and lieutenant in uniforms arrived, questioned them and drove both Bertrand and Hunt out to the Carl Dining field where they had sighted the UFO. They asked more questions and returned with the police officers to the station. The USAF officers asked the police to try to keep the sighting from the press so as to avoid alarming the local people. The police told the USAF officers that it was too late for this as several reporters already had the story. (One had driven from Manchester on a motorcycle complete with black jacket, helmet, and goggles. I heard privately that he gave the police quite a start when he came into the station looking like a man from outer space.)

Bertrand told me that most of the questions asked were the same as I had asked. The USAF team were particularly interested in the size and shape of the object. One question that stuck in Bertrand's mind was that they wanted to know if the chickens on the Carl Russell residence next to the field were awakened and alarmed during the sighting. (Apparently they were not disturbed as they were not heard during the sighting although they may have and just were not heard as the chicken house is probably 300-400 yards, at least from where Muscarello and Bertrand were standing in the field.)

Three interesting items told to the police were that (1) that a USAF check had revealed no aircraft in the area during the time sighting No. 3 occurred; (2) that Pease AFB had been receiving other UFO reports in the New Hampshire area almost nightly during the previous week; (3) they mentioned a sighting which took place in late July concerning an automobile coming upon a UFO hovering over the road in front of them. I have the details and hope to look into it.

After returning Officers Bertrand and Hunt to headquarters, both the major and lieutenant returned to the sighting area and questioned residents living near the field. Mrs. Muscarello told me that two USAF officers had questioned her son at length and that a U.S. Navy officer also came to the house and asked several questions about the sighting.

INTERESTING SIDELIGHTS

1. Mr. and Mrs. Chase of Kensington who live a few miles down Route 150 told me that:

(a) An Air Force officer had gone around to all the stores selling newspapers in Exeter and purchased all copies of the Manchester, N.H., Union Leader newspaper which carried a detailed account of these sightings and a posed photo of Herman Muscarello and Officers Bertrand, Hunt, and Towland. The police had not heard of this and I did not check further.

(a) Mrs. Chase, a nurse, was on duty at the Exeter Hospital during the sightings and told me that the Hampton, N.H., police phoned the hospital to see if a man was brought into the hospital suffering a heart attack or shock. This was in relation to the hysterical man who tried to reach the police by phone about being chased by a UFO. Reference sighting No. 5.

(c) Mrs. Chase also told me that a friend of hers, a Mrs. Parker Blodgett, works as a correspondent for the "Haverhill (Mass.) Gazette" newspaper and was asked by the USAF not to publish UFO reports. (However, she did, as I have a copy of her article dated September 7, 1965.)

2. A Mrs. St. Laurent of Kingston Road, Kensington, N.H., told a church minister friend of mine that her brother, who usually cuts the hay on the Carl Dining field, refuses to do so because he has heard that the hay has been contaminated by radiation.

3. The police told me that for the past few weeks previous to the sightings they have received reports from people, some of them personal friends, of their whole house suddenly being momentarily illuminated by a bright reddish glow after they had gone to bed. No objects were seen.

4. Mr. and Mrs. DeMarco, N. Hampton Road (Route 88), Hampton, N.H., observed a star-like object blinking red which alternately hovered and moved in the western sky between 9 and 9:30 p.m. on September 5, 1965. Since Venus had set and Mr. DeMarco was a former USAF control tower operator who assured me that it was not an aircraft, I thought the report was worth mentioning.

5. A Mr. Rice, who owns a CB radio told me that he was talking over his radio with a Portsmouth, N.H., police cruiser on September 7, 1965, about 8:00 p.m. e.d.t. The officer told him that he was out investigating a UFO report and asked Mr. Rice to give him a call if he spotted it. He said the UFO was supposed to be over the Hampton Falls area near where Mr. Rice lives on Route 88. No UFO was seen by Mr. Rice. The cruiser used call letters KMA-8616 and used both channel No. 2 and No. 6.

6. Since the UFO sighting at the Carl Dining field, many cars pull up and watch for the object at night. Mr. Dining had to rope off the entrance to his field and post it as people were littering his property.

7. Mrs. Muscarello thinks the USAF Lieutenant's name was Brant.

8. On my first two visits to the Carl Dining field on the morning of September 11, 1965, I saw a low-flying C-119 Flying Boxcar pass over the area on both occasions.

9. Other civilian UFO Investigators were given the brushoff by the police. I was very fortunate to have received such a good response from them.

EVALUATION

Characters of witnesses

Muscarello: Comes from twice-broken home—has had problems with police and is well-known by them—usually a cool, calm boy. Until my personal interview with him I can say no more.

Bertrand and Hunt: Credible witnesses, good observers with a keen desire to relate only facts. I could not even persuade them to guess at estimates of the object's real size and speed.

The sightings

Sighting No. 1: There is enough similarity between the unidentified woman's report and the detailed sightings No. 2 and No. 3 to warrant its probable authenticity. The chances of a similar report occurring the same morning, unless it were authentic, is astronomical. It is possible that the object she pointed out to Officer Bertrand was Jupiter and not the object that had chased her.

Sightings No. 2 and No. 3: The credibility of the witnessing police officers coupled with the sightings of Muscarello; the many typical UFO characteristics

exhibited by the object; the other correlated UFO reports and the military's interest and actions concerning the UFO reports, rate these as first-class UFO sightings by this investigator.

Sighting No. 4: Insufficient information but interesting.

Sighting No. 5: Again, the chances are astronomical that several people entirely independent of one another should report that they were "chased by a flying saucer" in the same general area. It is possible concerning sighting No. 5 that someone could have been monitoring the police radio conversations about the UFO reports and decided to play a little joke but this seems unlikely. Not many people, other than responsible law enforcement officers are up tuning the police radio and at these wee hours of the morning. Thus, the report is probably genuine. Why the unidentified man did not or could not complete his call to the police will have to remain on open question unless he steps forward and relates what happened.

I was able to talk to many people during my investigation. The great majority did not appear to be frightened about the incident. This is contrary to what the USAF team thought would occur if the story got in the newspapers. Instead of fear, I found a tremendous curiosity on the part of people to know more about UFO's. Strangely enough many openly voiced the interplanetary origin theory without any encouragement from me. Several years ago very few people other than those who have read widely about UFO's would talk like this. Slowly but surely over the years the public has been becoming UFO-conscious. Reports like this one coupled with wide publication will help much in informing the public-at-large of the reality and problem of UFO's.

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Respectfully submitted,
Richard E. Fowler
Richard E. Fowler
Chairman: HCAP Mass. Subcommittee

U . O DATA SHEET

Page one

This questionnaire has been prepared so that you can give as much information as possible concerning the "Unidentified Flying Object" that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes. Your name will not be used in connection with any statements, conclusions, or publications without your permission. Thank you very much for your cooperation in this matter.

Investigator: National Investigation Committee on Aerial Phenomena
Raymond E. Fowler
13 Fried Court
Wenham, Massachusetts

*Time he reported sighting
to Dist. Officer - 2:25 AM
WAS SIGHTING T.*

1. When did you see the object? <u>3</u> <u>9</u> <u>1965</u> DAY MONTH YEAR	2. Time of day: <u>2</u> <u>55</u> HOUR MINUTES (Circle One): <u>A.M.</u> or P.M.
3. Time zone: (Circle One): <u>a</u> Eastern b. Central c. Mountain d. Pacific e. Other _____	(Circle One): <u>a</u> Daylight Saving Time b. Standard Time
4. Where were you when you saw the object? <u>KENSINGTON RFD</u> <u>KENSINGTON</u> <u>N.H.</u> Nearest Postal Address City or Town State or Country	Additional remarks: _____
5. Estimate how long you saw the object. HOURS MINUTES SECONDS 5.1 Circle one of the following to indicate how certain you are of your answer to Question 5. a. Certain <u>b</u> Fairly certain c. Not very sure d. Just a guess	
6. What was the condition of the sky? (Circle One): a. Bright daylight b. Dull daylight c. Bright twilight d. Just a trace of daylight e. <u>50</u> trace of daylight f. Don't remember	
7. If you saw the object during DAYLIGHT, TWILIGHT, or DAWN, where was the SUN located as you looked at the object? a. In front of you b. In back c. To your right d. To your left e. Overhead f. Don't remember	

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8. If you saw the object at NIGHT, TWILIGHT, or DAWN, what did you notice concerning the STARS and MOON?

8.1 STARS (circle one): a. None b. A few c. Many d. Don't remember

8.2 MOON (circle one): a. Bright moonlight b. Dull moonlight c. No moonlight - dark d. Don't remember

9. Was the object brighter than the background of the sky?

(Circle one): a. Yes b. NO c. DON'T REMEMBER

10. If it was BRIGHTER THAN the sky background, was the brightness like that of an automobile headlight appearing to be? (CIRCLE ONE BELOW):

a. A mile or more away? (a distant car)
b. Several blocks away?
c. A block away?
d. Several yards away?
e. Other? BRIGHTER THAN HEADLIGHT AT CLOSE RANGE

11. Did the object: (Circle One for each question)

a. Appear to stand still at any time?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
b. Suddenly speed up and rush away at any time?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
c. Break up into parts or explode?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
d. Give off smoke?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
e. Change brightness?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
f. Change shape?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW
g. Flicker, throb, or pulsate?	YES <input type="radio"/> NO <input checked="" type="radio"/> DON'T KNOW

12. Did the object move behind something at any time, particularly a cloud?

(Circle One): YES ☐ NO ☒ DON'T KNOW If you answered yes, then tell what it moved behind: _____

13. Did the object move in front of something at any time, particularly a cloud?

Yes ☐ NO ☒ DON'T KNOW (Circle One) If you answered yes, then tell what it moved in front of: _____

14. Did the object appear (Circle One): SOLID? TRANSPARENT? DON'T KNOW

15. Did you observe the object through any of the following?

a. Eyeglasses	<input checked="" type="radio"/> YES <input type="radio"/> NO	d. window glass	YES <input type="radio"/> NO <input checked="" type="radio"/>	g. Other	_____
b. Sun glasses	YES <input type="radio"/> NO <input checked="" type="radio"/>	e. Binoculars	YES <input type="radio"/> NO <input checked="" type="radio"/>		
c. Microscope	YES <input type="radio"/> NO <input checked="" type="radio"/>	f. Other	YES <input type="radio"/> NO <input checked="" type="radio"/>		

Page 3


16. Tell in a few words the following things about the object.

a. SOUND NONE

b. COLOR RED


17. Draw a picture that will show the shape of the object or objects. Label and include in your sketch any details of the object that you saw such as wings, protrusions, etc., and especially exhaust trails or vapour trails. Place an arrow beside the drawing to show the direction the object was moving.

← WEST — EAST →



RED LIGHTS
FLASHING

← WEST — EAST →



RED LIGHTS
FLASHING

18. The edges of the object were:

(Circle One): a. Fuzzy or blurred b. Like a bright star c. Sharply outlined e. Other LIGHTS WERE SO BRIGHT THEY CREATED A HALO

19. If there was MORE THAN ONE object, then how many were there? Draw a picture of how they were arranged, and put an arrow to show the direction that they were travelling.

N/A

Page 4

20. Draw a picture that will show the motion that the object or objects made. Place a "A" at the beginning of the path; a "B" at the end of the path; and, show a y che-ges in direction during the course.

21. IF POSSIBLE, try to guess or estimate what the real size of the object was in its longest dimension. N/A Feet.

22. How large did the object or objects appear as compared with one of the following objects "held" in the hand at about arm's length?

(Circle One):

a. Head of a pin	g. Silver dollar
b. Pea	h. Baseball
c. Dime	i. Grapefruit <i>see question 41</i>
d. Nickel	j. Basketball
e. Quarter	k. Other _____
f. Half-dollar	

22.1 CIRCLE ONE of the following to indicate how certain you are of your answer to Question 22.

While over field when hit seen
While over tree
bordering field

a. Certain	c. Not very sure
b. Fairly certain	d. Uncertain

*1 - 200 yards **
*2 - 500 yards ***

23. How did the object or objects disappear from view?
DROPPED BELOW TREE LINE

24. In order that you can give as clear a picture as possible of what you saw, we would like for you to imagine that you could construct the object that you saw. Of what type MATERIAL would you make it? How LARGE would it be, and what SHAPE would it have? Describe in your own words a common object or objects which when placed up in the sky would give the same appearance as the object which you saw.

N/A

Page 5

25. Where were you located when you saw the object? (Circle One):

a. Inside a building
b. In a car
c. Outdoors
d. In an airplane
e. At sea
f. Other _____

26. Where were you (Circle One):

a. In the business section of city?
b. In the residential section of a city?
c. In open countryside?
d. Flying near an airfield?
e. Flying over a city?
f. Flying over open country?
g. Other _____

27. What were you doing at the time you saw the object, and how did you happen to notice it?
Went To 1251 ST 18 year old boy

28. If you were MOVING IN AN AUTOMOBILE or other vehicle at the time, then complete the following questions:

28.1 What direction were you moving? (Circle One):

N/A

a. North	c. East	e. South	g. West
b. Northeast	d. Southeast	f. Southwest	h. Northwest

28.2 How fast were you moving? _____ miles per hour

28.3 Did you stop at any time while observing object?
(Circle One): YES NO

29. What direction were you looking when you FIRST SAW the object? (Circle One):

a. North	c. East	e. South	g. West
b. Northeast	d. Southeast	f. Southwest	h. Northwest

30. What direction were you looking when you LAST SAW the object? (Circle One):

a. North	c. East	e. South	g. West
b. Northeast	d. Southeast	f. Southwest	h. Northwest

31. If you are familiar with bearing terms (angular direction), try to estimate the number of degrees the object was from true North and also the number of degrees it was upward from the horizon (elevation).

N/A

31.1 When it first appeared:

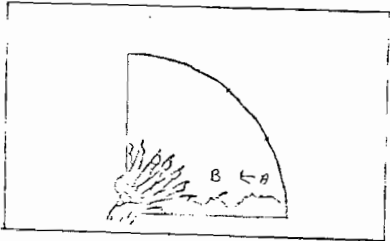
a. From true North _____ degrees
b. From horizon _____ degrees

31.2 When it disappeared:

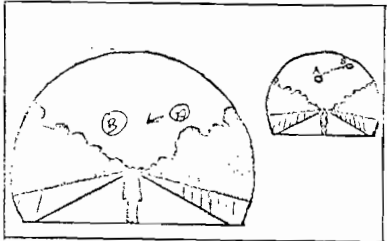
a. From true North _____ degrees
b. From horizon _____ degrees

Page 6

32. In the following sketch, imagine that you are at the point shown. Place a "A" on the curved line to show how high the object was above the horizon (skyline) when you FIRST saw it. Place a "B" on the same curved line to show how high the object was above the horizon (skyline) when you LAST saw it.



33. In the following larger sketch place a "A" at the position the object was when you FIRST saw it, and a "B" at its position when you LAST saw it. (Refer to smaller sketch as an example of "how" to complete the larger sketch.)



33.1 Were there any KNOWN aircraft in the sky during your sighting? (Circle One): YES ☒ NO

If you answered Yes, was it following or attempting to intercept the Unidentified Flying Object? (Circle One): YES NO

If you answered Yes, please circle TYPE of aircraft:

COMMERCIAL PRIVATE JET ROCKET

How many engines did it have? _____

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34. What were the weather conditions at the time you saw the object?

34.1 CLOUDS (Circle One) 34.2 WIND (Circle One)

a. Clear sky a. No wind

b. Hazy b. Slight breeze

c. Scattered clouds c. Strong wind

d. Thick or heavy clouds d. Don't remember

e. Don't remember

34.3 WEATHER (Circle One) 34.4 TEMPERATURE (Circle One)

a. Dry a. Cold

b. Fog, mist, or light rain b. Cool

c. Moderate or heavy rain c. Warm

d. Snow d. Hot

e. Don't remember e. Don't remember

35. Where did you report to some official that you had seen the object?

Official or Organization Name(s) Day Month Year

DESK OFFICER EXETER P.D. 7 9 65

OFFICER TOLAND

36. Have you read literature pertaining to Unidentified Flying Objects? (Circle One) YES NO If Yes, how much? (Circle One) A LITTLE? MODERATELY? EXTENSIVELY?

37. Was anyone else with you at the time you saw the object? (Circle One) YES NO

37.1 If you answered Yes, did they see the object too? (Circle One) YES NO

37.2 Please list their names and addresses if you circled YES: (Attach separate sheet for above)

38. Was this the first time that you had seen an object(s) like this? (Circle One) YES NO

38.1 If you answered NO, then where, when, and under what circumstances did you see the other one(s)?

39. In your opinion, what do YOU think the object(s) was and what might have caused it? Do NOT Know?

40. Do you think you can estimate the speed of the object? (Circle One) Yes NO Page 3
If you answered Yes, the what speed would you estimate? _____ MPH

41. Do you think you can estimate how far away from you the object was? (Circle One) Yes NO
If you answered Yes, the how far away would you say it was? 100 FEET

42. Did the Object(s) cause any interference with the operation of: (Circle where applicable) RADIO? TV? LIGHTS? OTHER? NONE
If you underlined any of above, explain the interference below:

43. Was a photo taken of the Object(s)? (Circle One) Yes NO
Should you be willing to submit a copy? (Circle One) Yes NO
If you circled Yes, please send copy indicating monetary reimbursement:

44. Do you belong to a y Organization which investigates Unidentified Flying Objects? (Circle One) Yes NO If Yes, list them below:

45. May we publish your report if you name is kept confidential? Yes NO
May we publish your report and use your name? Yes NO (Circle One)

47. Please give the following information about yourself: EUGENE
NAME BRAND
Last Name BRAND First Name EUGENE Middle Name N.H.
ADDRESS PICKERET RD EXETER
Street City State
TELEPHONE NUMBER 772-4973
What is your present job? POLICE OFFICER
AGE 32 SEX M
Please indicate any educational training you have had: (Number of years)
a. Grade school 8 e. Technical school _____
b. High school 4 (Type of) _____
c. College _____
d. Post graduate _____ f. Other special training? _____

48. I am a RESEARCHER in the field of U.F.O.

U F O DATA SHEET Page one

This questionnaire has been prepared so that you can give as much information as possible concerning the "Unidentified Flying Object" that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes. Your name will not be used in connection with any statements, conclusions, or publications without your permission. Thank you very much for your cooperation in this matter.

Investigator: National Investigation Committee on Aerial Phenomena
Raymond S. Fowler
13 Friend Court
Wenham, Massachusetts

Time of reported sighting to Survey Officer - Time of sighting = 10:25 AM

1. When did you see the object? 2. Time of day: 2 55
3 9 1965
DAY MONTH YEAR (Circle One): A.M. or P.M.

3. Time zone: (Circle One): a. Eastern (Circle One): a. Daylight Saving Time
b. Central b. Standard Time
c. Mountain
d. Pacific
e. Other _____

4. Where were you when you saw the object?
Kensington RFD Kensington N.H.
Nearest Postal Address City or Town State or Country
Additional remarks: _____

5. Estimate how long you saw the object. 5-8
HOURS MINUTES SECONDS
5.1 Circle one of the following to indicate how certain you are of your answer to Question 5.
a. Certain c. Not very sure
b. Fairly certain d. Just a guess

6. What was the condition of the sky?
(Circle One): a. Bright daylight d. Just a trace of daylight
b. Dull daylight e. No trace of daylight
c. Bright twilight f. Don't remember

7. If you saw the object during DAYLIGHT, TWILIGHT, or DAWN, where was the SUN located as you looked at the object?
a. In front of you c. To your right e. Overhead
b. Behind of you d. To your left f. Don't remember

Page 2

8. If you saw the object at NIGHT, TWILIGHT, or DAWN, what did you notice concerning the STARS and MOON?

8.1 STARS (circle one): a. None b. A few c. Many d. Don't remember

8.2 MOON (circle one): a. Bright moonlight b. Dull moonlight c. No moonlight - dark d. Don't remember

9. Was the object brighter than the background of the sky?

(Circle one): a. YES b. NO c. DON'T REMEMBER

10. If it was BRIGHTER THAN the sky background, was the brightness like that of an automobile headlight appearing to be? (CIRCLE ONE BELOW):

a. A mile or more away? (a distant car)
b. Several blocks away?
c. A block away?
d. Several yards away?
e. Other? Brighter than headlights at close range

11. Did the object: (Circle One for each question.)

a. Appear to stand still at any time? YES ☒ NO ☐ DON'T KNOW
b. Suddenly speed up and rush away at any time? YES ☒ NO ☐ DON'T KNOW
c. Break up into parts or explode? YES ☒ NO ☐ DON'T KNOW
d. Give off smoke? YES ☒ NO ☐ DON'T KNOW
e. Change brightness? YES ☒ NO ☐ DON'T KNOW
f. Change shape? YES ☒ NO ☐ DON'T KNOW
g. Flicker, throb, or pulsate? YES ☒ NO ☐ DON'T KNOW

12. Did the object move behind something at any time, particularly a cloud?

(Circle One): YES ☒ NO ☐ DON'T KNOW If you answered yes, then tell what it moved behind: _____

13. Did the object move in front of something at any time, particularly a cloud?

Yes ☒ NO ☐ DON'T KNOW (Circle One)

If you answered yes, then tell what it moved in front of: _____

14. Did the object appear (Circle One): ☒ SOLID? ☐ TRANSPARENT? DON'T KNOW

15. Did you observe the object through any of the following?

a. eyeglasses ☒ NO ☐ YES b. window glass YES NO c. other _____
d. binoculars YES NO
e. microscope YES NO
f. telescope YES NO

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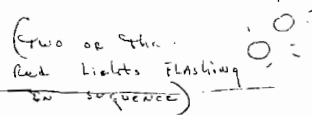
16. Tell in a few words the following things about the object.

a. SOUND None

b. COLOR Red

17. Draw a picture that will show the shape of the object or objects. Label and include in your sketch any details of the object that you saw such as wings, protrusions, etc., and especially exhaust trails or vapour trails. Place an arrow beside the drawing to show the direction the object was moving.

- WEST - - EAST -

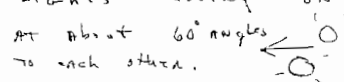
(Two or three red lights flashing in sequence)  - one line

18. The edges of the object were:

(Circle One): a. Fuzzy or blurred b. Like a bright star c. Sharply outlined

☒ Other Light: were so bright they created a halo effect.

19. If there was MORE THAN ONE object, then how many were there? Draw a picture of how they were arranged, and put an arrow to show the direction that they were travelling.

Two or three red flashing lights moving on horizon East to west at about 60° angles to each other. 

Page 4

20. Draw a picture that will show the motion that the object or objects made. Place a "A" at the beginning of the path; a "B" at the end of the path; and, show a change in direction, during the course. No change in direction.

on Angle.

(B) ← (A)

21. IF POSSIBLE, try to guess or estimate what the real size of the object was in its longest dimension. N/A Feet.

22. How large did the object or objects appear as compared with one of the following objects "held" in the hand at about arm's length?

(Circle One):

a. Head of a pin	g. Silver dollar
b. Pea	h. Baseball
c. Dime	i. Grapefruit
d. Nickel	j. Basketball
(3) e. Quarter	k. Other _____
f. Half-dollar	

22.1 CIRCLE ONEs of the following to indicate how certain you are of your answer to question 22.

a. Certain	(c) Not very sure
b. Fairly certain	d. Uncertain

Comparison based on probable distance of 2 1/2 - 4 miles.

23. How did the object or objects disappear from view? Dropped below horizon line.

24. In order that you can give as clear a picture as possible of what you saw, we would like for you to imagine that you could construct the object that you saw. Of what type MATERIAL would you make it? How LARGE would it be, and what SHAPE would it have? Describe in your own words a common object or objects which when placed up in the sky would give the same appearance as the object which you saw.

N/A

Page 5

25. Where were you located when you saw the object? (Circle One):

a. Inside a building	e. In open countryside?
b. In a car	f. Flying near a field?
(3) c. Outdoors	g. Flying over a city?
d. In an airplane	h. Flying over open country?
e. At sea	i. Other _____
f. Other _____	

26. Were you (Circle One):

a. In the business section of city?
b. In the residential section of a city?
(c) c. In open countryside?
d. Flying near a field?
e. Flying over a city?
f. Flying over open country?
g. Other _____

27. What were you doing at the time you saw the object, and how did you happen to notice it?

Called to rescue & assist other
crusier.

28. If you were MOVING IN AN AUTOBAIL or other vehicle at the time, then complete the following questions:

28.1 What direction were you moving? (Circle One):

a. North	c. East	e. South	g. West
b. Northeast	d. Southeast	f. Southwest	h. Northwest

28.2 How fast were you moving? _____ miles per hour

28.3 Did you stop at any time while observing object?

(Circle One): YES NO

29. What direction were you looking when you FIRST SAW the object? (Circle One):

a. North	c. East	e. South	g. West
(b) b. Northeast	d. Southeast	f. Southwest	h. Northwest

30. What direction were you looking when you LAST SAW the object? (Circle One):

(a) a. North	c. East	e. South	g. West
b. Northeast	d. Southeast	f. Southwest	h. Northwest

31. If you are familiar with bearing terms (angular direction), try to estimate the number of degrees the object was from true North and also the number of degrees it was upward from the horizon (elevation).

N/A

31.1 When it first appeared:

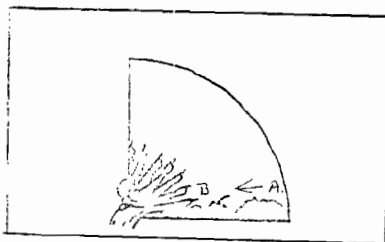
a. From true North _____ degrees
b. From horizon _____ degrees

31.2 When it disappeared:

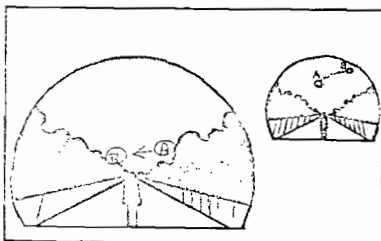
a. From true North _____ degrees
b. From horizon _____ degrees

Page 6

32. In the following sketch, imagine that you are at the point shown. Place a "A" on the curved line to show how high the object was above the horizon. (skylit) when you FIRST saw it. Place a "B" on the same curved line to show how high the object was above the horizon (skyline) when you LAST saw it.



33. In the following larger sketch place a "A" at the position the object was when you FIRST saw it, and a "B" at its position when you LAST saw it. (Refer to smaller sketch as an example of "how" to complete the larger sketch.)



- 33.1 Were there any KNOWN aircraft in the sky during your sighting? (Circle One): YES NO
If you answered YES, was it following or attempting to intercept the Unidentified Flying Object? (Circle One): YES NO
If you answered YES, please circle TYPE of aircraft:
MILITARY? CIVILIAN PRIVATE? PROPELLER
How many engines did the aircraft have?

Page 7

34. What were the weather conditions at the time you saw the object?

34.1 CLOUDS (Circle One)

- a. Clear sky
b. Hazy
c. Scattered clouds
d. Thick or heavy clouds
e. Don't remember

34.2 WIND (Circle One)

- a. No wind
b. Slight breeze
c. Strong wind
d. Don't remember

34.3 WEATHER (Circle One)

- a. Dry
b. Fog, mist, or light rain
c. Moderate or heavy rain
d. Snow
e. Don't remember

34.4 TEMPERATURE (Circle One)

- a. Cold
b. Cool
c. Warm
d. Hot
e. Don't remember

35. When did you report to some official that you had seen the object?

Official or Organization Name(s)	Day	Month	Year
Derk Officer Exeter P.D.	3	9	65
Officer Toland			

36. Have you read literature pertaining to Unidentified Flying Objects?

(Circle One) YES NO If YES, how much? (Circle One) A LITTLE?
MODERATELY? EXTENSIVELY?

37. Was anyone else with you at the time you saw the object?

(Circle One) YES NO

- 37.1 If you answered YES, did they see the object too?

(Circle One) YES NO

- 37.2 Please list their names and addresses if you circled YES:

(Attach separate sheet for above)

38. Was this the first time that you had seen an object(s) like this?

(Circle One) YES NO

- 38.1 If you answered NO, then when, where, and under what circumstances did you see the other one(s)?

39. In your opinion, what do YOU think the object(s) was and what might have caused it? Do not know

WENHAM, MASS., October 29, 1965.

MASTON M. JACKS,
Major, U.S. Air Force, Chief, Pictorial Branch,
Public Information Division, Office of Information.

SAF-OIPB

DEPARTMENT OF THE AIR FORCE,
Office of the Secretary, U.S. Air Force, Washington, D.C.

DEAR MAJOR JACKS: This is a formal inquiry concerning the official U.S. Air Force evaluation of the detailed UFO report submitted to AFSC-FTD/Project Blue Book last month. My investigation and subsequent report took place shortly after the official U.S. Air Force investigating team from Pease AFB made their investigation.

The UFO sighting took place between the Clyde Russell and Carl Dining properties along Route 150 in Kensington, N.H., on September 3, 1965, in the early hours of the morning. The witnesses were Norman Muscarello and Officers Bertrand and Hunt of the Exeter, N.H., police force.

In 1964 I customarily received correspondence from your office in response to UFO reports submitted to the U.S. Air Force for evaluation. This was appreciated. I have submitted many reports since but have not received any response. This is understandable due to the many reports received by the U.S. Air Force and I do not expect such a service on your part normally, but, I did spend a great deal of time and thought on the Kensington, N.H., report and would appreciate your sending the official U.S. Air Force evaluation of the same as soon as possible. I understand the evaluation has been made.

Thank you for your cooperation in this matter. I look forward to hearing from your office soon.

Sincerely,

RAYMOND E. FOWLER.

DEPARTMENT OF THE AIR FORCE,
Washington, January 25, 1966.

DEAR MR. FOWLER: This is in reply to your request for information on the Exeter, N.H., UFO sightings.

The initial investigation from Pease Air Force Base was submitted to our office on September 15, 1965, and contained statements from the principal witnesses. This data indicated that a refueling operation might have been the cause of the sighting. Refueling area "Fur Trapper" and refueling area "Down Date" are controlled through Loring Air Force Base and located over the area of the sighting. A call was made to the controller of this refueling area, and we were informed that they were closed from 03/0500Z to 03/0600Z for an 8th Air Force operation, "Big Blast." A call was placed to the 90th Bomb Wing at Westover Air Force Base for information on this operation.

The initial impression was that aircraft from an 8th Air Force operation, "Big Blast," was the cause of the lights observed during this incident. Information received from the 8th Air Force indicates that 10 B-47 aircraft from Pease Air Force Base involved in Operation Big Blast "Coco" were in the traffic pattern over Exeter, N.H., between 03/444Z and 03/535Z. A copy of this letter is enclosed. Since this information conflicted with the time of the sighting and eliminated these aircraft as a possible evaluation of this incident, a letter was forwarded to Mr. Eugene Bertrand and Mr. Dave Hunt of the Exeter Police Department requesting clarification of the time of the sighting. A copy of our letter to these gentlemen and a copy of their reply is attached.

The early sightings by two unnamed women and Mr. Muscarello are attributed to aircraft from operation Big Blast "Coco." The subsequent observation by Officers Bertrand and Hunt occurring after 2 a.m. are regarded as unidentified.

Sincerely,
JOHN P. SPAULDING,
Lieutenant Colonel, U.S. Air Force, Chief, Civil Branch, Community Relations Division, Office of Information

DECEMBER 2, 1965.

HECTOR QUINTANILLA, Jr.,
Major, U.S. Air Force,
Chief, Project Blue Book,
Wright Patterson AFB, Dayton, Ohio.

DEAR SIR: We were very glad to get your letter during the third week in November, because as you might imagine we have been the subject of considerable ridicule since the Pentagon released its "final evaluation" of our sighting

40. Do you think you can estimate the speed of the object? (Circle One) YES ☒ NO ☐ Page 8
If you answered YES, then what speed would you estimate? _____ MPH

41. Do you think you can estimate how far away from you the object was? (Circle One) YES ☒ NO ☐
If you answered YES, then how far away would you say it was? 9000 Feet at closest. Saw at about 2-3 miles on Horizon.

42. Did the Object(s) cause any interference with the operation of: (Circle where applicable) RADIO? TV? LIGHTS? OTHER? NONE
If you underlined any of above, explain the interference below:

43. Was a photo taken of the Object(s)? (Circle One) YES ☒ NO ☐
Would you be willing to submit a copy? (Circle One) YES ☒ NO ☐
If you circled YES, please send copy indicating monetary reimbursement:

44. Do you belong to a y Organization which investigates unidentified Flying Objects? (Circle One) YES ☒ NO ☐ If YES, list them below:

45. May we publish your report if you name is kept confidential? ☒ YES ☐ NO
May we publish your report and use your name? ☒ YES ☐ NO

47. Please give the following information about yourself:
NAME: Hunt David Russell
Last Name First Name Middle Name
ADDRESS: 11 Charles St. Exeter N.H.
Street City State
TELEPHONE NUMBER 722-3415
What is your present job? Police Officer
AGE: 26 SEX: Male
Please indicate any educational training you have had: (Number of years)
a. Grade school 8 e. Technical school _____
b. High school 4 (Type of) _____
c. College _____
d. Post graduate _____ f. Other special training? _____

48. See enclosed P.O. letter dated 9/14/65

of September 3, 1965. In other words, both Patrolman Hunt and myself saw this object at close range, checked it out with each other, confirmed and re-confirmed the fact that this was not any kind of conventional aircraft, that it was at an altitude of not more than a couple of hundred feet, and went to considerable trouble to confirm that the weather was clear, there was no wind, no chance of weather inversion, and that what we were seeing was no illusion or military or civilian craft. We entered this in a complete official police report as a supplement to the blotter of the morning of September 3 (not September 2, as your letter indicates). Since our job depends on accuracy and an ability to tell the difference between fact and fiction, we were naturally disturbed by the Pentagon report which attributed the sighting to "multiple high-altitude objects" in the area and "weather inversion." What is a little difficult to understand is the fact that your letter (undated) arrived considerably after the Pentagon release. Since your letter says that you are still in the process of making a final evaluation, it seems that there is an inconsistency here. Ordinarily, this wouldn't be too important except for the fact that in a situation like this we are naturally very reluctant to be considered irresponsible in our official report to the police station.

Since one of us (Patrolman Bertrand) was in the Air Force for 4 years engaged in refueling operations with all kinds of military aircraft, it was impossible to mistake what we saw for any kind of military operation, regardless of altitude. It was also definitely not a helicopter or balloon. Immediately after the object disappeared, we did see what probably was a B-47 at high altitude, but it bore no relation at all to the object we saw.

Another fact is that the time of our observation was nearly an hour after 2 a.m., which would eliminate the 8th Air Force operation, Big Blast, since as you say this took place between midnight and 2 a.m. Norman Muscarello, who first reported this object before we went to the sight saw it somewhere in the vicinity of 2 a.m., but nearly an hour had passed before he got into the police station, and we went out to the location with him.

We would both appreciate it very much if you would help us eliminate the possible conclusion that some people have made in that we might have (a) made up the story, or (b) were incompetent observers. Anything you could do along this line would be very much appreciated, and I'm sure you can understand the position we're in.

We appreciate the problems the Air Force must have with a lot of irresponsible reports on this subject, and don't want to cause you any unnecessary trouble. On the other hand, we think you probably understand our position.

Thanks very much for your interest.

Sincerely,

EUGENE BERTRAND, *Patrolman*.
DAVID HUNT, *Patrolman*.

DEPARTMENT OF THE AIR FORCE,
HEADQUARTERS, 8TH AIR FORCE (SAC),
Westover Air Force Base, Mass., November 24, 1965.

Memorandum: DOOTO.
Subject: UFO sighting.
To: AFSC (TDEW/UFO.)

1. In reply to your letter, same subject, November 16, 1965, and telephone conversation between Specialist Master Sergeant Heffley, 8th Air Force, and Sergeant Moody, Headquarters, AFSC, on November 19, 1965, the following information is furnished.

2. Big Blast "Coco," a SAC/NORAD training mission, was flown on September 2-3, 1965. By 03/0430Z, the operational portion of the mission was complete, and participating aircraft were en route to their home stations.

3. Ten B-47 aircraft from Pease AFB were involved in Big Blast "Coco" and were estimated to arrive at their initial approach fix (Pease TACAN 320° radial, 10 DME fix), between 03/0444Z and 03/0535Z. The town of Exeter is within the traffic pattern utilized by air traffic control in the recovery of these aircraft at Pease AFB, N.H. During their approach the recovering aircraft would have been displaying standard position lights, anticollision lights, and possibly over wing and landing lights.

For the commander.

WILLIAM A. MCGILPIN, Jr.,
Lieutenant Colonel, U.S. Air Force.,
Directorate of Operations.

Mr. EUGENE F. BERTRAND, Jr.,
Mr. DAVID R. HUNT,
Exeter Police Department, Exeter, N.H.

GENTLEMEN: The sighting of various unidentified objects by you and Mr. Norman Muscarello was investigated by officials from Pease Air Force Base, N.H., and their report has been forwarded to our office at Wright-Patterson Air Force Base. This sighting at Exeter, N.H., on the night of September 2 has been given considerable publicity through various news releases and in magazine articles similar to that from the Saturday Review of October 2, 1965. A portion of this article is attached for your information. This information was released by the National Investigations Committee on Aerial Phenomena, a private organization which has no connection with the Government. As a result of these articles, the Air Force has received inquiry as to the cause of this report.

Our investigation and evaluation of this sighting indicates a possible association with an 8th Air Force operation, "Big Blast." In addition to aircraft from this operation, there were five B-47 type aircraft flying in the area during this period. Before a final evaluation of your sighting can be made, it is essential for us to know if either of you witnessed any aircraft in the area during this time period either independently or in connection with the objects observed. Since there were many aircraft in the area, at that time, and there were no reports of unidentified objects from personnel engaged in this air operation, we might then assume that the objects observed between midnight and 2 a.m. might be associated with this military air operation. If, however, these aircraft were noted by either of you, then this would tend to eliminate this air operation as a plausible explanation for the objects observed.

Sincerely,

HECTOR QUINTANILLA, Jr.,
Major, USAF, Chief, Project Blue Book.

NOVEMBER 16, 1965.

Memo: TDEW/UFO.
Subject: UFO sighting.
To: Hq 8th Air Force.

1. A report of an unidentified flying object was submitted to our office at Wright-Patterson Air Force Base by the S17 Combat Support Group, Pease Air Force Base. This report was submitted to Wright-Patterson Air Force Base in accordance with AFR 200-2. Evaluation of information submitted indicates that the observation may be associated with the military operation, Big Blast. The location of the observation was the New Hampshire area, in and around the town of Exeter. Time of the reported UFO was the night of August 2-3, 1965, and specifically 03/0500 to 0600 Zebra. This UFO report has received considerable publicity in newspaper and magazine articles, and the Air Force has received numerous queries regarding the cause of this sighting.

2. We would like to know the specific types of aircraft used in this operation and possible location of these aircraft at the time of the report.

For the commander.

ERIC T. DE JONCKMERE,
Colonel, U.S. Air Force,
Deputy for Technology and Subsystems.

NICAP MASSACHUSETTS INVESTIGATING SUBCOMMITTEE,
Wenham, Mass., February 10, 1966.

DEPARTMENT OF THE AIR FORCE,
Office of the Secretary,
U.S. Air Force,
Washington, D.C.

(Attention: John P. Spaulding, Lieutenant Colonel, U.S. Air Force, Chief, Civil Branch, Community Relations Division, Office of Information).

DEAR COLONEL SPAULDING: Thank you for your correspondence of January 25, 1966, in response to my letter of November 24, 1965, regarding my inquiry concerning the September 3, 1965, UFO sightings in Exeter, N.H. I appreciate your letter and the attached backup information concerning which I would make the following comments.

The UFO sighted by Norman Muscarello was identical to the UFO sighted later by Muscarello Bertrand, and Hunt. Norman observed the UFO at close range during his initial sighting. There is no question in my mind that the same or similar object was involved in both of these particular sightings. The number of pulsating lights, the yawing motion, the same location, etc., make this so very apparent. Since I did not interview the "unnamed women" I am not certain of the details of their sighting but according to Officer Bertrand, the object they described was very similar to the UFO they sighted later. I might add that another witness, a male motorist, also sighted a similar object. He tried to phoue the police from a pay station at nearby Hampton, N.H., but was cut off. Later he reported the incident to U.S. Air Force authorities at Pease AFB. The chances are astronomical that six people, entirely independent of each other, should report the identical description of a UFO within the span of several hours in the same general area. I am aware of the many UFO sightings in New Hampshire especially in September. It may be more than coincidence that many of these sightings were near powerlines.

Although I do not agree completely with the way Washington is handling the UFO problem I am sympathetic with the official attitude. I have enough faith in the Government to realize that although official releases on UFO's would indicate that UFO's present no problem regarding national security and that the U.S. Air Force treats the subject lightly, the converse is true, that is, that a full-scale military and scientific research program is being carried out on UFO's because they are a threat to our national security. It is because of this belief that I will continue to send the better UFO reports our subcommittee investigates to Project Bluebook and will continue to urge the public to report all UFO sightings to the nearest Air Force base at my lectures, personal contacts, etc. I might add that I encourage reporting such UFO's to NICAP concurrently with any report to the U.S. Air Force.

It is heartening to see that the U.S. Air Force regards the UFO sighted by Officers Bertrand and Hunt as an unknown. I am sure this will help a little in reducing the ridicule they experienced because of the U.S. Air Force initial explanation of their sightings. I feel certain that if it were not for the fact that their sighting is being carried nationally in the pages of Saturday Review, Look, etc.; and if they had not personally complained publicly and to your office, that their sighting would have been lumped into the same category as the UFO Muscarello and the other sighted. However, my rambling on will not make a bit of difference to present official policy and in a real sense I am wasting your time in even replying as I'm sure your office is very busy but I felt that I would express my feelings on the subject at hand just for the record.

Thanks so much again. I look forward to the time that Government policy will become more relaxed on the UFO subject and in the meantime will continue my meager research and efforts in this field for NICAP and the U.S. Air Force.

Sincerely,

RAYMOND E. FOWLER,

Chairman, NICAP Massachusetts Subcommittee.

Mr. BATES. In reference to the so-called sighting in New Hampshire, Doctor, you are familiar with that case?

Dr. HYNEK. Yes, sir; I am familiar with the case.

Mr. BATES. You have examined it?

Dr. HYNEK. No, I have not been there to examine it. Much of my information is based upon the rather excellent account that Mr. John Fuller has given of it in Look magazine. I cannot vouch for the authenticity of his statements, but I have talked with Mr. Fuller, and he apparently has tried to do a very thorough job in talking with people in New Hampshire.

Mr. BATES. Are you familiar with Mr. Raymond E. Fowler?

Dr. HYNEK. I have had some correspondence with him, but I have never met him.

Mr. BATES. Is this Portsmouth case one of the 5 percent that have not been identified, or within the 95 percent on which you have reached a decision?

Dr. HYNEK. It is, I believe, to the best of my knowledge, listed as unidentified.

Mr. BATES. This one is still unidentified?

Dr. HYNEK. Yes, sir.

The CHAIRMAN. In other words, you make no bones about it, you cannot explain it?

Dr. HYNEK. That is correct.

The CHAIRMAN. Yes.

Mr. BATES. I wonder if you would give us some idea of these 20 cases that you have cited, and tell us a little something about the nature of these cases, and what the problems are, generally?

Dr. HYNEK. Well, I do not have the case files with me. I should be happy to prepare them for submission. But in broad description, they vary quite a bit. They are either daytime sightings or nighttime sightings. I will describe one, which may not be necessarily typical. But it is an example of a sighting that puzzled some very solid citizens. These individuals happened to be—and I will withhold names, of course—two students of anthropology at the University of Wisconsin. They were with two other people in a car, returning home one evening from shopping, about 9 p.m. In the distance they saw what they first took to be rotating blinker lights on a police car, and they thought there had been an accident down the road some place. They then decided that this couldn't be the case because the lights were a little too high. This illustrates the sort of thing we refer to as escalation of explanation.

When someone writes in or calls in that they have seen a space ship patrolling the earth, and this is not a fact, this is an interpretation of a fact, usually, what they have actually seen was a light, I am much more interested in the sincere individuals who report something, who say "I thought at first it was this, then I decided it couldn't be that, it had to be something else." In this escalation hypothesis, the incident I have described, these people said it could not have been blinker lights on a police car because they were too high. The next hypothesis was that it was an aircraft about to crash. As the object came closer all they could see were four huge red lights and an even larger brighter single white light. As it came closer to the car—the little 12-year-old girl in the back seat, became so frightened that she just tumbled over and hid her eyes.

I questioned these people for some 2 hours. They were very intelligent people and were truly puzzled. They did not for a moment think they were being visited by a vehicle from outer space. They were just puzzled. They simply wanted an explanation of what they had seen.

The object apparently extended upward at an angle of about 30 degrees, so that part of it could be seen above the telephone wires and part below. It hovered around the car for awhile. The man drove into a farmer's driveway, turned his lights out and listened, but could hear no noise. He backed out and as the object began to move away, he gave chase but could not catch up with it.

This was a case of four intelligent people seeing this strange object and reporting it. But no one else did. Why not? Was this some sort of a strange psychic projection, or something these people were particularly prone to? Why did this take place in an area which was

not overly populated but certainly not completely sparse. Why would they be the only four people to see this? This is a problem we are faced with on many reported sightings. Therefore, I find it most difficult to ascribe a physical tangibility that there was an actual craft here. I would rather seek some other scientific explanation.

Mr. BATES. With respect to your response on that particular case. In the New Hampshire situation, two women apparently saw this object which they said was the size of a house. They reported it at the police station. And then the officer came out. He saw it when he got there. So there is someone who did see it in addition to the people who reported it originally.

Dr. HYNEK. Yes.

Mr. BATES. You have no decision with respect to the New Hampshire case?

Dr. HYNEK. I would not offer or venture any conclusion to something I had not personally investigated.

Mr. BATES. This particular case has been referred to a study group, the New Hampshire case, or has it not, or is it a dead issue?

Dr. HYNEK. No case in the Air Force files that is unidentified is a dead issue.

Mr. BATES. Is it just in limbo now, or is somebody still looking into it?

Dr. HYNEK. I would say at the moment, considering the recent reported sightings in Michigan, that it is in limbo.

Mr. BATES. Do you expect to investigate this further? Would this be one that you would prefer to the panel?

Dr. HYNEK. Yes, sir. I think this is one they should take a look at.

The CHAIRMAN. Do you think they should be examined further?

Dr. HYNEK. I am sorry, sir?

The CHAIRMAN. Do you think this panel, about whom the Secretary has spoken, should go into this further and make a report?

Dr. HYNEK. Yes, sir; I do.

The CHAIRMAN. There are five such cases, or four, of some unexplained phenomena; is this a fact?

Dr. HYNEK. Yes, sir; there are at least that many.

The CHAIRMAN. Mr. Secretary, do you plan to have this board look into these?

Secretary BROWN. We will continue our investigations of all of these, Mr. Chairman.

I have this recommendation to establish a civilian panel from the Scientific Advisory Board, and I believe I may act favorably on it, but I want to explore further the nature of such a panel, and the ground rules, before I go ahead with it. I don't want to have a group of people come in for just 1 day and make a shallow investigation. They have to be prepared to look into a situation thoroughly if they are to do any good.

The CHAIRMAN. If you cannot explain these things, and you are our source of beginnings, how on earth could a subcommittee of this committee explain them?

Dr. HYNEK. Are you looking to me for an answer?

The CHAIRMAN. If I conducted a hearing on this it would go on and on, and on, if I let it, I would imagine.

Dr. HYNEK. Well, sir, scientists have a somewhat different way of working. They gather data quietly without fanfare, without the press looking over their shoulder. They may work for several years.

The CHAIRMAN. What would you suggest that I do, Doctor, as chairman of this committee?

Dr. HYNEK. You are in a totally different category, sir.

The CHAIRMAN. Thank you.

Since this thing began in Michigan, we have two members of the Michigan delegation, and I am going to start off with Mr. Nedzi and ask him if he has any questions.

Mr. NEDZI. Mr. Chairman, you are very kind. I don't have any questions directly pertaining to Michigan, although I have recently been advised my district is about 150 miles from the sightings. The sightings are moving eastward toward my district. [Laughter.]

One question, Doctor, as to these statistics. Are they statistics only from the United States, the investigations made by you and the Air Force?

Dr. HYNEK. Yes, sir. The Air Force would have no jurisdiction over cases in other countries. But there are, I understand, reports from other countries, also.

Mr. NEDZI. Is any effort made to coordinate information with some of the sightings that are made abroad?

Dr. HYNEK. No, sir. Up to now we have made no concerted effort to do this.

Mr. NEDZI. Do you think it might be a good idea to do it?

Dr. HYNEK. Well, I think we should attend to the situation here in the United States first. Then, if our efforts are successful and if we strike scientific paydirt and find something of value, then perhaps the other step you suggest would be advisable.

Mr. NEDZI. Do you know whether any studies are going on overseas, with respect to UFO's?

Dr. HYNEK. I know of no formal studies. Actually, the rest of the world seems to be guided by, and shows a tremendous respect for, the U.S. Air Force, and they feel, I understand, that the Air Force has done a fine job.

Mr. NEDZI. Perhaps the question should be directed to the Air Force, but it seemed to me there should be some kind of exchange of ideas among the scientists who might be interested in it in other countries where these sightings have taken place. It might contribute toward an exposé of the problem.

Let me clarify for the record, I do not believe in flying saucers, but I think it is important to have some kind of evidence that can be presented to the people so that they don't let the thing get more out of hand than I think it already is.

Secretary BROWN. That is what we have been trying to do, Mr. Nedzi. I do not think we have any ideas of a scientific nature to exchange with anyone else yet, nor do they have such information to exchange with us, and the difficulty in going to an international program is that it won't broaden our knowledge of basic data very much. On the other hand, it may degrade the quality of the data, because we have a hard enough time getting details in this country. A few well-authenticated but unexplained cases are worth much more than a

number of unexplained cases where the data is not sufficiently precise to be helpful in an analysis.

Mr. NEDZI. My final question, Doctor, would be whether—and I think you touched upon this—whether there has been ever any evidence in any of these unexplained sightings that would indicate that there is some kind of extraterrestrial intelligence involved?

Dr. HYNEK. I believe I have covered that. I have not seen any evidence to confirm this, nor have I know any competent scientist who has, or who believes that any kind of extraterrestrial intelligence is involved. However, the possibility should be kept open as a possible hypothesis. I don't think we should ever close our minds to it. But certainly there is no real evidence of intelligent behavior of hardwares. If we had received periodic visits by controlled space vehicles since 1947, or earlier, it is likely they would have had some kind of trouble at some time and dropped something off the coast of Spain or some place, and we have not come across any positive proof like that.

Mr. NEDZI. Mr. Chairman, until the sightings get a little closer to my district, I have no further questions.

The CHAIRMAN. I recognize Mr. Chamberlain, then I go to Governor Stafford and Mr. Hébert, because I want to get as close to the districts as I can.

I want to put in the record Mr. Ford's letter, and the response by Secretary Brown.

What else, Mr. Blandford, ought to go in the record?

Mr. BLANDFORD. That is all that ought to be in at this time.

The CHAIRMAN. Without objection, we will put all of these in the record. I want to shed as much light on these illuminated objects as we can.

(The material above referred to is as follows:)

CONGRESS OF THE UNITED STATES,
OFFICE OF THE MINORITY LEADER,
HOUSE OF REPRESENTATIVES,
Washington, D.C., March 28, 1966.

Representative L. MENDEL RIVERS,
Chairman, Armed Services Committee,
U.S. House of Representatives,
Washington, D.C.

DEAR CHAIRMAN RIVERS: No doubt you have noted the recent flurry of newspaper stories about unidentified flying objects (UFO's). I have taken special interest in these accounts because many of the latest reported sightings have been in my home State of Michigan.

The Air Force sent a consultant, Astrophysicist Dr. J. Allen Hynek of Northwestern University, to Michigan to investigate the various reports; and he dismissed all of them as the product of college student pranks or swamp gas or an impression created by the rising crescent moon and the planet Venus. I do not agree that all of these reports can be or should be so easily explained away.

Because I think there may be substance to some of these reports and because I believe the American people are entitled to a more thorough explanation than has been given them by the Air Force to date, I am proposing that either the Science and Astronautics Committee or the Armed Services Committee of the House schedule hearings on the subject of UFO's and invite testimony from both the executive branch of the Government and some of the persons who claim to have seen UFO's.

I enclose material which I think will be helpful to you in assessing the advisability of an investigation of UFO's.

May I first call to your attention a column by Roscoe Drummond, published last Sunday in which Mr. Drummond says, "Maybe all of these reported sightings are whimsical, imaginary or unreal; but we need a more credible and detached appraisal of the evidence than we are getting."

Mr. Drummond goes on to state, "We need to get all the data drawn together in one place and examined far more objectively than anyone has done so far. A stable public opinion will come from a trustworthy look at the evidence, not from belittling it."

"The time has come for the President or Congress to name an objective and respected panel to investigate, appraise, and report on all present and future evidence about what is going on."

I agree fully with Mr. Drummond's statements. I also suggest you scan the enclosed series of six articles by Bulkley Griffin of the Griffin-Larrabee News Bureau here. In the last of his articles, published last January, Mr. Griffin says, "A main conclusion can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentification of familiar objects, such as balloons, stars, and aircraft."

I have just today received a number of telegrams urging a congressional investigation of UFO's. One is from retired Air Force Col. Harold R. Brown, Ardmore, Tenn., who says, "I have seen UFO. Will be available to testify."

Another, from Mrs. Ethyle M. Davis, Eugene, Oreg., reads, "9 out of 10 people want truth of UFO's. Press your investigation to the fullest."

Ronald Collier of Los Angeles, who identifies himself as "a scientist from MIT," urges that you "do everything in your power to make Air Force Project Blue Book (the Air Force name for its study and verdicts on UFO reports) known to the people." Are we to assume that everyone who says he has seen UFO's is an unreliable witness?

A UPI story out of Ann Arbor, Mich., dated March 21, 1966, states that "at least 40 persons, including 12 policemen, said today that they saw a strange flying object guarded by 4 sister ships land in a swamp near here Sunday night."

Matt Surrall of Station WJR, Detroit, cites an eye witness account of a recent UFO sighting by Emile Grenier of Ann Arbor, an aeronautical engineer employed by Ford Motor Co. He points out that an aeronautical engineer can hardly be considered an untrustworthy witness.

In the firm belief that the American public deserves a better explanation than that thus far given by the Air Force, I strongly recommend that there be a committee investigation of the UFO phenomena.

I think we owe it to the people to establish credibility regarding UFO's and to produce the greatest possible enlightenment on this subject.

Kindest personal regards.

Sincerely,

GERALD R. FORD, *Member of Congress.*

Enclosures.

(From the Washington Post, Mar. 27, 1966)

DON'T SNEER AT UFO'S

(By Roscoe Drummond)

You can't dismiss the possibility that some of the unidentified flying objects, which so many people have sighted in so many places, are real.

There are, of course, UFO buffs who seem to want to believe everything and discount logical explanations. But Air Force officials assigned to check up on these sightings seem so bored and skeptical that many people have the impression that they think the public would panic if all the facts were brought out into the open.

Let's not leave the search for more knowledge to those who tend to accept everything uncritically or to those who tend to dismiss every UFO as ridiculous.

The time has come for the President or Congress to name an objective and respected panel to investigate, appraise and report on all present and future evidence about what is going on.

Last week, more than 100 persons (some of them trained observers) reported seeing "flying saucers" in seven States, from Maine to Texas to Colorado.

Last year, Project Blue Book, the small Air Force unit created to keep tabs on these things, received 886 reports of UFO sightings.

During the last 2 years, the National Investigations Committee on Aerial Phenomena, a private group headed by a retired Naval Academy Marine Corps pilot, received 3,000 such reports.

During the past 10 years, the NICAP received some 8,000 reports and says that 1,500 of them "seem pretty substantial and unexplained."

The Air Force totals 10,147 UFO reports and states that 646 of them remain unexplained by provable natural phenomena.

Maybe all of these reported sightings are whimsical, imaginary or unreal. But we need a more credible and detached appraisal of the evidence than we are getting.

Maybe there is no intelligent life on other planets. Many scientists think other planets could not sustain such life. But we don't really know.

One fact about the UFO's gives me pause. There have been no really solid reports of creatures being seen getting off landed saucers. To venture from one planet to another involves great intellectual curiosity and I would think it almost impossible for someone from outer space, once here, to stifle that curiosity to the extent of not trying to make personal contact with Earth people.

Conceivably, we have been seeing only preliminary unmanned orbitings of the Earth precisely controlled at great distances. But we don't know.

We need to get all the data drawn together in one place and examined far more objectively than anyone has done so far. A stable public opinion will come from a trustworthy look at the evidence, not from belittling it.

[From the Washington Evening Star, Mar. 25, 1966]

DEPUTY SHERIFF "SHOOT" A UFO OVER MICHIGAN

ANN ARBOR, MICH.—A Michigan deputy sheriff said an unidentified flying object sighted over southern Michigan last week was trapped—on film—and still another UFO was reported yesterday.

Deputy Sheriff David Fitzpatrick of Washtenaw (Ann Arbor) County took the photographs with a tiny camera roughly the size of a man's two forefingers held together.

Prints were delayed because the tiny film had to be sent to Forest Hills, N.Y., for development.

The new sighting of an unidentified flying object near Holland, Mich., came from both Mr. and Mrs. Robert Nichols, who live across Michigan's southern Lower Peninsula near Saugatuck. They said it flew across a highway ahead of them, no more than 150 to 200 feet high.

Nichols, 24, said the object appeared about half the size of an automobile and was "a round circle glowing red on the inside and white on the outside."

Nichols' description fits roughly that given by several of more than a score who have reported sightings in the Ann Arbor area in the last 10 days.

Fitzpatrick, however, said the two objects he photographed gave off a brilliant yellow-white light in graceful swoops which he and Sheriff's Sgt. N. K. Schneider observed from about 4 a.m. to 7 a.m., March 16.

The photographs show two distinct streaks of light in the sky high above street lights leading into Milan. No details of the objects are visible in the photographs blow up to 8 by 10 inches from the tiny film.

Dr. J. Allen Hynek, a Northwestern University astrophysicist, was sent here by the Air Force to investigate recent reports.

He has scheduled a news conference in Detroit today to discuss his probe.

Meanwhile, reports of unidentified flying objects moved south into Ohio today. A farmer who lives near Upper Sandusky in northwestern Ohio told sheriff's deputies that an object shaped "like a top" or a "Christmas tree upside down" hovered over a wooded area on his property early today.

Deputies were called to the farm three times, but the farmer said the object, with lights on its outer edges, disappeared each time before they arrived.

[From the Detroit News, Mar. 23, 1966]

PHOTO ADDS NEW WRINKLE TO SAUCERS

(By Douglas Bradford)

While Air Force officials prowled through the countryside for some sign of the strange night visitors that have been zipping through southeastern Michigan skies, a Monroe area boy came up with what he said was a picture of one.

Paul Richwine, 16, who lives in Woodland Beach, 3 miles north of Monroe, produced a piece of film with a blob on it that he says his camera "saw" when he pointed it at a "flying saucer" over his home Friday night.

Detroit News photographers say the blob could be due to a wrinkle in the film.

But Paul and his mother, Mrs. Mariannice Richwine, insist that they saw the strange glowing objects cavorting in the sky and that the dark area on the picture represents one of them.

The object in the picture doesn't seem to have much material substance.

Neither Paul nor his mother can account for the fact that the thing they saw was bright and shiny with flashing colored lights while the camera recorded a dark smear.

Paul said his Argus F-100 was on time exposure at f. 2.8 and was loaded with fast film when he took the picture at about 11:30 p.m., Friday.

The News photographers conceded that the darkness in the picture "might" be the indication of something moving quite swiftly on a time exposure, or the blob could be a water spot on the negative or a wrinkle in the film.

Mrs. Richwine said the object's appearance was preceded by four glowing shapes about 10:30 p.m., Friday. She saw them from her front window, she said.

[From the Grand Rapids (Mich.) Press, Mar. 22, 1966]

STATE FLYING OBJECT REPORTS BRING PLEA FOR FEDERAL SIFT

ANN ARBOR.—A Michigan Congressman planned Tuesday to ask the Defense Department to investigate reports of unidentified flying objects sighted near Ann Arbor.

U.S. Representative Weston Vivian, Democrat, of Michigan, left for Washington, D.C., Monday after conferring with Sheriff Douglas J. Harvey, of Washtenaw County. Harvey said Vivian also planned to talk with the U.S. Air Force.

Three times within a week, residents of the nearby community of Dexter have reported sighting objects flying in the night sky.

"I didn't believe those reports," said Harvey. "But with so many trained police personnel and reliable citizens having seen them, I must believe something is in the Washtenaw County skies."

And Tuesday, the Hillsdale County civil defense director and 87 college coeds said they watched an eerie, hovering flying object settle in a swampy hollow near a school dormitory Monday night.

William VanHorn, 41, the county civil defense director for 10 years, said he watched the unidentified object through binoculars for 3 hours.

The Air Force announced it was calling in Dr. H. Allen Hynek, chairman of the Dearborn Observatory at Northwestern University, Evanston, Ill., and scientific consultant to the Air Force's UFO study program, to investigate the rash of sightings.

Hynek will work from Selfridge Air Force Base near Mount Clements, the Air Force said.

In Hillsdale, VanHorn said he joined the 87 Hillsdale College coeds and their housemother to watch the object. He said it emitted wavering orange, red * * *.

[From the New York Times, Mar. 22, 1966]

FORTY IN MICHIGAN SAY A MYSTERIOUS CRAFT HOVERED IN SWAMP

ANN ARBOR, MICH., March 21.—At least 40 persons, including 12 policemen, said today that they saw a strange flying object guarded by four sister ships land in a swamp near here Sunday night.

Descriptions of the unidentified flying objects tallied closely. A patrolman, Robert Hunawill, said he and other residents of the area saw similar craft before dawn last Monday and Wednesday.

In Washington, the Air Force said it knew nothing of the reports. The Air Force's Michigan headquarters in Battle Creek would not comment.

Two persons who slogged through the 300-acre swamp today and looked for traces of the craft found nothing but marsh grass, quicksand, and muck.

However, the two persons who reportedly were closest to the object, Frank Mannor, 47 years old, and his son, Ronald, 19, said it did not appear to touch the ground but sat on a base of fog.

Frederick E. Davids, State police commissioner, who is also head of civil defense for Michigan, opened an investigation.

"I used to discount these reports too, but now I'm not so sure," he said.

Mr. Mannor and his son said they had run to within 500 yards of the object. Mr. Mannor said the craft was shaped like a football and was about the length of a car with a grayish yellow hue and a pitted surface like coral rock.

"It had a blue light on one end and a white light on the other," he said.

"They were pulsating and each of them looked like they had a little halo around it," he said.

Other witnesses saw only the lights, but their descriptions, including those of policemen, agreed closely.

Stanley McFadden, Washtenaw County sheriff's deputy, said he and Deputy David Fitzpatrick watched the object fly over their car about the same time the Mannors reported it had taken off.

Officer Hunawill said four other unidentified flying objects had hovered in a quarter circle over the object in the swamp.

[From the Washington Post, Mar. 23, 1966]

FIRST UFO'S OF SEASON ARE SIGHTED

Spring's first flying saucers have sprouted right alongside the forsythia. Scores of people in Michigan have reported strange flying objects since the weekend, and a former fighter pilot says he saw several over his Bethesda home Saturday night.

The Air Force, which has investigated more than 10,000 such reports since 1947, sent Northwestern University's Dr. H. Allen Hynek, its top scientific adviser on unidentified flying objects (UFO's), to look into the Michigan reports.

The latest was Monday night at Hillsdale College, where a county civil defense director, a former reporter and assistant dean, and 87 coeds say they watched a glowing object zipping around campus for 4 hours.

This report coincided with one near Ann Arbor, where about 50 persons—including 12 policemen—said they saw an eerie object cruise over a swamp Sunday night while four sister ships hovered overhead.

In Bethesda, retired Air Force Col. Howard T. Wright, of 5119 Newport Avenue, said he and five other persons saw several objects outside his home and they were "definitely not in my imagination, nor were they satellites or airplanes."

[From the New York Times, Mar. 23, 1966]

EIGHTY-SEVEN MICHIGAN COEDS AND OFFICIAL SIGHT MYSTERIOUS OBJECT

HILLSDALE, MICH., March 22 (UPI).—A civil defense director, an assistant dean and 87 coeds reported a glowing object fly past a college dormitory and hover in a swamp for hours.

Their description of the object seen here last night tallied closely with that of one seen by more than 50 persons, including 12 policemen, near Ann Arbor, Mich., the previous night.

The Air Force dispatched its top scientific adviser on unidentified flying objects to begin an investigation.

The witnesses said they watched from the second floor of a Hillsdale College dormitory as the object wobbled, wavered, glowed, and once flew right at a dormitory window before stopping suddenly.

Mrs. Kelly Hearn, for 7 years a newspaper reporter before becoming assistant dean of women, assistant professor of English and housemother of the dormitory, had the coeds take notes as they watched the object for 4 hours.

They and William Van Horn, 41, Hillsdale County civil defense director, said the object dimmed its lights when police cars approached, brightened again when they went away, and dodged an airport beacon light.

Barbara Kohn, 21, of New Castle, Pa., and Cynthia Poffenberger, 18, of Cleveland were the first to see the object. They described its shape as roughly

that of a football. This was roughly the same description given by a man and his son who reported that they saw an eerie object land in a swamp Sunday night 45 miles northeast of here near Ann Arbor.

The Air Force announced it was bringing in Dr. H. Allen Hynek, chairman of Dearborn Observatory at Northwestern University, Evanston, Ill., and scientific consultant to the Air Force's Project Blue Book program to track down the reports of unidentified flying objects.

Dr. Hynek set up his headquarters at Selfridge Air Force Base, Mount Clemens, Mich., near the southern Michigan section where the objects have been reported several times lately.

"It was definitely some kind of vehicle," Mr. Van Horn said. "Through the glasses [binoculars] it was either round or long."

The object's shape was briefly outlined by lightning as it veered over and near the dormitory before retreating into the swamp, Miss Kohn said. It stayed there for 4 hours before vanishing, witnesses said.

[From the Washington Post, Mar. 29, 1966]

TRUTH ABOUT FLYING OBJECTS HIDDEN BY AIR FORCE, FAITHFUL SAY

(By Howard Simons, Washington Post Staff Writer)

Firm believers that unidentified flying objects are for real and from a far-off super-civilization met the press yesterday amid a torrent of reports about new objects being sighted everywhere in the United States.

The believers repeatedly charged the Air Force with deliberately hiding the truth, which if it were known "would bring forth one of the greatest stories of the century."

The believers also "fully backed" Representative Gerald Ford, Republican, of Michigan, who wants a congressional investigation of unidentified objects which have lately plagued his home State.

But most of all, the believers want to be believed and loved.

"We want the Air Force merely to end its secrecy on sightings and stop ridiculing competent witnesses," said retired Marine Corps Maj. Donald E. Keyhoe, a UFO skeptic until his conversion.

Keyhoe now is director of the National Investigations Committee on Aerial Phenomena, an organization whose major aims are to evaluate all UFO sightings; get the Air Force to own up to the truth and to expose UFO charlatans who keep seeing "little green men."

Keyhoe and his colleagues, including scientists, engineers, military personnel, and pilots, scorn the thought of "little green men."

Had a visitor from afar ever set foot on the earth? the serious students of UFO's were asked.

There was only one case suggesting so, said committee staff member and former Newsman Donald Berliner. It happened in April 1964 near Socorro, N. Mex., where police officers saw two small suited occupants get out of a UFO.

"They were small and suited," noted a reporter. "How could you be sure they were not green?"

"We have no reason to believe they were green," wryly quipped Berliner.

The committee's case for believing that UFO's are for real was put to the press by Keyhoe. It amounted to an argument that thousands of competent persons—including radar controllers, qualified pilots, and missile trackers—had sighted objects; roughly 100,000 persons in all.

The Air Force, which has been investigating UFO reports since 1948, has steadfastly maintained there is no evidence any flying object has come from somewhere else in the universe.

Keyhoe's view, shared by the committee's board of governors, is radically different. The committee concludes, Keyhoe said yesterday, that "these things are real and must be extraterrestrial because they are so superior to anything we have."

According to Keyhoe, UFO's have been observing the earth for 200 years. He gave two reasons, essentially, for why no contact has been made with whoever it is that pilots the UFO's.

One reason is that the Air Force has orders to scare the UFO's away.

A second reason is that until humans demonstrated the atomic bomb and space flight the UFO people regarded earth as too primitive a society to bother with other than for surveillance purposes.

[From the Portland (Maine) Evening Express, Jan. 17, 1966]

THOSE "FLYING SAUCERS"—AIR FORCE EXPLAININGS-AWAY OF UFO'S DEEPENS MYSTERY

(Editor's note: This is the first of a series about UFO's (unidentified flying objects) by Bulkley S. Griffin, executive editor of the Evening Express Washington Bureau. He wrote the stories after visiting the UFO office of the U.S. Air Force.)

WASHINGTON, D.C.—The Air Force handling of the unidentified flying objects (UFO's) continues to be something of a mystery. Its persistent endeavors to explain all the UFO sightings as misidentification of ordinary objects, such as stars and balloons, has become so conspicuous as to raise questionings in the minds of a growing number of citizens. Some of these explanations seem to run counter to both logic and commonsense. Running along with these explainings-away is an apparent Air Force lack of enthusiasm—especially at high levels—to do a thorough job of investigating sightings.

Headquarters of the Air Force investigation and conclusions on unidentified flying objects—they call the enterprise Project Blue Book—is at Wright-Patterson Air Force Base near Dayton, Ohio. In charge of Project Blue Book is Maj. Hector Quintanilla.

Recently this writer has made two more visits to Wright-Patterson to study the files of Project Blue Book and to talk with Major Quintanilla, the architect of the military's final public verdicts on the UFO's.

A multitude of UFO sightings in the last dozen months has kept the Air Force busy trying to explain-away and has rendered the public more conscious and curious than ever about these strange, usually lighted, objects in the sky. The Air Force and the burdened Project Blue Book have often resorted to the expedient of lumping a number of sightings together—not naming any particular one—and furnishing a generalized catchall explanation.

This is what it did respecting an extraordinary number of sightings in the Southwest around the beginning of last August. The very number of the UFO's and of the sightings of them shook some public confidence thereabouts in both the Air Force's knowledge of the subject and in the good faith of its explainings-away.

Extracts from dispatches sent out at that time by the two national wire services will refresh memories and provide a good idea of the magnitude of the UFO performance. On Tuesday, August 3, the New York Times and other newspapers carried an Associated Press dispatch from Oklahoma City, dated August 2. It began:

"Authorities in Texas, New Mexico, Oklahoma, and Kansas were deluged last night and early today (August 2) by reports of unidentified objects seen flying in the sky.

"The Sedgwick County sheriff's office at Wichita, Kans., said the Weather Bureau had tracked several of them at altitudes of 6,000 to 9,000 feet.

"The Oklahoma Highway Patrol said that Tinker Air Force Base here (Oklahoma City) had tracked four of the unidentified flying objects on its radar screen at one time, estimating their altitude at about 22,000 feet. A Tinker spokesman refused to confirm or deny the reports of radar observations."

"Reports poured in" from 21 cities and towns, continued the Associated Press dispatch. The 21 are named: 7 are listed in Texas, 3 in New Mexico, 5 in Oklahoma, and 6 in Kansas.

The United Press International, in a dispatch in the evening of August 2, named eight States. "Reports of sightings by eye poured in from Kansas, Texas, Oklahoma, New Mexico, Colorado, South Dakota, Nebraska, and Wyoming. Oklahomans probably saw the most."

In a dispatch from Oklahoma City dated August 4, the United Press International declared that "thousands of persons across the Nation's midlands and Southwest again last night reported seeing mysterious flashing, winking, and sparkling phenomena that sped and sometimes zigzagged across the skies.

"The Air Force contends most of the sightings were probably stars or planets. It was the fourth consecutive night of UFO sightings. A lot of people took issue with the Air Force's claim that they were stars or planets."

It can be mentioned in passing that radar does not pick up stars or planets. In one United Press International dispatch it is stated that "Oklahomans probably saw the most" of these sightings. The Oklahoma sightings therefore provide

an illuminating example of how the Air Force deals with the public in such a situation.

By good fortune, one does not have to rely mainly on newspaper reports, sometimes meager, or upon the Air Force statements. The Department of Public Safety of the State of Oklahoma has sent to the office of Congressman John Jarmann, Democrat, of the Oklahoma City congressional district, and to the National Investigations Committee on Aerial Phenomena (NICAP) in Washington a summary of the teletype reports sent into the Oklahoma Highway Patrol Communications Network Center, July 31-August 5, from the various highway patrol headquarters over the State.

This valuable document, which was not observed in the files of Project Blue Book, will be utilized in one or more following articles dealing with the curious behavior of the Air Force touching the UFO's and the public.

[From the Portland (Maine) Evening Express, Jan. 18, 1966]

THOSE FLYING SAUCERS—HIGHWAY PATROL REPORT FIRES CONTROVERSY OVER UFO'S

(Editor's note: This is the second of a series about UFO's (unidentified flying objects) by Bulkley S. Griffin, executive editor of the Evening Express Washington Bureau. He wrote the stories after visiting the UFO office of the U.S. Air Force.)

(By Bulkley Griffin)

WASHINGTON, D.C.—Research into the matter of the unidentified flying objects (UFO's), the U.S. Air Force, and the public, receives substantial help from a report furnished by the Oklahoma Department of Public Safety. This summarizes the messages dealing with UFO sightings that passed over the Oklahoma Highway Patrol network in the period July 31-August 5.

A survey of this information reveals the large number of sightings and the much larger number of witnesses of those sightings, and lists some radar sightings by the Air Force. It compares with a generalized attention to those sightings by the Air Force and Project Blue Book, the latter the name for the Air Force investigation of UFO's.

At 3:30 p.m. August 2, Project Blue Book issued a statement assuming to explain the avalanche of UFO sightings that had hit the Southwest—but probably had hit Oklahoma the heaviest—starting July 31.

Therefore, this article will seek to hit the high points of the sightings reported on the Oklahoma Highway Patrol network beginning with July 31, up to the issuance of the Project Blue Book explanation.

The first report on the teletype came the early morning of July 31. A Wynnewood, Okla., police officer, Louis Sikes, reported a UFO. The radar at Tinker Air Force Base located the object. A little later, continued the highway patrol report, "Caswell Air Force Base (Fort Worth, Tex.) aimed their radar at the same location and came up with the same fix as Tinker." Both Tinker and Caswell followed the object, which once disappeared and then reappeared, for some time. Later that day an Associated Press dispatch from Oklahoma City stated flatly that Tinker and Caswell both had the UFO on radar.

The next night saw the UFO reports crowding the highway patrol teletype. Some quotations of messages will be given.

At 9:19 p.m. the highway patrol tower sent out this message: "Since 8 p.m. the tower has received in the neighborhood of 25 to 30 visual sightings, many by police officers and highway patrol troopers of various unidentified flying objects from the Purcell area north through the Norman area to Chandler and back through Meeker and Shawnee.

"Three Shawnee officers and their captain have four of the objects in sight at this time, also another has cropped up from the south of Tecumseh and is apparently going to fly directly over Shawnee.

"The sightings vary from one to four of the objects at various times starting in a reddish color and varying to a white and blue luster.

"Shawnee reports the objects seem to be flying four to a formation in a diamond-type formation. Cushing has reported four of the objects. Oklahoma Highway Patrol Units 30 and 40 have also made visual sightings. Reports have

come from (three) individuals." Names of two civilians are given; third was a police officer from Tulsa, not named.

"Tinker Air Force Base has had from one to four of them on radar at a time, and they advise they are flying very high, at approximately 22,000 feet, which seems to coincide with the visual sightings, all of which are 'very high flying objects.'"

Other reports came in the night of August 1. The sheriff's office at Chandler reported two UFO's. Two individuals—names given—spotted a UFO between Norman and Purcell. "Tinker AFB looking at it—or attempting to do so at this time with radar—Wichita Falls, Tex., also notified to look." Another UFO was seen near Forgan, and sighter's name and address given.

"Although there were numerous other reports from other sources which did not reach the patrol, those above were all of the reports which moved on the highway patrol wire on August 1." It is stated in the summary from the department of public safety. On August 2, the teletype carried its first UFO report of that day at 2 p.m. regarding a sighting at 12:50 p.m. near Cushing. Other reports followed through the afternoon and night.

All this from just one State's highway patrol teletype.

At 3:30 p.m. on August 2, Maj. Hector Quintanilla, in charge of Project Blue Book, issued the following statement:

"Initial study of the reports thus far received by the Air Force indicates that the observations were astronomical in nature. The objects most likely observed were the planet Jupiter and the stars Rigel, Capella, Betelgeux, or Al-debaran, which are clearly visible in the eastern sky. The time of reported sightings, the azimuth and elevation of the reported sightings supports this conclusion. In addition, on August 1 and 2 the temperature distribution and varying wind speeds observed over the Great Plains, from northern Texas to Wyoming were favorable for the phenomenon, known as scintillation. Some of the reports were the aquarid meteor showers which occur between July 26 to August 6. The meteors approach from the southeast and streak swiftly across the sky trailing sparks. There has been no confirmation that any of the sightings reported were tracked on radar.

This official statement presents two characteristics typical of Air Force treatment of UFO reports. First, no specific sighting is mentioned, and just about every conceivable reason for seeking to explain away the multitude of sightings over eight States is included.

Second, no radar sighting is admitted. This is despite the highway patrol's report of Tinker and Carswell Air Force Bases having a fix on a July 31 object, and Tinker having a fix on up to four objects the night of August 1-2; and despite national wire services reports of these radar sightings and of a Wichita weather station radar sighting of several UFO's.

Radar does not pick up stars and planets, as has been stated. Further, corroboration of visual sightings by a radar sighting—as the Oklahoma Highway Patrol indicated on one occasion the night of August 1—would strengthen the argument that some UFO's are real and unknown.

But that August 2 statement from Project Blue Book was immediately attacked from a different angle by Director Robert Risser of the Oklahoma Science and Art Foundation Planetarium in Oklahoma City. To quote a UPI dispatch:

"That (Project Blue Book statement) is as far from the truth as you can get," Risser said. "Somebody has made a mistake. These stars and planets are one the opposite side of the earth from Oklahoma City at this time of year."

Major Quintanilla, recently asked about the comment of Director Risser, pointed out the UFO reports were coming in from several States, and said his August 2 announcement referred to Wyoming where the stars in question were visible. He added the statement applied to Oklahoma between 1 and 4 in the morning.

[From the Portland (Maine) Evening Express, Jan. 19, 1966]

THOSE "FLYING SAUCERS"—NEW HAMPSHIRE SIGHTING ONE OF MOST FRIGHTENING

(Editor's Note: This is the third of a series about UFO's (unidentified flying objects) by Bulkley S. Griffin, executive editor of the Evening Express, Washington bureau.)

WASHINGTON, D.C.—One of the more impressive sightings of an unidentified flying object (UFO) occurred near Exeter, N.H., last September. As narrated, it was an extended closeup observation of a lighted object that was noiseless and

close to the ground. Several persons apparently observed it, three of them, including two policemen, at one time.

The conclusion of Project Blue Book—the name of the Air Force UFO probe that announces the final verdicts on sightings—that the New Hampshire watchers saw low-flying airplanes, is of a piece with many other Air Force attempted explanations away. It doesn't make sense.

The New Hampshire sighting is of significance on another ground. It involves the reported effect of a UFO in disturbing and exciting animals.

The sequence of events near Exeter began at 1 o'clock in the morning of last September 3 when Exeter Police Officer Eugene P. Bertrand, Jr., 30, cruising in his police car, came upon an auto drawn up by the side of the road and in it an hysterical woman, who according to the officer's report to the investigative officer from Pease Air Force Base, N.H., "stated she was too upset to drive." She stated a light had been following her and had stopped over her car. The officer stayed with her about 15 minutes, sought to reassure her, saw nothing, and departed for the police station.

There he found Norman J. Muscarello, 18, of Exeter who had come to the station to tell of his experience while a few miles out of Exeter. He said something big with dazzling, flashing red lights had appeared moving just above the treetops. It had moved rather slowly toward him. He had jumped into the ditch for safety. Then the thing had disappeared.

Officer Bertrand took Muscarello with him in his patrol car and they returned to the field where Muscarello had had his alarming experience. They both got out of the car and walked into the field, Bertrand having a flashlight. At this point Officer Bertrand's report to an examining officer at Pease AFB can be taken up.

"When we had gone about 50 feet a group of five bright red lights came from behind a group of trees near us. They were extremely bright and flashed one at a time.

"At one time they came so close I fell to the ground and started to draw my gun. The lights were so bright I was unable to make out any form.

"There was no sound or vibration but the farm animals were upset in the area and making a lot of noise. When the lights started coming near us again Muscarello and I ran for the car. * * *

"I radioed Patrolman David Hunt who arrived in a few minutes. He also observed the lights which were still over the field at an estimated altitude of 100 feet and finally disappeared in the distance at the same altitude. The lights were always in line at about 60° angle. When the object moved the lower lights were always forward of the others."

In this case the Air Force, which generally appears to hang back from much investigating of UFO reports, did do some investigating. It interviewed the sighters and neighbors.

The Pease AFB officer, who headed this local military probe and who, by the way, was a command pilot, made this finding:

"At this time have been unable to arrive at a probable cause of this sighting. The three observers seem to be stable, reliable persons, especially the two patrolmen. I viewed the area of the sighting and found nothing in the area that could be the probable cause. Pease AFB had five B-47 aircraft flying in the area during this period but do not believe they had any connection with this sighting."

However, Project Blue Book lists low-flying airplanes as probably responsible for this Exeter sighting. Maj. Hector Quintanilla, in charge of Blue Book, states that the 8th Air Force SAC (Strategic Air Command) group at Westover Air Force Base, Mass., was conducting a low-level operation, called Big Blast, at the time. He said he believes the Exeter "people were looking at low-level aircraft."

The effect of a UFO on animals had been reported in a New York State case about 2 weeks before the Exeter event. An investigating officer from the Niagara Falls Air Force Base, commenting on the sighting of a low-down UFO near Cherry Creek, N.Y., on August 19, said:

"Preliminary analysis reveals object not explainable in conventional terms. Object caused reduction in farm cows' milk from 2½ cans to 1 can. Disturbed bull in field. Caused dog to bark." This sighting, by the way, is one of the very few that Project Blue Book has marked "Unidentified."

The Exeter UFO produced a fairly familiar charge; namely that the Air Force sought to suppress news of the sighting. In this instance the charge came from Raymond Fowler, of Wenham, Mass., head of a local area NICAP

group, who went to the scene to investigate for NICAP. The latter stands for National Investigations Committee on Aerial Phenomena, the unofficial but responsible Washington organization. The Fowler charges are in the files of Blue Book and of NICAP.

Fowler talked with witnesses and others and said he was told that Pease AFB officers had asked the police and a local newspaper correspondent not to mention the sightings. The request was put to the police on the ground people would be alarmed if told the facts, it is stated.

Major Quintanilla, informed of this charge, said that "I would not allow any suppression of news." However, it is an impression in Washington that officers a good deal higher than Major Quintanilla would not exert themselves to prevent news suppression of UFO sightings.

The Haverhill (Mass.) Gazette wrote an editorial on this UFO in the neighborhood, in which it said: "So many have reported seeing it (the Exeter UFO) and their descriptions jibe so closely that, unless they have banded together in one large hoax, their stories must be given credence."

[From the Portland (Maine) Evening Express, Jan. 20, 1966]

THOSE "FLYING SAUCERS"—AIR FORCE BRUSHES OFF FLOOD OF SIGHTINGS IN SOUTHWEST

(Editor's note: This is the fourth of a series about UFO's (unidentified flying objects) by Bulkley S. Griffin, executive editor of the Evening Express, Washington bureau.)

WASHINGTON, D.C.—A good 2 weeks after the flood of unidentified flying object (UFO) sightings last August over Oklahoma and other Southwestern States, Tinker Air Force Base, Oklahoma City, produced its formal survey and judgment. It sent this several-page explanation of sightings in its wide area to Project Blue Book, the Air Force office in charge of the UFO investigations and conclusions.

This report is a good example of Air Force anti-UFO propaganda. Except for mention of one specific sighting—which was decreed to be a weather balloon—the report is generalized, pulling out all the stops on the possibilities of citizens making mistakes and including a statement from the official of a planetarium in Oklahoma City whose text was that "the average person is uneducated as to what the sky normally looks like."

Interviews with military experts are given which mention unusually bright stars at this time of year, a haze that reflects things from the ground, the frequency of weather balloons and so on.

An impressive but superficial case is made for weather balloons as fooling people into thinking they are seeing a UFO. The number released daily in the Oklahoma area is considerable.

But the fact is that the citizens thereabouts have lived with these balloons day after day and year after year and by now must be fairly well acquainted with what they look like and how they act. They are also pretty well acquainted with stars, which at the moment may be supplanting balloons as the favorite explanation put forth by Project Blue Book.

The Tinker AFB report did not need to avoid mention of particular sightings. The Oklahoma Highway Patrol teletype reported a number of sightings well worth investigation and these teletype UFO reports were relayed to all major newspapers, wire services and TV and radio stations across the State of Oklahoma; also to the weather wire teletype system. They were available to sincere Air Force investigators.

The failure to interview witnesses could be termed negative Air Force propaganda. The highway patrol messages named close to a dozen civilian witnesses usually with addresses, and the number of highway patrol officers that had sightings must have totaled two dozen and more. Yet the formal August 20 report from Tinker shows interviews with but two civilians and two police officers.

Maj. Hector Quintanilla, in command of Project Blue Book, says the Air Force seeks interviews with persons who call up and whose names they learn. "We are not interested in persons who go to the newspapers or to radio and TV stations," he said. The wisdom of this exclusion is of course wide open to question—assuming that the Air Force is seeking information.

But Tinker AFB itself must have received dozens of calls during the heavy sighting period of July 31 through August 5. This much is indicated by a sentence sent out over the highway patrol network the night of August 2. "The security officer at Tinker Field reports he has been swamped with calls the past hour from people reporting UFO's." This report refers to just 1 hour of the several-day sighting period.

Chances are, it is said, that the Air Force handling of the UFO problem may be allowed to drag along by an apathetic public. Yet one may speculate on what an honest and energetic investigation might do. For one thing, it would investigate some of the sightings reported by the Oklahoma highway patrol.

For instance, take this report that moved with many others, over the teletype August 4. "Twenty-five people at a church in Cushing, Okla., all watched several UFO's. Sometimes they would stay stationary, then would move at a high rate of speed. Were moving south for a while, then stopped and stood still for some time, then were joined by two and moved to the west at high speeds, then turned and traveled east for a while, then stopped completely and stood still, then went east and suddenly disappeared from sight. The first ones were orange lights, the ones that joined them had red and green lights like airplanes. PD (police department) Cushing also observed the same things."

Or the "approximately 30 calls" to the Shawnee Police Department reporting 4 or 5 lighted objects traveling northwest which "make no conventional noise such as an aircraft does but rather make a humming noise." Or what did the five citizens of Norman, Okla., see looking at a white globe 30-40 feet in diameter through a "tripod-mounted 160-power telescope."

The evidence is convincing that the Air Force—for reasons it doesn't announce—is not really trying to discover what the UFO's are. Or, if the Air Force already knows, it is painstakingly keeping its information from the public. Chief blame for this lack of action must rest on the Government.

But another culprit, the scientific community, must bear blame according to an August article by Robert C. Cowen, natural science editor of the Christian Science Monitor. He wrote in part:

"The main reason there has been no scientific study of the (UFO) puzzle is social pressure within the scientific community. It has not been due to lack of opportunity to gather data.

"Many scientists feel the whole subject is 'kooky.' They dismiss it with ridicule. It can be personally embarrassing, even detrimental to a scientist's career, to try to take the saucer problem seriously."

It is time to investigate; scientific knowledge of some sort resides in the UFO phenomenon, said the writer.

[From the Portland (Maine) Evening Express, Jan. 21, 1966]

THOSE "FLYING SAUCERS"—WHAT SHERIFFS SAW WASN'T STAR, UFO PROBER ADMITS

(Editor's note: This is the fifth of a series about UFO's (unidentified flying objects) by Bulkley S. Griffin, executive editor of the Evening Express, Washington bureau)

WASHINGTON, D.C.—The case of the two Texas deputy sheriffs whose patrol car was allegedly followed by an unidentified flying object (UFO) so that they hit 110 miles an hour in rushing away, is worth mentioning for its own sake in any study of the Air Force-UFO confrontation.

The case also illustrates the possibility of a more realistic trend in Project Blue Book—which is the name of the Air Force's investigation of UFO's.

Project Blue Book first listed the Texas sighting as, "Refraction of Star Antares distorted due to inversion." This verdict was a highly improbable one from the start, as will be seen from the testimony of the two deputy sheriffs. Recently, Maj. Hector Quintanilla, in command of Project Blue Book, stated he has withdrawn this conclusion after talking over the phone with Deputy Sheriff McCoy. The star verdict didn't seem to fit. So Blue Book now records the sighting as one of the very few unexplained ones on its rolls.

Another recent case of reconsideration of a verdict occurred in the instance of the four lighted objects seen together by many observers the night of August 1-2, according to the teletype reports of the Oklahoma Highway Patrol. The latter

said Tinker AFB had picked them up. But Blue Book had this sighting listed as "Astro (Antares)." Radar does not pick up stars, as previously noted.

Recently, however, as this writer was discussing this sighting at the headquarters of Project Blue Book and pointed out that a Tinker AFB radar squadron sergeant had referred to two stationary objects and two moving in the formation, Project Blue Book proposed that the two stationary objects were stars—the brightest of them Antares—and the two alleged to be moving could be airplanes.

The two cases, one in Oklahoma and one in Texas, suggest to some observers that Project Blue Book, while vigorously trying to explain away has of late occasionally sought to throw a little more credibility into its investigations and conclusions.

But to get to the two Texas deputy sheriffs, who, as it came about, were followed by a UFO the same night—September 3—on which at least one person in the Exeter, N.H., case reported being followed.

Chief Deputy Sheriff Billy F. McCoy and Deputy Sheriff Robert W. Goode were on routine patrol near Damon, Tex.—which is around 40 miles south-east of Houston—when they saw a bright purple light, which soon produced a smaller blue light, on the horizon about 5 miles away. One of the officers studied the lights through binoculars. They had slowed down off the edge of the highway when the lights started rapidly toward them.

The testimony of Chief Deputy Sheriff McCoy, as given to an investigating officer from Ellington AFB, Tex., continues:

"The object came up to the pasture next the highway about 150 feet off the highway and about 100 feet high. The bulk of the object was plainly visible and appeared to be triangular shaped with a bright purple light on the left and the smaller, less bright, blue light on the right end. The bulk of the object appeared to be dark gray in color with no other distinguishing features. It appeared to be about 200 feet wide and 40-50 feet thick in the middle tapering off toward both ends. There was no noise or any trail.

"The bright purple light illuminated the ground directly underneath it and the area in front of it, including the highway and the interior of our patrol car. The tall grass under the object did not appear to be disturbed.

"There was a bright moon out and it cast a shadow of the object on the ground immediately below it in the grass. Deputy Sheriff Goode was in the driver's seat with his left arm lying in the open window. Although he was wearing a long-sleeved shirt and a coat, he later said that he felt the heat apparently emanating from the object."

The officers rushed away toward Damon "as fast as we could go" traveling "at speeds up to 110 miles an hour," said McCoy. Arrived in Damon, they discussed the matter. "We were both scared but still wanted to find out what it was." So they returned to the scene and saw the UFO on the horizon acting exactly as it had before. "We decided to leave the area because we figured that the object would start coming toward us again," stated McCoy.

The report to Blue Book of the investigating officer from Ellington Air Force Base believes the two deputy sheriffs definitely saw "some unusual object." This report reads in part:

"After talking with both officers involved in the sighting there is no doubt in my mind that they definitely saw some unusual object or phenomenon. However, my investigation failed to uncover any facts that permitted me, with my meager knowledge of such things, to arrive at any explanation for the unusual sighting.

"Both officers appeared to be intelligent, mature, levelheaded persons capable of sound judgment and reasoning. Chief Deputy Sheriff McCoy hold a responsible position in the department requiring the supervision over 42 personnel. Both officers have been subjected to considerable friendly ridicule from their contemporaries and the local townspeople; but have continued to profess the facts of their sighting * * *."

(From the Portland (Maine) Evening Express, Jan. 22, 1966)

THOSE "FLYING SAUCERS"—EVIDENCE INDICATES AIR FORCE MISLEADING PUBLIC ON UFO'S

(By Bulkley Griffin (last of six articles))

WASHINGTON, D.C.—This is the final one of half a dozen articles on the unidentified flying objects (UFO's), the U.S. Air Force, which has the official job

of investigating the sightings, and the public. The conclusions reached have been assisted by two more examinations of the files of Project Blue Book, the Air Force name for its study and its verdicts on UFO reports.

A main conclusion can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentifications of familiar objects, such as balloons, stars, and aircraft.

The logical assumption, backed by much circumstantial evidence, is that the Air Force is deliberately misleading the public.

In this campaign the Air Force, backed by normal public respect for the military and for authoritative statements, and also assisted by the natural human disinclination to think uncommonly or to be laughed at, has been largely successful.

However, the Air Force success in having the public believe what it wants it to believe respecting UFO's is steadily and conspicuously lessening. More and more skepticism is being voiced in newspapers and by citizens.

Another chief conclusion is this: no energetic and thorough effort to investigate the unidentified flying object phenomenon is being made by the Air Force or ever has been made by it. And this charge holds true respect any other Government agency and respecting what has been termed the Nation's scientific community.

Reasons for the persevering Air Force performance are unknown to the public. In the speculation one of the following three reasons is commonly advanced: the Air Force fears national panic if the truth about the UFO's were told; the Air Force feels it is stuck with its story; or the Air Force is silenced by the Central Intelligence Agency.

The first alleged reason, however uncomplimentary to the intelligence of our citizens, is one that has been heard at the Capitol off and on for approaching 20 years. Some speculate it may be the reason the Air Force has given to the chairmen of the two congressional space committees in its understood endeavor to hold off a congressional investigation of the UFO subject.

What is the truth about the UFO's? It is quite possible that no one on this earth knows.

A veteran New England congressional leader, who was in a position to know, told this writer that the Air Force didn't know what they are. Officials of the Central Intelligence Agency ought to know if anyone does, yet a former head of the CIA, Adm. R. H. Hillenkootter, affirmed half a dozen years ago that he did not believe in the Air Force explanations-away; but he did not indicate he thought he thought he knows the truth of the matter.

An increasing number of good observers hold that a sizable minority of the sightings—many sightings presumably are misidentifications—represent something new and unknown. A large number of these observers, who include veteran pilots, radar operators, air traffic controllers, teachers, astronomers, and other experts, hold that the unknown UFO's are extraterrestrial.

To all this Air Force officials can and do respond that not a single tangible bit of evidence of any such UFO has been found. This is a mighty strong argument, the strongest argument of the so-called explainers-away.

Yet to an augmenting number of competent observers the evidence grows stronger that some of the UFO's are real and really unknown. So very many impressive sightings can't be explained away, it is said.

"From the United States, from Argentina, Uruguay, Portugal, France, Antarctica, and Australia (from four continents) have come the rash of reports of sightings of unidentified flying objects (UFO's). The sightings have been the most numerous since 1957." So summarized a United Press International dispatch last August.

First and last, few presumably will challenge a conclusion that the mystery and the problem of the unidentified flying object remain with this world.

And as for the Air Force, with its intensive campaign to explain away every UFO sighting, it might listen to the recent advice of a veteran astronomer, Dr. I. M. Levitt, director of the Fels Planetarium, Franklin Institute, Philadelphia, said:

"It would be well if our Project Blue Book officials were simply to indicate that sightings in a minority of cases cannot be explained. It would clear the air of a great deal of misunderstanding and mistrust of this group by the intelligent laymen and observers who have seen objects in the sky."

DEPARTMENT OF THE AIR FORCE,
Washington, January 18, 1966.

HON. L. MENDEL RIVERS,
Chairman, Committee on Armed Services,
House of Representatives.

DEAR MR. CHAIRMAN: Recently you requested information in behalf of Mr. John R. Gray about unidentified flying objects (UFO).

The Air Force does not withhold or censor information on UFO's. The results of all Air Force investigations are available to bona fide news representatives and scientific researchers. Press releases are issued as warranted, and an annual report (copy attached) on the project is available to the public. There has never been an order issued by the Secretary of the Air Force to suppress or withhold such information.

The three conclusions set forth in Mr. Gray's letter are, in fact, the conclusions which were reached as a result of a panel of scientific consultants that met at the request of the Government to study the problem in 1953. For your information, the U.S. Air Force Scientific Advisory Board has been asked to evaluate the UFO program. An ad hoc committee has been appointed and will convene sometime in February. The results will be available shortly after the meeting.

As a result of investigating over 10,000 reports since 1947, we cannot associate disruption of running engines, radios, and headlights, or malfunction of aircraft instruments, or heat sensations with UFO activity. Nor can we attribute them to aircraft operations. There are many plausible explanations for effects such as car radio static when passing powerlines, overheated car engines, drops in power and voltage in the electrical system, malfunction of equipment, and imagination or panic of an observer. Weather conditions such as temperature inversions can cause known natural or conventional objects to appear to hover, move around, and change colors. Satellites and balloons make no noise while in flight. Balloons can also hover and suddenly accelerate depending on the wind conditions.

The foregoing information also explains our third conclusion. There has never been a top-secret document, entitled "Estimate of the Situation," which concluded that UFO's are interplanetary in nature.

As of December 31, 1965, the Air Force has received 10,060 reports since 1947 of which 645 are unidentified and cannot be explained. It is our opinion that all reports could be explained if more detailed objective data had been available. However, because of the fact that analyses of UFO sightings depend primarily on the personal impressions and interpretations of the observer rather than on accurate scientific data or facts obtained under controlled conditions, positive identification of all sightings is improbable. Information on any UFO report is available to private citizens upon request.

Photographs received in conjunction with UFO reports are evaluated by photo analysis personnel. The objects in such photographs have been evaluated as known natural or conventional objects which have been misinterpreted by the observer. Such photographs are returned to the owner after analysis.

Our Project Blue Book office is located at Wright-Patterson AFB, Ohio, where all UFO records are kept. All objects which have been picked up or tracked on radar have been identified as flocks of birds, weather phenomena, or reflections from ground targets. Radar scope photography is classified only if it reveals classified defense information.

The joint Army-Navy-Air Force publication 146 deals with UFO's only as a catchall class of sightings that does not fall into a recognized category such as ships, submarines, aircraft, or guided missiles. The purpose of the publication is to provide uniform instructions for the peacetime reporting of what is judged to be vital intelligence sightings. Any person who violates the provisions of the publication may be liable to prosecution thereunder. The purpose of this is to emphasize the necessity for handling of such information within official channels only.

The article appearing in the December 24, 1959, issue of TIG Brief, entitled "UFO's Serious Business," has been misinterpreted. The purpose of this article was simply to improve the quality of reports and investigative procedures. It also contained guidelines for effective reporting and the equipment necessary for investigations. We have no knowledge of any research projects such as those stated by Mr. Gray, nor do we have any information about the Santiago, Chile, incident.

All UFO reports which are submitted to the Air Force are regarded as earnest reports from people who have seen an aerial object which they could not identify. The purpose of our program is to evaluate such reports and to inform the observer of the cause of his sighting.

The National Investigations Committee on Aerial Phenomena is a private organization which is in no way affiliated with our Government.

It is a pleasure to again be of service to you.

Sincerely,

DWIGHT W. COVELL,
Colonel, USAF,
Congressional Inquiry Division, Office of Legislative Liaison.

JANUARY 11, 1966.

HON. L. MENDEL RIVERS,
House of Representatives,
Washington, D.C.

MY DEAR SIR: Thank you for the very prompt reply (Jan. 6, 1966) to my letter of December 29, regarding UFO's. You stated that you may check out my comments with the proper authorities. Knowing in advance essentially what reactions you will receive from these authorities, be they Air Force, Department of Defense, or Congressional Inquiry Division officials, I strongly and respectfully request you withhold acceptance of their statements until you contact Maj. Donald Keyhoe (USMC, retired) or Mr. Richard Hall. These gentlemen, as you are undoubtedly aware, are director and associate director, respectively, of NICAP and can be reached at North 7-9434.

This course of action is most desirable for the ultimate best interest of the American people as it permits both sides of this controversy to be impartially weighed.

NICAP, in the 9 years since its inception, has amassed sufficient factual information, documentation, and evidence to refute any or all Air Force claims. The organization asks only that it be given the opportunity to present this information in open hearings in order to attain its immediate goal of getting to the people the truth about the UFO's, as can be ascertained and officially confirmed; and the best hope of achieving this end is through congressional action.

Respectfully yours,

JOHN R. GRAY,
Huntington Beach, Calif.

DECEMBER 29, 1965.

HON. L. MENDEL RIVERS,
U.S. House of Representatives,
The House Office Building,
Washington, D.C.

MY DEAR SIR: As chairman of the House Armed Services Committee, you may be the proper person in the House, to whom I should address this correspondence pertaining to a subject, the scientific aspect of which promises far-reaching implications. A considerable amount of genuine scientific research by private individuals in this field is being thwarted, in part, by a policy of an agency of the U.S. Government through the employment of ridicule and the withholding of pertinent information. It is a field that has been the subject of suppression since 1947 and particularly since 1953 by order of the Secretary of the Air Force.

The subject, of which I write, is that of unidentified flying objects (UFO's) and the Air Force censorship in the handling of legitimate sightings and reports. The publicized conclusions, in part, of the Air Force's Project Blue Book are:

- (1) No unidentified flying object 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 disclosed by the Air Force that sightings categorized as unidentified represent technological developments or principles beyond the range of present day scientific knowledge; and
- (3) There has been no evidence indicating that sightings categorized as unidentified are extra terrestrial vehicles.

Other than the close encounters with UFO's reported by airline and military pilots, an element of truth can be conceded in conclusion (1). However, the validity of number (2) must be disputed. Do we possess any aircraft that can:

1. On close proximity to ground vehicles disrupt the running engines, headlights, and radios of those vehicles?

2. On close proximity to conventional aircrafts cause their gyro compasses and direction finders to momentarily malfunction?
3. On close proximity to conventional aircrafts or ground vehicles cause intense heat sensation experienced by their occupants?
4. Hover at any one point at any given time and suddenly accelerate horizontally or vertically out of sight in a matter of 5 to 10 seconds?
5. Execute an abrupt 90° or 180° change of direction while in flight?
6. Make no discernible sound while in flight?
7. Glow brilliantly and change colors?

Such behavior and characteristics have been witnessed by reliable persons and documented enumerable times and are very familiar to the Air Force: in addition to being definitely beyond the scope of our present technology. If conclusion (3) had included the word "proof" instead of "evidence," the probability of truth could also be conceded here. As it stands, the statement is likewise false for the same reasons as the arguments listed against conclusion (2). Since our present state of technology does not permit satisfactory explanations to such behaviors of these objects, what other assumption can a scientific mind make than that their origin is extra terrestrial? It may be recalled that the Air Technical Intelligence Center (ATIC) at Wright-Patterson AFB, Dayton, Ohio, in July-August of 1948 concluded in their top secret document estimate of the situation that UFO's were interplanetary. While top Air Force officials will vehemently deny that such a document ever existed, proof that it does exist and is accessible for examination by interested Members of Congress—but not from the Air Force.

While the Air Force does not publicly admit to the existence of the wealth of documented evidence that has been accumulated since before the appearance of the first airplane, it does admit to possessing at least 663 "unknowns" on the books. Sightings classified as "unknowns" are those well documented by official and unofficial sources but remain unsolved and "unexplainable." Private citizens inquiring into the nature of these unknowns will be told that such is classified information (AFR 200-2 paragraphs 9 and 10). It should be noted, in this respect, that Vice President Humphrey and Senator Birch Bayh were misinformed by the Air Force through the Congressional Inquiry Division to the effect that all of the 663 "unknown" cases were solved. The letter to Senator Bayh was signed by Col. Frederick H. Fahringer.

Dealings with the Air Force concerning information of UFO's have proven to be a one-way proposition—all in and none out. Is it little wonder that only about 10 percent of the citizenry dare risk disparagement for submitting reports that are truly unexplainable? The "loading" of photographic evidence of a sighting by a witness to the Air Force is tantamount to forfeiture. Infrequently, an Air Force "slip-up" occurs in his favor.

The Air Force maintains that there is no censorship of UFO's. Anyone following this subject knows differently. Strong feelings were expressed by three of my acquaintances, all departed in recent years from service in that branch, in verifying that censorship does indeed exist. Two were radar technicians, one of whom was stationed at White Sands in 1949 while the other was assigned to the 776th Radar Squadron at Point Arena, Calif. in 1961-62. The third was a member of Project Blue Book in Alaska during 1961-62.

The Joint Chiefs of Staff regulation JANAP 146, section III, title 18, United States Code 793, threatens imposition of penalties of 1 to 10 years imprisonment and/or up to \$10,000 fine upon any Air Force pilot who reveals an official UFO report. Such harsh punishment would certainly be indicative of the seriousness with which the Air Force regards the UFO's; and all the while the publicized line is "they don't exist." The official position was subsequently revealed when on December 24, 1959, an Air Force Inspector General brief was issued stating that "UFO's are Serious Business" and instructing all investigating officers to be equipped with geiger counters. The degree of seriousness can also be realized when one considers the lengths to which six agencies of the Federal Government are extending themselves in research to uncover the suspected secret of these objects—that of gravity control, or antigravity power. Forty-six such projects of research of varying degrees are currently being subsidized including 33 under Air Force supervision.

While it is understandable that information pertaining to these projects does not necessarily fall into the sphere of the public's "right to know," there is no apparent reason or justification for the continuation of this "blackout" policy regarding UFO's. It matters not whether this policy was instigated by the Air Force or its superior, but it does matter when individual research in this field is

stified; and it matters when the American people are denied the right to know what kind of powers they may be up against. Persistence in this dogmatic attitude will only tend to deteriorate public morale if not the public trust in the Air Force when irrefutable proof of the existence of these objects manifests itself.

Those behind this official "blackout" should be displaying real responsibility to all of us by desisting from the practices of ridiculing sincere witnesses and belittling sightings that defy explanations and at least extend public acknowledgement of some credence to the evidence that abounds. Instituting a policy of dealing honestly, for a change, with the people would prepare the way to a minimum of possible panic (assuming this to be the basic reason for the censorship) upon arrival of that "moment of proof." (Please, excuse the pun.) Consider the contrast of the disrespect shown Americans to the consideration extended the citizens of Argentina and Chile. For example, on August 3, 1965, the radio and TV stations of Santiago, Chile, alerted the populous to view the three luminous discs hovering over the city for some 25 minutes before moving slowly away.

With the hope that we may yet receive such courtesy instead of treatment as children, I respectfully urge that you consider the undertaking of a hearing into this despicable situation. Until this condition is brought out into the open, much of the news media will continue to refrain from giving the UFO's serious consideration they so justly deserve.

All statements made in this letter can be substantiated by the National Investigations Committee on Aerial Phenomena (NICAP) located at 1536 Connecticut Avenue NW., Washington, D.C. Documented evidence and authentication required to support the assertion that a censorship does in fact exist will be put at the disposal of your committee by NICAP upon request.

Respectfully yours,

JOHN R. GRAY, *Huntington Beach, Calif.*

[From Life magazine, Apr. 1, 1966]

A WELL-WITNESSED "INVASION"—BY SOMETHING

FROM AUSTRALIA TO MICHIGAN, A FLURRY OF EFRIE UFO SIGHTINGS

Call them what you will: flying saucers, unidentified flying objects (UFO's), optical illusions, or the first symptoms of the silly season. They are back again—and seen by more people than ever before. Some are greenish and iridescent, like the mystery thing that swooped down over Perth, Australia, several weeks ago. Others are football shaped and aglow with pulsating lights. Last week the manifestations seemed almost to have reached the proportions of an invasion. Near Ann Arbor, Mich., 52 witnesses, including a dozen policemen, saw 5 strange objects hovering over a swamp. The next day a glowing thing floated over a small college in Hillsdale, Mich. and was sighted by 87 students, an assistant dean and the local civil defense director. Whatever the explanation of the peculiar phenomena—seen and described similarly by so many—something surely was in the air.

"IT WASN'T NO HULLABILLUSTON," SAID THE FARMER, AND 52 AGREED

(By Paul O'Neil)

DENTER TOWNSHIP, MICH.—Frank Mannor has never believed in flying saucers. Hasn't any need of them. Wishes he'd never seen one. Frank should have been born in the day of Dan'l Boone. Since he wasn't, he's on the unemployment. Still, he's a happy man. Or was.

He is a husky, grizzled fellow of 47 who has 10 children, a well of water with an outside pump, a solidly built privy, a TV set and a battered refrigerator with the coil on top. Four disembodied automobiles rest beside his white, tumble-down, two-story farmhouse in the open country 12 miles northwest of Ann Arbor. They provide parts for his good car. He has an ancient schoolbus for hunting expeditions. He also has six dogs. The dogs started it all. When they began "barkin' and bellerin'" at 8 o'clock that Sunday night, Frank ran outside—even though he was wearing his snit pants—and looked east into swampland from the rise of ground on which the house is built. He saw lights and a faint red glow "like cigarets being smoked."

Frank called his 19-year-old son, Ronnie. Suit pants or not, they started down toward whatever it was. "I thought a meteor had hit, that maybe we could pick up pieces of it," Frank said.

It never for a minute occurred to him that the United States hadn't had a good, mysterious flying saucer manifestation for a coon's age, that it was probably time for a new visitation from the mysterious little men from outer space and that they had decided to use southern Michigan in general and his swamp in particular for the dangdest display of flashing lights and whizzing half-seen objects since Frank Perkins fired a .22 rifle at a New York crow—and hit a fireworks factory—back in 1951.

Frank Mannon soon realized that he and his son were stalking some kind of thing. The ground between his house and the swamp is hummocky, rolling, but the night was clear and moonlit and the glow ahead was plain. "Just like we were hunting deer," Frank said to Ronnie. "Don't talk, we'll sneak up on it."

They jumped a creek, climbed a rise, and there it was, a few hundred yards ahead in the marsh. The thing seemed as long as an automobile, and wore a green light on one end and a white light on the other. Its back was humped and looked grayish- or bluish-brown and was "quilted" or rough "like coral rock." It seemed to be sitting perhaps 8 feet off the ground in a patch of mist. "Like a man in a boat on a misty lake in the morning—you can see the man but can't quite make out the boat."

Suddenly it turned blood red. "Look at that horrible thing, Dad," blurted Ronnie—and the lights instantly went out. Both began running toward it. "I was a-puffin'," said Mannon. "But when we got there it was gone. I hunted for 4 hours but there was no sign or smell of it. I'm glad I didn't have a gun. I'd a shot it and I might have harmed someone."

Back at the house, meantime, Mannon's wife Leona—a woman who wears shapeless slacks and a flannel shirt with the tail out—decided to call the nearby Dexter village police. "We've got an object out here," she said formally, "that looks like what they call a flying saucer. It's got lights on it down in the swamp."

Since the Mannors are on an eight-party line Leona told a great many other people, too, and the word spread like lightning—or the glow from a flying saucer. Cops and deputy sheriffs were soon tumbling out of cars and thrashing off toward the marsh, and the road beyond the house was jammed solid with the cars of gawkers. Most of them were rewarded for their effort. Dexter Police Chief Robert Taylor and Patrolman Nolan Lee saw the red glow as they stumbled around in the dark; so did Washtenaw County Deputy Sheriffs Stanley McFadden and David Fitzpatrick. All reported, like Mannon, that the light eventually vanished. But unlike their host, who said, "I never seen it take off," the cops felt it had zipped away over Mannon's house making a sound like "an ambulance."

"I seen it," said McFadden, "but I still don't believe it."

Dexter Patrolman Robert Humawill saw a "strange, lighted object" appear over his patrol car as he waited in the road for those who had set out for the swamp. It had red and white lights "which at times had a bluish tinge" and made continuing sweeps over the swamp at a height of 1,000 feet and then, on being joined by three other "objects," flew away. Chief Taylor's 16-year-old son Robert saw one lighted thing at 10:30. It flashed red and white and hurried off to the west.

Ann Arbor, though sharply divided between scoffers and believers the next day, still seemed to feel a unanimous civic pride in the fact that the Air Force had taken cognizance of its lurid phenomenon by dispatching Astronomer J. Allen Hynek, director of Northwestern University's Dearborn Observatory, to weigh the tales of the elect and, no doubt, send a message of gravity and import to the Pentagon. They were even more heartened to hear that Hynek did not instantly announce that Mannon and his fellow bushwhackers had simply seen the University of Michigan's dish-shaped Peach Mountain radio telescope, which stands against the sky beyond the area in which they saw the glowing thing. Hynek, a bearded man who has investigated a hundred other "sightings" for the Air Force in the last two decades, was sure Mannon was too accustomed to the telescope to ever mistake it for anything else.

"I believe the people who made these sightings are entirely honest and sincere," he said. "But I am not willing to guess what they saw." He hedged when asked if he thought the thing might conceivably have been a new "test vehicle" of some sort. "I think I know much more of what is going on than * * *" he began, but then halted and said, "so I don't think I should say anything * * * I'm sure there is some natural explanation for all of this."

Back by Frank Mannon's house the road jammed up with the cars of the expectant; one man scraped away at a violin for an hour in the hope of summoning creatures from outer space and another blinked a light in what he described as a "pi code"—which he believed to be the key to interplanetary understanding. Many came to scoff. Mannon grew more indignant by the hour.

"People are trying to make a fanatic out of me," he complained. "They was still tramping around here at 3 o'clock this morning and look at them now. They say, 'How much money are you going to make off this?' That's crazy. I don't want no money. I didn't want no publicity in the first place. I don't want none now. I'm just a simple fellow. But I seen what I seen and nobody's going to tell me different. That wasn't no old foxfire or hullaballusion. It was an object. Maybe it'll come back if all these people would stay away and we could get a picture and have verification of it. Anybody wants to give me a lie-detector test I'll take it."

Leona, his wife, was more succinct: "We ain't Martians—they act like you're not human or something because you seen it. I'm about to get a gun and shoot some of these smart alecks if they don't stay to hell away."

10,147 FLYING SAUCER SIGHTINGS

(Ever since the Old Testament prophet Ezekiel recorded an encounter with a fiery flying wheel, people have been seeing saucerlike things in the sky. In the following report Life Correspondent Bill Wise tells of the Air Force's efforts to make sense of all.)

DAYTON, OHIO.—There have been 10,147 reported UFO sightings since a private pilot named Kenneth Arnold claimed he saw a set of rapidly moving "things" in the air near Mount Rainier, Wash., on June 24, 1947. Arnold's widely publicized report set off the first of the modern epidemics of saucer sighting, and the Air Force has been in the saucer business ever since. Its "Project Bluebook" occupies a single room on the second floor of a windowless red concrete building here at Wright-Patterson Air Force Base. Its functions: (1) to try to find an explanation for all reported sightings of unidentified flying objects, (2) to discover whether the UFO's pose any security threat, and (3) to determine if UFO's exhibit any advanced technology which the United States could put to use.

To assist Project Bluebook, there is an UFO officer stationed at every Air Force base in the country; the officer at the base nearest a reported sighting is responsible for initiating the investigation. According to Maj. Hector Quintanella, Jr., a physicist who heads Project Bluebook, most UFO sightings have a rational and usually very simple explanation. The most common reports stem from bright stars, planets and meteorites, particularly when viewed through broken clouds or haze.

Others turn out to be satellites—few people realize that there are now more than 30 of these in orbit that are visible to the naked eye. Thousands of balloons—some as large as 300 feet in diameter, some carrying running lights—are released daily at airports, weather stations and research centers, and these lead to a great many "saucer" reports. Conventional aircraft are another major source—reflecting sun by day or providing the glow of running lights or jet afterburners or the flash of photo recon strobe lights at night.

All satellites and most weather balloons and aircraft are being carefully tracked and logged by military or civilian agencies, and Project Bluebook routinely checks sightings against these records. Unreported local flights by private aircraft pose the most frequent problem in this detective work.

Strange blips on radar screens have occasionally unsettled personnel at tracking stations—e.g., two "objects" that appeared on the scopes at Patuxent Naval Air Station (Md.) last December seemingly approaching the base at an estimated 4,800 miles an hour before making a tight turn and disappearing. But these can generally be traced to pulsating "bugs" within a receiving set or to interference from other neighboring electronic gear. Wright-Patterson experts have been able to account for every errant radar blip reported to date.

There is no question that our Air Force and those of other countries employ assorted airborne hardware as tactical and training devices. Many of these are, of course, seen as flying saucers and it is obvious that for security reasons the Air Force is reluctant to talk about them.

"I have looked at the records of nearly every UFO case back to 1947," says Major Quintanella, "and my feeling is that the vast majority have involved simple misinterpretation of natural phenomena."

Of the sightings so far checked out, less than 2 percent of the total are listed on Project Blue Book's file as unidentified. The Air Force officially concludes that none of these has given any indication of posing a threat to national safety, or offering new technological data, or of originating from some extraterrestrial source. However, some of these files remain officially open and the investigations on them continue.

Dr. J. Allen Hynek, director of Dearborn Observatory at Northwestern University, who is heading up the Ann Arbor investigation for the Air Force, is an old hand at checking on flying saucers for Blue Book. Dr. Hynek notes that sighting reports usually do not originate with persons who believe in outerspace visitations. "Believers" don't need sightings to convince them, and are irritated by the embarrassment and skepticism with which most UFO spotters, like Frank Manner, report what they believe they have seen.

"It is easy to dismiss the cases of birds, balloons, and the like," says Dr. Hynek, "but when good solid citizens report something puzzling, I believe we have an obligation to do as good a job as we can. I regard our 'Unidentifieds' as a sort of blot on the escutcheon. Somehow we scientists should be able to come up with answers for these things."

Major Quintanella, although certain that no evidence turned up to date has even hinted at spacecraft of unearthly origin, agrees that it is impossible to prove that flying saucers do not exist. In any event, the Air Force is not about to give up chasing UFO's.

"We are spending millions to develop our own rocket boosters to get our spacecraft to the moon and beyond," says the major, smiling. "Imagine what a great help it would be to get our hands on a ship from another planet and examine its powerplant."

The CHAIRMAN. What I want to ask you is, why do they always see them in the nighttime?

Dr. HYNEK. There are a number of reports from the daytime although it is true there are many more night sightings.

The CHAIRMAN. Then there is another thing, if anybody wanted to spy on this country why would they go to this expense, when you can go to any newsstand and get all the information you want, and if that doesn't help you get a roadmap, and if that doesn't help you, hire a Hertz car.

Dr. HYNEK. Maybe they don't know this.

The CHAIRMAN. If the Martians don't know this by this time they will never know it.

Spying on this country is so simple. I cannot understand why the Russians or anybody wants to put something up in the air to spy on this country, when they have got so many avenues we don't police.

Dr. HYNEK. No comment on that, Mr. Chairman.

The CHAIRMAN. Well, you ought to comment on it.

Dr. Chamberlain, we will hear from you.

Dr. CHAMBERLAIN. Thank you, Mr. Chairman. I really have no questions, but I will say the sightings in Michigan were near my area, but not within it. I am pleased to hear your recommendation and to have the Secretary's statement that he intends to implement it.

I am further comforted to know he is giving it further thought and he is going to, at such time as your recommendation is implemented, we are going to have a panel that will consider these things in depth, not just in town for a day, with a cursory look, and disposing of it, because I feel we have other scientific achievements and advances, and that there is going to be a growing importance of surveillance of this phenomena.

I would say, further, the people in our area are concerned about this. There has been considerable responsible editorial comment in our newspapers. It should not be "poo-pooed," as you say.

I am pleased to have your statement.

And, Mr. Chairman, I thank you for having this hearing, and these people in to put some attention on this matter. Thank you.

The CHAIRMAN. Thank you.

Governor Stafford. Governor Stafford, you are from Vermont, how close is this to your district?

Mr. STAFFORD. Thank you, Mr. Chairman. I was going to comment on that.

Mr. Bates has pointed out there have been UFO sightings in New Hampshire, Vermont not to be outdone last week has had sightings there, also, some within 16 miles of my hometown.

The CHAIRMAN. That is getting awfully close.

Mr. STAFFORD. Yes, sir.

Since our States of Vermont and New Hampshire are known as the twin States, Mr. Chairman, this may be simply a case of bad navigation on the part of the UFO's, although some of us think it may be if they are extraterrestrial they are simply looking for a warmer climate than New Hampshire possesses. But in any event, in seriousness, the people in Vermont are very much concerned over the sightings that have occurred in our State, and reputable people have seen phenomena which they cannot understand.

I would simply hope that the Secretary of the Air Force and the doctor could assure me that if these sightings have not already been evaluated, that in the course of investigation and deliberations they will be.

The CHAIRMAN. I hope if you come in contact with any of them you don't have to tell them where South Carolina is.

Mr. Hébert is next.

Mr. HÉBERT. Thank you, Mr. Chairman.

While these objects have not been seen in my district, I just want to prepare myself, because after next election day I might have seen some of them.

Doctor, have you conferred with Mr. Ray Walston on this subject matter?

Dr. HYNEK. No, sir.

Mr. HÉBERT. Does that ring a bell with you, Mr. Ray Walston?

Dr. HYNEK. No, sir.

Mr. HÉBERT. It does not ring a bell? He is the most authoritative man in the country on space. He appears in every home every Sunday night, he is "My Favorite Martian."

Dr. HYNEK. Oh. [Laughter.]

Mr. HÉBERT. He has an antenna out of his head, too.

Dr. HYNEK. I think I have been talking to the wrong people.

Mr. HÉBERT. He can shed a lot of light on the subject. I just wanted to direct your attention to that.

That is all, Mr. Chairman.

The CHAIRMAN. Dr. Hall, you are next after Mr. Price.

Mr. PRICE. Doctor, if in fact they exist and are from outer space, don't we have a tracking system that now does a real competent job tracking every satellite in outer space so we know every one that is launched somewhere else, and as they circle in outer space we have a record of each of these, do we not?

Dr. HYNEK. It is my understanding that we do. This is the point I made earlier.

Mr. PRICE. If they did travel in outer space there would be a record somewhere of their travels in outer space?

Dr. HYNEK. I would certainly think so, and this, of course, is I think one of the most potent arguments against extraterrestrial visitation by intelligences, unless they were so superintelligent they knew how to evade completely our surveillances. I think this would be pretty difficult.

Mr. PRICE. As they left their normal orbit they could be tracked and followed?

Dr. HYNEK. Yes, sir.

Mr. PRICE. As they left the orbit?

Dr. HYNEK. To the best of my understanding, they certainly could be.

The CHAIRMAN. Dr. Hall.

Mr. HALL. Mr. Chairman, I just wanted to thank the Secretary and his distinguished guests for this, and say for some time we have even had space conventions down in the Ozarks, in the last 13 years, and it would seem obvious to me in view of the report today those who take trips by the use of hallucinatory drugs are almost synonymous with the number of space sightings we have had reported here today, namely, in the order of 10,000. To me it indicates a decrease in the mores and the fiber of those who would subject themselves to hallucinatory influences in the first place.

Thank you.

The CHAIRMAN. Mr. Stratton?

Mr. STRATTON. You mentioned something from Life magazine, Mr. Chairman. There were two pictures in Life magazine I think we would like an explanation of. One of them was a red object which was clearly visible in the photograph. The other were two lights, I think, taken in Sidney Harbor, one at one position and one at another, and then there was the third photograph. I wonder if the Doctor could give us what the explanation is of these?

Dr. HYNEK. Well, sir, unless one has the original negative, there is very little photoanalysis that can be done. It is said a picture is worth a thousand words, but I think in this case it is the other way around, because generally it has been our experience, and I think Major Quintanilla will bear me out, that when we do have hoaxes they very frequently are accompanied by photographs.

Mr. STRATTON. I appreciate it is possible to doctor up negatives. Let me put it the other way around. Have these three incidents which are reported photographically in Life magazine been examined by you, and, if so, what are your findings with regard to them?

Dr. HYNEK. No, sir; they have not been examined by me, because I do not have the original negatives.

Mr. STRATTON. Are these incidents listed in the list that you have compiled, and which the Secretary has told us 95 percent are explainable?

Dr. HYNEK. No, sir. These particular pictures are not in my list since I don't know enough about them.

Mr. STRATTON. Doctor, I would suggest since these have had very prominent circulation, in a magazine of some prominence in the country, that we ought to examine these particular things and determine whether they are hoaxes or not. If anything is disturbing the Ameri-

can people, I would assume a picture of this kind would be disturbing in just the same way that Life's story of what happened to some dogs up in Baltimore has now resulted in legislation being recommended to the House.

You have no explanation or haven't looked into the series of photographs that appear on pages 26 and 27 of Life magazine, and pages 24 and 25?

Dr. HYNEK. I just learned of the Life article last week.

Mr. STRATTON. Is that correct, Doctor?

Dr. HYNEK. That is correct, I have not examined the photographs and information published by Life.

Mr. STRATTON. Has anybody examined them in the Air Force?

Major QUINTANILLA. Mr. Stratton, we have asked for the negatives of those pictures, but the citizens will not turn the negatives over to the Air Force. You cannot force them to turn them over to the Air Force.

Mr. STRATTON. They turned them over to Life magazine, haven't they?

Major QUINTANILLA. You will have to ask them; I don't know.

Mr. STRATTON. What has Life got?

Major QUINTANILLA. I don't know, sir.

Mr. STRATTON. How can you have examined this without finding out what Life has?

Major QUINTANILLA. What is that, sir?

Mr. STRATTON. How can you have examined these particular instances without finding out what Life has?

Major QUINTANILLA. The Air Force has not investigated these instances, sir, and the photographs have not been examined because the negatives have never been turned over to the Air Force.

Mr. STRATTON. You have not been in touch with Life magazine to find out what they have?

Major QUINTANILLA. No, sir; we have not.

Mr. STRATTON. Don't you think it might be well to undertake to make an effort to find out whether Life has the negatives, for example, or whether they have been in touch with the individuals concerned?

Major QUINTANILLA. Yes, sir.

Mr. STRATTON. Well, I think, Mr. Secretary, as I just said, I am very much impressed with the doctor's statement, and with yours, but this kind of thing in Life magazine makes it appear that there is something there, and you say that you have examined these things, and there is nothing there, and I think that you ought to have examined this so that we can have an explanation of these particular phenomena.

The CHAIRMAN. Let me say something.

We cannot ask the Secretary to look into every magazine that is published, or every periodical that comes out of everybody's printing press. Now, it seems to me like Life magazine is not exempted or excluded, if they are as interested as they appear to be in this magazine, that comes to my office free, and which I seldom look into—that is my responsibility, I have other things to do—it looks to me like these people who give such great dissemination to these things would be interested in seeing what the DOD has, without imposing on the Secretary of Defense the responsibility of tracking down everything that comes out of everybody's camera. I do not know why we should im-

pose on the Secretary the requirement to track down Life magazine and say give me your negatives, give me your reasons. Is this what you want?

Mr. STRATTON. Mr. Chairman, it was my understanding we were asking this question because many people had been somewhat concerned by these reports in recent days, including the distinguished minority leader in the House.

The CHAIRMAN. Yes.

Mr. STRATTON. And it does seem to me when a national magazine that has as much influence as Life has, prints some photographic—what purports to be photographic—pieces of evidence of these objects, we ought to if we are going to allay the concern of these people who have started this investigation by our committee in the first place, that we ought to have an answer to it.

The CHAIRMAN. I think so, too, but I don't think we should criticize the Secretary for not having done it.

Mr. Secretary, here is what I am going to request you do. You get in touch with Life magazine and request them to furnish you with this information that Mr. Stratton has brought to your attention, or any other magazine, and report back to this committee.

Secretary BROWN. We will be glad to do so.

The CHAIRMAN. I am sure Life magazine would be eager to do this. Mr. Stratton, I think you are wise in suggesting it, but what I didn't want to do is to unwittingly criticize the Secretary for not having done it.

Now, Mr. Secretary, will you do it?

Secretary BROWN. We will do it, Mr. Chairman, and we will I think continue to follow our ground rules—

The CHAIRMAN. You get those negatives if you can and turn them over to the doctor, and I want a report on it.

Mr. STRATTON. Mr. Chairman, I have one more question. May I say I wouldn't dream of criticizing the Secretary, he and I are good friends, and he knows I am only trying to be helpful.

The CHAIRMAN. Of course, and I know he cherishes your friendship, and so do I.

Mr. STRATTON. The other item that has really led to all this concern today are these sightings in Michigan. The Secretary has given us a report, but I have only had a chance to skim over it. The doctor here a moment ago commented with respect to these people in Wisconsin that only two or three people in the area had seen the phenomenon, and wasn't it surprising that a lot of people who must have been around didn't see it.

If I understand the newspaper accounts correctly, the thing that is unique about the Michigan sightings is that a lot of people in the area saw it, and the girls in the dormitory apparently sat around for hours watching it, and people came and went, and all saw whatever it was.

Now, I wonder if you could give us in a nutshell what the explanation of this is? Marsh gas is what I understand is the explanation.

Could you tell us, doctor, in a few words the gist of what you discovered out there that you have reported here?

Dr. HYNK. I will be happy to. I conducted a detailed inquiry into the two reported sightings at Dexter and Hillsdale, Mich. Of the 50 to 60 people who reported having seen one or the other of these I talked with about 32 persons.

The CHAIRMAN. How many, doctor?

Dr. HYNK. With about 32 people. I talked with some of these briefly, but spoke with at least 15 persons in considerable detail.

These two sightings, although separated by some 65 miles, were a localized phenomenon. They were in the swamp area. No individual that I talked to, and no group of persons, could agree that they had seen anything either enter or leave the swamp. There were several isolated reports by people who said that yes, they saw a bright light come, but they could not get any general support or concurrence on this, from the others. Witnesses did agree that they saw a glow, and red, yellow, and green lights in the swamp area in both cases. So I said to myself, "What is common in swamps?" And I researched this question with the aid of several professors at the University of Michigan. They have been very helpful to me in this, since an astronomer doesn't know about swamps; he usually has his eyes a little higher than that. They informed me, and I later found in several books, that marsh gas, resulting from the spontaneous igniting in air of such gases as CH_4 , methane, H_2S , PH_3 , phosphine, and particularly important, P_2H_4 , an impurity in phosphine, is a common occurrence and produces what appears to be glowing lights of different colors. Since then I have had several letters from people saying "What are they getting all excited about in Michigan, I have seen these things since I have been a kid on the farm." As these gases are ignited, they can produce red, yellow, and green glows. There is nothing mysterious about these colors.

The lighting goes out here, and goes on here, thus giving the impression of motion. The light was moving smoothly, they said, not following the train which was bumpy, and they also rose some distance and came down. They were reportedly observed for a period of $2\frac{1}{2}$ to 3 hours.

In a book, "Light and Color in the Open Air," it is pointed out that swamp lights, commonly known as will-o'-the-wisp, fox light, and so forth, can be observed for several hours, sometimes all night.

And the conditions were just right for it in Michigan. In both cases, the winds were reasonably calm. Had there been high winds, it is unlikely these glows would have taken place.

Furthermore, Michigan had experienced an unusually mild winter. They tell me there wasn't much snow. However, the swamp had been covered by ice.

Now, in a swamp rotting vegetation produces these marsh gases. When a thaw comes, it seems entirely logical to me, that these gases would bubble up, and be spontaneously ignited, and you would see these things. To me it is a logical explanation. I said in my press release I couldn't prove it in a court of law but it seems to me to be a very logical explanation.

The CHAIRMAN. Now, Mr. Ichord.

Then I will come over to the other side.

Mr. ICHORD. Let me first differentiate, Mr. Chairman, my position from the chairman, and Mrs. Rivers, and also Mr. Nedzi.

I am neither a believer nor a disbeliever. I am from Missouri, and I have got to be shown.

The CHAIRMAN. You go right ahead.

Mr. ICHORD. I would like to ask, along the line Mr. Stratton was inquiring, how close was the Life magazine article to April Fool's Day?

Mr. Chairman, one of the members of the committee staff has handed me a question that I think should be in the record.

Doctor, are you familiar with the NICAP, the National Investigations Committee on Aerial Phenomenon?

Dr. HYNK. I would think anyone who has been looking into UFO's for the past many years as I have couldn't help be acquainted with their work.

Mr. ICHORD. What is the makeup of this committee?

Dr. HYNK. It is called a committee, but it is a rather large group of civilians over the country, as I understand it, who volunteer to investigate the cases.

Mr. ICHORD. It has no official standing, then?

Dr. HYNK. No official governmental standing; no, sir.

Mr. ICHORD. This committee does not always agree with your explanation of the various sightings?

Dr. HYNK. I believe that is correct.

Mr. ICHORD. How many, Doctor, of the 10,000-plus cases, have there been photographs allegedly taken of UFO's?

Dr. HYNK. In a very few cases. This is another thing which bothers me.

Mr. ICHORD. Can you give an idea of how many?

Dr. HYNK. How many?

Major, would you venture a guess?

Major QUINTANILLA. I don't know.

Dr. HYNK. I would say only about 1 percent, or less, of the cases reported have included photographs.

Mr. ICHORD. Then I take it you can't tell me how many of these photograph cases have not been explained by you, since you can't tell me how many photographs have been taken?

Dr. HYNK. This is right. But the point is that you cannot make a scientific analysis of a photograph unless you have the negative.

As the major has pointed out, time and again when we request the negatives, they are not forthcoming.

Sometimes other groups get them.

Mr. ICHORD. Thank you, Mr. Chairman.

The CHAIRMAN. Now, Mr. Clancy.

Mr. CLANCY. Mr. Chairman, just one short question for the doctor. Have any of the 5 percent of the unexplained cases been observed on radar screens?

Secretary BROWN. I don't know the answer to that one.

Major QUINTANILLA. No, sir.

Mr. CLANCY. What percentage of the reported incidents have been reported on radar screens?

Major QUINTANILLA. About 1.5 percent, sir.

Mr. CLANCY. That is all.

The CHAIRMAN. Mr. Schweiker, we are finishing up now.

Mr. SCHWEIKER. Yes, sir, Mr. Chairman.

First I would like to request the Beaver County photograph be included in the Air Force investigation, the one that appeared in Look magazine, and was verified by the Beaver County Times. I hope that will be included.

The CHAIRMAN. We will get an Air Force report on that, too.

Mr. SCHWEIKER. Do I understand that you said none of the unexplained objects have been sighted on radar?

Major QUINTANILLA. No, sir; I said 1.5 percent.

Mr. SCHWEIKER. No, the first question he asked you was, have any of the unexplained objects been sighted on radar. I thought you said "No" to that just a couple of minutes ago.

Major QUINTANILLA. That is correct. We have no radar cases which are unexplained.

Mr. SCHWEIKER. All right.

Let's go back to the story Mr. Bates was talking about, Exeter, N.H., the one Mr. Fuller has written about in several magazines.

I understand this is an unexplained sighting on your part, is that correct?

Major QUINTANILLA. That is correct, sir.

Mr. SCHWEIKER. He specifically says in his story—and I quote his words now—

Confidential comments made to me by the Coast Guardsmen and military in the area support the laymen's testimony and confirm the reports of radar sightings and scrambling by jet fighters from Pease Air Force Base.

Major QUINTANILLA. No, sir; that is not correct. We have no radar information on that sighting. No jet fighters were scrambled.

Mr. SCHWEIKER. Let me ask you this: In the Pease Air Force Base, you had an investigation by Major Griffin, and a Lieutenant Brant, is that correct?

Major QUINTANILLA. Sir?

Mr. SCHWEIKER. In the situation at Exeter, N.H., did you have a report filed to you folks by Major Griffin and Lieutenant Brant?

Major QUINTANILLA. Yes, sir; we did.

Mr. SCHWEIKER. Could we have copies of their raw report?

Major QUINTANILLA. Yes, sir; you may.

Mr. SCHWEIKER. What were their conclusions?

Major QUINTANILLA. They couldn't explain it.

Secretary BROWN. They sent them over to us.

Mr. SCHWEIKER. They made no mention of planes scrambling from Pease Air Force Base?

Major QUINTANILLA. There were aircraft in the area on regularly scheduled missions, but they were not scrambled for the purpose of observing the reported UFO's.

Secretary BROWN. Two of my staff have pointed out to me, Mr. Schweiker, that Pease AFB has no fighters; it is a SAC bomber base, and is not a fighter base.

The CHAIRMAN. Are there any other questions, Mr. Schweiker?

Mr. SCHWEIKER. Yes, sir.

I would like to ask the doctor:

You said to have some bona fide sightings we need a lot of people and a point-to-point situation and some other things. Doesn't the Exeter, N.H. sighting, at least as reported—I want to point out that in this sighting there were several policemen, including the chief of police and several news people who all reported the same phenomena, 60 people. Doesn't that meet your criteria: a lot of people saw it, it was a point-to-point situation, at least this observer says there were

radar sights. This apparently seems to be in disagreement at the present time.

Wouldn't that be a classification of what you said we don't have?

Dr. HYNK. No, sir. I said there were several cases where we had a lot of witnesses. It does not have to be a point-to-point situation. When an airliner leaves New York for San Francisco, it is seen over Ohio, Nebraska, and so forth. These sightings were confined to a relatively narrow area. I want to know what happened to these objects. Why weren't they seen over Fort Wayne, Ind.?

Mr. SCHWEIKER. The fact one officer reports he went to the scene after someone else sighted it, and returned back to the same point, there it was, according to the police officer's testimony.

Dr. HYNK. Yes, sir, but it was in the same area. We don't know what it was. I would like to know what it was.

Mr. SCHWEIKER. One of the other witnesses in this story—and all I have to go on is what the reporter's writing says, they did, in fact see it go from point to point, while they were watching it.

Dr. HYNK. Within a relatively narrow area. But I don't recollect whether they saw it leave for distant points. One of the things that seems to be so odd about this particular case is that we did not find horizontal trajectories over any length, as you would expect from a craft.

Mr. SCHWEIKER. Is the Beaver County sighting unexplained or is that explainable, this photograph I referred to?

Major QUINTANILLA. Is this Mr. Lucci's photo?

Mr. SCHWEIKER. Yes, sir.

Major QUINTANILLA. We have asked Mr. Lucci to submit the negative for photo analysis, but he has refused to do so.

Dr. HYNK. It needs a double exposure, as we can judge from the print.

Major QUINTANILLA. We asked the gentleman to submit the negative for analysis and he refuses to do so.

Mr. SCHWEIKER. On what basis?

Major QUINTANILLA. I don't know, sir. We requested the negative.

Mr. SCHWEIKER. He submitted it to the Beaver Times. They published it. Maybe these people are a little skeptical about turning over negatives without some assurance.

I think we ought to look into that a little bit, because the newspaper claims they saw the negatives, examined by their photographic experts, and they are authentic.

Major QUINTANILLA. I have a copy of our letter in my files asking Mr. Lucci to submit the negative for analysis, and he declined to do so. That is all I can say.

Mr. SCHWEIKER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Schweiker.

We will go to Mr. Leggett.

Mr. LEGGETT. Mr. Chairman, Mr. Wilson and I want to go on record at this time that we do not believe; we are intelligent people.

Mr. BATES. Which Wilson?

The CHAIRMAN. We are going to adjourn, and we are going to meet again at 2:30. If there is no reason to hold Dr. Hynk and Major Quintanilla, we will let them be excused. Some people say whenever you all have gone we are going to get down here in executive session

and you, Dr. Brown, are going to tell us—here is what I meant to tell you—and this is far from the truth.

I know of nothing else to ask him. I think we have explored everything.

Mr. Stratton, have you had any afterthoughts?

Mr. STRATTON. Just one question.

Was there not a sighting, back it seems to me in 1947, when an object was observed on radar, either at National Airport or Bolling, both coming in and going out? It seems to me there was also a visual sighting that went along with that.

Do you—Major Quintanilla, I don't know how long you have been following this, but is this in your records at all?

Major QUINTANILLA. I am sure that if the sighting was reported to the Air Force it is on record, but I am not aware of this particular one, sir.

Mr. STRATTON. It seems to me both the radar and the reported visual sighting were relatively in agreement. I just wondered if you were familiar with it?

The CHAIRMAN. Thank you, Mr. Stratton.

Are there any other questions from any other member of the committee?

Mr. ICHORD. We will be back here at 2:30?

The CHAIRMAN. The committee will reconvene at 2:30 for the purpose of taking up 412.

Dr. Brown, we have no more requirement for the major and Dr. Hynk, and the resumption of the hearing this afternoon will be in executive session.

It will have to do with 412. We will take up where we left off.

Dr. Brown, if you and General McConnell will be back at 2:30, we will meet. We don't plan to have a meeting Thursday, because I think a lot of members will have gone, if we finish on Wednesday. But we do want to meet this afternoon, and tomorrow, and maybe tomorrow afternoon.

Then I think we may be able to finish with Dr. Brown before the recess.

At 2:30, Dr. Brown. And I want to thank you, Dr. Brown, for producing this information.

(Whereupon, at 11:55 a.m. the committee was adjourned to reconvene at 2:30 p.m. of the same day.)

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UFOs - An International Scientific Problem

James E. McDonald, Institute of Atmospheric Physics,
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(Presented March 12, 1968, at the Canadian Aeronautics and
Space Institute Astronautics Symposium, Montreal, Canada)

Introduction

At the outset, let me try to summarize concisely the main points of my position:

- 1) From my studies of the UFO problem, I conclude that, quite apart from being the "nonsense problem" it is so often labelled, it appears to be a matter of extraordinarily great scientific interest.
- 2) Over twenty years of evidence (admittedly largely, though not solely, anecdotal in nature) suggests that machine-like objects, products of some technology rather than atmospheric optical or electrical anomalies, have been repeatedly seen - often by observers of very high credibility. I favor an extraterrestrial hypothesis for UFOs.
- 3) A search for patterns in these observations discloses one major feature - the seemingly global scale on which the observations are coming in. Hence we appear to be confronting here an international scientific problem.
- 4) There has never been a scientific investigation of the UFOs that can be termed thorough-going. Repeated assurances that U. S. Air Force Project Bluebook has been doing a careful study utilizing the best scientific talent available to the U. S. Air Force are found, on careful checking, to be without basis in fact. No other country of the world appears to have undertaken even as much investigation as the U. S. has done via Project Bluebook. Thus the UFO problem has not received anything that can be called scientifically adequate study.
- 5) I do not see convincing evidence of any U.S. cover-up conspiracy operating to conceal the true nature of the UFO problem; rather I see substantial and dismaying evidence pointing to failure to do more than superficial investigation, employing only very limited scientific talent, and exhibiting (especially since 1953) strong negative bias towards "explaining away" the UFO problem on the part of the U. S. Air Force. It is my strong impression that Air Force officials and public information officers sincerely believe that the UFO problem is a nonsense problem, one involving nothing more than misidentified natural phenomena.
- 6) The present Condon Committee at the University of Colorado, sponsored by the U. S. Air Force, is charged with trying to clarify the nature of the UFOs. I must state that I have become quite disappointed with the lack of scientific vigor with which that group has prosecuted its study, and I am disturbed by the frequency with which its Director has publicly indicated that he had already taken a position (negative in tone) long before the working staff had assembled adequate data to justify taking any position. I must also express my inability to understand the Director's evident preoccupation with the cultist and crackpot type of UFO accounts which, in my own experience, are quite easily filtered out and ignored. I have elaborated these criticisms in communications to Dr. Condon quite recently.
- 7) I would urge that scientific groups in countries other than the United States immediately undertake careful reviews of UFO reports from their

PHOTOCOPY FROM GERALD FORD LIBRARY

own areas and systematic appraisals of a spectrum of conceivable hypotheses to account for the UFO phenomena. It seems quite possible that a group outside the United States, entirely free of the obstacles one encounters within the U.S. as a result of twenty years' officially negative attitude towards the UFO problem, might rapidly make very real progress towards clarifying the scientific issues at stake, given adequate scientific personnel and support. The UFO study program now developing at the University of Toronto's Institute for Aerospace Studies, here in Canada, is a laudable step towards solution of the UFO problem. More such groups in other parts of the world are needed.

Matters of Definition

It would seem logically necessary to frame, early in any discussion of the "UFO problem" a working definition of what shall be understood by "an Unidentified Flying Object." The effort quickly entangles one in semantic difficulties of a more or less obvious nature. Clearly, untrained observers can report as a UFO a wide range of things seen in the sky or moving near the earth's surface or even resting on the surface in un-flying manner. Fireballs (meteors brighter than -5 magnitude by present astronomical definition) constitute a good example; many persons are quite unfamiliar with the phenomenology of fireballs and bolides, and will turn in sincere and often rather accurate descriptions of fireballs under the claimed heading of UFOs. Aircraft running lights, aircraft landing lights, aerial reconnaissance strobe lights, re-entering satellite debris, bright planets, and a wide miscellany of other sources of night-luminous objects are reported from time to time as "UFOs". The U.S. Air Force, and various persons who scoff at the notion that there exists a scientifically significant UFO problem, are entirely correct in suggesting that many UFO reports fall into this category. Only a little experience in querying observers makes clear that, of all reports that temporarily bear the label "UFO", a substantial fraction are, indeed, misidentified natural or technological phenomena of such types. There is plenty of noise mixed in with whatever real signal may exist; that this is so need not surprise any scientist. Noise-filtering is a standard problem in many areas of research.

The "UFO problem" which I have come to regard as so extremely important, centers around that portion of all reports of initially unidentified objects which is left as a residuum after the bulk of inadequately reported or obviously misidentified phenomena is filtered out. Only a little reflection on the foregoing remarks reveals that it is scarcely a clear-cut definition. Nevertheless, it may afford an initial basis to begin discussion.

A curiously similar definitional problem arises in dealing with the class of "ball lightning" reports. In the literature one can find reports of luminous masses, tagged as "ball lightning", that span so broad a range of phenomena that one must be quite careful that he is not subsuming many diverse phenomena under that single heading. The situation with respect to "ball lightning" turns out to be similar to that for "UFOs" in the further significant sense that the basic nature of each phenomenon is not yet clearly understood, so that clear-cut working definitions are simply not yet possible. Such a situation is really not new in science; think of the semantic ambiguity, in earlier days of science, centering around such terms as atom, compound, force, species, ether, disease, meteor, etc.

In point of fact, the above definitional problems cause rather less trouble in scientific discourse on the UFO problem than a philosopher might predict. So let's proceed.

Matters of UFO History

Although I would probably be incorrect to assume that all CASI members are thoroughly familiar with the history of the past twenty years of the UFO problem, I do not choose to elaborate that history here in great detail. Much

of my own view of that history has been summarized in a form now available elsewhere¹. It appears to me that, following an initial flurry of official USAF concern that American UFO observations of 1947 might be hostile aeronautical devices², an era of puzzled investigation (generally devoid of solid scientific talent) ensued in the period 1948-52, the era of USAF Project Sign and Project Grudge. I have studied many of the 243 cases finally analyzed by and reported by Project Grudge and can only say that, even in that earliest phase of official investigation, it is startling to see how little scientific insight was brought to bear on reports of a frequently very intriguing nature.

In 1952, a brief year's energetic investigation (still not characterized by strong scientific expertise, but definitely characterized by vigorous Air Force checking and data-gathering in many striking cases) was the high-water mark of the official American UFO studies. The year 1952 saw about 1500 reports turned into Project Bluebook, some 300 of which were conceded to be Unidentifieds. When I visited Bluebook in 1966 for the first time, I was quite astonished at the number of feet of files on 1952 cases - and much more astonished to scan the contents of randomly sampled file-folders within that year's shelfful. Case after case of, to me, entirely inexplicable cases, many coming from within Air Force channels (pilots, controllers, ground crewmen, etc.) told the story of the outstanding year in American UFO history.

The wave of 1952 reports drew strong press attention, above all after Washington, D. C., became the site of two successive nights (July 19 and 26) of radar-visual sightings of Unknowns. (These were explained away in a big press conference on July 29 as due to anomalous radar propagation and optical refraction anomalies. (See below.) By late 1952, intelligence organizations became concerned over the UFO problem, evidently because of overloading of reporting and investigative channels with the large numbers of reports being fed to the Air Force by all sources. In January of 1953, the Robertson Panel, assembled by the CIA, met and ruled that there was neither evidence of hostility nor evidence of scientific significance in all those reports (of which that Panel reviewed, in its few days of activity, only about two dozen, and even those not by any means the most startling or significant then in USAF files). All of this I have discussed in enough detail previously¹ that I must gloss over many further points of great historical interest.

I have studied the final report of the Robertson Panel (in briefly declassified status prior to the CIA's reclassifying it in the summer of 1966). From repeated reexamination of the details of the UFO history and from personal discussions with four of the persons present during the Robertson Panel's activities, I form the impression of a brief but futile attempt to look for something of interest, followed by CIA's request that the Air Force adopt a policy of "debunking flying saucers" to "decrease public interest". After 1953, no further vigorous Bluebook UFO investigation program ever reappeared. The UFO problem went steadily downhill, its priority status at WPAFB steadily declined, and in 1966, when I visited Bluebook three times, its staff consisted of a major, a sergeant, and a secretary, plus a lieutenant then being broken in for future investigative duty. The total amount of scientific talent visibly focussed on UFOs via the staff and its consulting pool appeared to me to be grossly out of proportion to the embarrassment being created for the Air Force by a continuing series of absurd and scientifically outrageous "explanations" of individual UFO reports.

For further insights and facts concerning the past twenty years' history of UFO matters see Hall³, Stanton⁴, Young⁵. For information on many cases in the Air Force files prior to about 1953, and for what appears to me (on the basis of many independent checks) to be generally rather reliable history of Air Force handling of the problem prior to 1953, see Ruppelt⁶. For the viewpoints of a UFO investigator operating through those years, but outside of

official channels, see the several books of Keyhoe⁷. When the full history of the UFO problem is written, Keyhoe's efforts, from 1949 to the present, to get the UFO problem out into the light of open scientific investigation, will, I believe, be acknowledged as having been of great significance, despite the slowness with which his efforts (and similar efforts of others) have borne fruit. His role as Director of NICAP (National Investigations Committee on Aerial Phenomena) has been seriously misunderstood by USAF personnel who, failing to recognize the utter inadequacies of their own UFO investigations, mistook his criticisms and his efforts to press for Congressional investigations as ill-conceived. I believe they were all too soundly conceived; but they pressed against massive resistance based on what seem to be generally honest misconceptions on the part of misinformed officials. Or so I see it at present.

I elaborate these viewpoints here because I have devoted a good deal of study in arriving at those viewpoints and because I believe that the misinformation generated within American information channels by the illusion that Project Bluebook was a scientific operation has diffused outside our national boundaries and has misled officials, scientists, and members of the public throughout the world. International scientific progress on the UFO problem will not begin until that misinformation is clearly recognized.

The alternative historical interpretation which holds that there has existed a conspiracy to conceal the truth about the UFO problem, a conspiracy sometimes painted-in on a canvas of international scale, does not square with such facts as I have been able to glean. I am, to be sure, puzzled by the sometimes startling similarity between "explanations" for UFOs emanating from foreign official channels (often foreign air forces) and "explanations" of the type so painfully familiar in USAF press releases following widely-publicized UFO cases. But I ascribe this similarity to factors other than a highly effective international conspiracy to which the USSR, the US, the UK, France, Australia, Canada, and many other countries would have to be party! Stanton⁴ has some pithy remarks on the conspiracy theory. Young⁵, by contrast, does feel there exists some American coverup at high levels; I would be prepared to defend my alternative of the "grand foulup" hypothesis against every instance he cites in defense of his "grand coverup" hypothesis. But I do not wish to have that assurance equated to categorical rejection of the "grand coverup" hypothesis. New facts or new interpretations of the many old facts I have pondered could still change my views on this issue. I would reiterate a point made earlier¹: I suspect that some of those who have so long insisted the conspiracy theory have not been in a position to recognize clearly how scientifically inadequate the Bluebook work has been since 1953; they may have confused incompetence with inscrutability.

Scientifically, what's sorely needed is a number of entirely fresh starts, free from all pressures of governmental bodies that have taken an established position. This may be better achieved in countries other than the United States because of twenty years of Air Force assurances that there's really nothing to all the talk about UFOs, nothing of any scientific or technological significance. That view is dominant in Washington, in higher scientific circles, and among most of the elder statesmen of science in the U. S. I can speak with a good deal of authority on that point! Months of effort on my own part to generate some new scientific UFO research on an adequate national scale, with adequate science-agency support, seem to have generated only very slight response. In Washington "everybody knows the UFOs are a lot of nonsense"; and if they do admit to marginal doubt, they then insist on the propriety of waiting for Condon's report from Colorado, due at the end of 1968 if plans go forward as now set. My own doubts about the propriety of "waiting for Colorado" have recently been expressed elsewhere⁸, so need not be reiterated here.

Some Illustrative UFO Reports

One of the conclusions one must draw from studying UFO reports from all parts of the world is that there is an essential similarity in the types of unexplained phenomena reported from all parts of the globe. Discs and cigar-shaped objects dominate; nighttime observations are most common; and highly unconventional performance characteristics are described by observers in widely varying geographical areas, and by observers of quite diverse cultural backgrounds (primitive groups as well as more advanced groups). To bring out certain of these points, a small number of specific cases will be briefly summarized next.

Case 1. BOAC Stratocruiser, Seven Islands, Quebec, June 29, 1954

A famous case in UFO annals that has an appropriately international flavor occurred near sunset on June 29, 1954, over eastern Canada, when crew and passengers of a British Overseas Airways Corp. Stratocruiser, outbound from New York to London, observed, for a total period of 18 minutes (about 90 miles of flight path) one large object and five or six smaller objects somewhat north of Seven Islands. The UFOs were sighted just aft of the port wing, at a very roughly estimated distance of 5-6 miles, maneuvering in unconventional manner. Capt. James Howard, the pilot, stated, after landing in London⁹, "...they were obviously not aircraft as we know them. All appeared black and I will swear they were solid...There was a big central object that appeared to keep changing shape...The six smaller objects dodged about either in front or behind." When interviewed by USAF intelligence personnel at Goose Bay, Labrador, it was established that all of the crew had participated in the sighting, as did a number of passengers, a total of over 20 witnesses. A fighter plane scrambled from Goose Bay at Howard's request. Just before it reached their area, the UFOs rapidly moved out of sight towards the northwest.

The group of UFOs maintained relatively constant position, relative to the airliner, until their departure, and lay approximately five degrees to left of the just-setting sun. No meteorological-optical phenomenon (assuredly not a sundog) could reasonably account for the reported phenomena. The Stratocruiser was cruising at about 240 knots at 19,000 ft on the southwest edge of a high-pressure center over Labrador, scarcely meteorological conditions favorable to ball lightning or any other electrical disturbances; and visibility was described by Capt. Howard as "perfect." To suggest that a natural plasmoid of any sort could keep pace with an aircraft at 240 kts for 18 minutes and 90 miles seems entirely unreasonable on a number of grounds. The speed and motions categorically rule out meteors. The peculiar maneuvering of the smaller objects and the curious shape-changes of the larger object suggest no conventional explanation. It was First Officer Lee Boyd's impression that the smaller ones merged into the larger prior to departure, again defying obvious explanation.

At that time, Howard had 7500 flying hours; he is still flying with BOAC. In a recent interview, he corroborated details of the 1954 press accounts and even added interesting additional points. The distance of the objects precluded seeing any structural details, if any had been present; it is the performance characteristics and the pronounced shape-changes that mark this well-authenticated sighting as a puzzling UFO case for which no adequate explanation has ever been proposed, to my knowledge.

Case 2. Cressy, Tasmania, October 4, 1960

A half-dozen years after Case 1, and halfway around the globe from Quebec, a well-documented sighting bearing a certain resemblance to it (a number of

small objects around a larger one), was made by two reliable witnesses. Rev. Lionel B. Browning, an Anglican clergyman, was admiring a rainbow as he and his wife looked out a window of the Cressy, Tasmania, rectory. It was 6:10 p.m., the sun was just setting in the west. A curtain of rain concealed Ben Lomond ridge off to their east and extended through the southeast and to their south. Mrs. Browning suddenly called Rev. Browning's attention to what they both first interpreted as a large aircraft emerging from a rain-curtain nearly due east. Although the Brownings never felt entirely sure of the range of this object, they estimated it at perhaps 3 miles, since the object seemed to be over an estate known to be at that distance. Their first guess that it was an aircraft was next modified to an aircraft stalling, since the speed of the object, crudely scaled from the subjective size-and-distance estimates, seemed to be not much over 50-60 mph.

I had an opportunity to interview Rev. Browning last summer and verified contemporary press accounts¹⁰. He and Mrs. Browning quickly noted that the cigar-shaped object seemed to lack wings, had several vertical bands or ridges on its gray-colored surface, and some odd protuberance on its "forward" end. They watched it glide northward for about a minute before it suddenly stopped in mid-air and hovered over the ground at an altitude they very roughly guessed at 400-500 feet. Then, from out of the rainclouds farther east, there came about a half-dozen much smaller objects, of perceptibly discoid form, the Brownings stated. These smaller discs moved much faster than the larger cigar-shaped object, at speeds that Rev. Browning stated to me might have approached jet-aircraft speed. He stressed that these smaller objects "skipped like stones on water", a phraseology that I learned from associates of Rev. Browning did not originate from any previous study of UFO reports, since, prior to that October, 1960 sighting, Rev. Browning not only ignored UFO reports but took a very negative view of the authenticity of most such reports.

The Brownings next saw the discs seem to take up a "formation" around the cigar-shaped object, which had been hovering motionless during the approach and formation of the smaller objects (whose diameter the Brownings guessed at perhaps some tens of feet, in contrast to the perhaps tenfold larger length of the cigar-shaped object). Then, the entire assemblage started moving towards the south, back into the rainshower out of which the large object had first been seen emerging, whence the group was lost from sight, terminating the observation after a total elapsed time estimated by the witnesses as about two minutes, perhaps as long as three minutes.

These objects were illuminated by the setting sun, and Rev. Browning emphasized to me that there was a distinct difference in tone between the dull gray of the larger object and the shiny, metallic luster of the smaller disc-like objects.

The Brownings, after a brief discussion of this event (which by then they construed as "some Russian devices"), called the nearby airdrome to report it, which ultimately brought it to the attention of the RAAF. I have recently had a letter from the RAAF officer who did the interrogation of the Brownings. Wg. Cmdr. G. L. Waller states in his communication that the Brownings "impressed me as being mature, stable, and mentally alert individuals who had no cause or desire to see objects in the sky other than objects of definite form and substance." That impression is attested to by many others who know the Brownings personally, as I established by direct queries in Hobart and Melbourne last year.

My questions as to the ultimate public explanation which the RAAF put on the sighting elicited somewhat bitter comment from Rev. Browning, comment that I later found elaborated in press clippings made available to me by the

officers of a very creditable private UFO group in Melbourne (Victorian Flying Saucer Research Society). The Directorate of Air Force Intelligence, RAAF, made official explanation early in 1961: "The phenomena was the result of the moonrise associated with meteorological conditions at the time of the sighting. On 4th October, 1960, moonrise (full quarter) at Cressy would have been visible shortly after 1800 hours and in an ESE direction. The objects apparently seen were near the sky-line in an easterly direction. The presence of "scud" type clouds, moving in varying directions due to turbulence in and around the rain squall near which the objects were sighted, and the position of the moon or its reflections, produced the impression of flying objects."

Such an "explanation" has a curiously familiar ring to anyone who has studied large numbers of USAF "explanations" of UFO sightings. One can quickly establish that the moon was full on the date of the Cressy sighting and that it would have risen not in the ESE but a few degrees north of east. And, still worse for the official explanation, there was not only a dense rain storm obscuring all the eastern sky as seen from the Cressy rectory, but the highest mountain range of Tasmania lay behind those dense clouds to further obscure the just-rising full moon. (Ben Lomond, summit 6160 ft, lies to ENE of Cressy, and the ridges extend off to south and north from that summit point.) From my own viewpoint, as one interested in atmospheric optics and in unusual refractive and reflective anomalies, the official suggestion that "scud" subject to turbulent motions could (had the moon not been wholly obscured by rain and mountain) be optically distorted into anything remotely resembling the phenomena reported by the Brownings seems entirely out of question. (Because USAF explanations have many times asserted, as has also Dr. D. H. Menzel in his writings on UFOs¹¹, that the sun and the moon can be "reflected" off sides or tops of clouds, it may be well to state that nothing in decades of meteorological optical observations supports such a notion, save for the phenomenon of the "undersun", which involves specular reflection off tabular ice crystals falling in completely non-turbulent air, and visible only from an aircraft or elevated vantage point. Sun and moon do not yield anything like distinct images by reflection off the walls of clouds; all UFO explanations invoking such optical absurdities are unreasonable. It might be added that Menzel has repeatedly erred in referring to sundogs, i.e., parhelia, as resulting from "reflection", since that familiar optical effect is caused by ice-crystal refraction.) In asserting such a meteorological explanation as was issued by the RAAF intelligence office, little evidence of scientific knowledge was exhibited, unless that office felt that the essential features of the Brownings' account had to be simply disregarded as unreliable. Yet the interrogating RAAF officer, Wg. Cdr. Waller, evidently had no such inclination to disregard these witnesses' description of their observations, nor do I.

Case 3. Fukuoka, Japan, October 15, 1948

From Air Force Project Bluebook files comes the material summarized here for this officially UNIDENTIFIED case involving airborne-radar and air-visual observation of an unconventional "bullet-shaped" object. At 11:05 p.m. LST, a USAF F-61 Black Widow fighter, with crew of pilot and radar observer, flying near Fukuoka, obtained a radar pickup on an unknown target at an altitude of around 6000 ft, and an initial range of about 10 miles. The total encounter, occupying a period of about ten minutes, is too complex to describe in full detail here. The Bluebook file on it, about a quarter-inch thick, contains a number of different intelligence reports that are not mutually compatible on certain quantitative details (closure distances, etc.). Briefly, a total of six radar passes were made, and each time the F-61 closed to about 4000 yards, whereupon the unknown accelerated suddenly from about 200 mph to an estimated 1200 mph. The original report from Far East Air Forces intelligence sources

states that the unknown "had a high rate of acceleration and could go almost straight up or down out of radar elevation limits...There was sufficient moonlight to permit a silhouette to be discerned although no details were observed." The F-61 crew thought it possible that the six passes might have been made on two separate unknowns, but this was inferential.

Another portion of the official file includes a FEAF followup report, describing some other points: "When the F-61 approached within 12,000 ft the target executed a 180° turn and dived under the F-61. The F-61 attempted to dive with the target but was unable to keep pace...It is believed that the object was not lost from the scope due to normal skip null-zones common to all radar equipment. The pilot and observer feel that it was the high rate of speed of the object which enabled it to disappear so rapidly." And still another document in the Bluebook file on this UNIDENTIFIED describes the visual sighting made at one juncture: "At time of only visual sighting target was on a level with observing aircraft. Under night visibility all that was visible was a silhouette. Type of tail stabilizers is unknown. General classification - very short body giving a stubby appearance. Canopy, if present, was formed into aircraft body to give the object clean cut lines and was not discernible." The estimated size was 20-30 feet, and an accompanying sketch shows it as having a sharply cut-off tail ("bullet-shaped"). No exhaust was seen. The moon was nearly full on that night, and the airmen saw the outline against a moonlit cloud, they stated in their report. USAF ground-radar stations at Shigamo-Shima and Fukae-Shima had the F-61 on their scopes intermittently as it moved in and out of ground clutter, but at no times obtained a radar-return from the unknown.

Ruppelt⁶ states that the Fukuoka sighting was one of the first UFO cases where an UNIDENTIFIED was seen on a radarscope; but many have since attained that distinction. Indeed, when one reads the full text of the 1953 Robertson Panel, one of the arresting points is the evident concern with the large number of "radar fast-tracks" already on record by that date. Despite the existence in USAF records of a number of UNIDENTIFIEDS seen on radar (often with both airborne and ground radar and sometimes also with ground- and air-visual sightings in accord), members of a Congressional Armed Services Committee investigation, inquiring into the UFO problem after the 1966 Michigan "swamp gas" episode, were told on April 5, 1966, by the USAF Bluebook officer, "We have no radar cases which are unexplained", when Congressman Schweiker raised that pertinent question. Dr. J. A. Hynek, Air Force scientific consultant for then 18 years, present in the hearing-room, did not correct this misinformation given to concerned Congressional inquirers.

Case 4. Gulf of Mexico, December 6, 1952

Just to cite briefly another example of a radar-visual sighting in the official UNIDENTIFIED category, one might mention the December 6, 1952 airborne sighting by the crew of an Air Force B-29 flying over the Gulf of Mexico at 18000 ft in bright moonlight. (See 7 for further details.) A total of over a half-dozen separate unknowns, seen on the B-29 radarscopes and by crewmen watching out side-blinders, passed at high speed (some speeds roughly estimated at 5000 mph from blip displacements). Some of them were seen below the flight altitude, and others maneuvered in most unconventional patterns (sudden course-reversals). No meteor explanation would fit the visual sightings, and ground-return effects are essentially out of the question by virtue of the high altitude and by the features of the atmospheric lapse rate at the time and area of the unusual sighting. It remains an UNIDENTIFIED in USAF files.

Case 5. Washington National Airport, July 19 and 26, 1952

Many more Bluebook file reports that are in the "explained" category also involve radar-tracking of intriguing nature, but have been tagged with a variety of other identifications. One of the most famous is the 1952 episode near Washington National Airport (July 19 and 26, 1952). I shall not give an account of it here (see for example Hall or Ruppelt or Ref. 1), but only remark that my own analysis of the radiosonde data for those two nights leads me to diametrically opposite conclusions from those that have remained the official views for fifteen years. There were only very weak inversions and moisture gradients present on those nights, incapable of causing the striking radar and visual effects reliably reported. I have recently interviewed five of the CAA controllers and four pilots involved in that sighting and can only say that it is a case of extremely great interest - fully deserving the national-headline treatment it got in 1952.

Further measure of the limited knowledge of the actual history of UFO investigations held by the USAF personnel charged with UFO responsibilities can be found in the same April 5, 1966 testimony previously cited. (See H.D. 55, Hearing by Committee on Armed Services, HR, 89th Congress, 2d Session, 4/5/66, p. 6075). Congressman Stratton asked Bluebook Officer Quintanilla: "Was there not a sighting, back it seems to me in 1947, when an object was observed on radar, either at National Airport or Bolling, both coming in and going out? It seems to me there was also a visual sighting that went along with that...Is this in your records at all?" Now, almost anyone who had attempted a serious study of UFO history would immediately recognize that Mr. Stratton, albeit confused about his recollected details, was asking of the famous Washington National sightings of July, 1952. Yet the incumbent Bluebook officer replied, "I am sure that if the sighting was reported to the Air Force it is on record, but I am not aware of this particular one, sir." Dr. Hynek did not offer correction, if he was aware that correction was needed.

Some months later, after I had been at Project Bluebook, studied their file on this important case, recomputed the refractive-index gradients to assess the Air Force claims that anomalous propagation effects caused the radar returns (numerous objects moving with variable speeds, high accelerations) and weighed official claims that optical refraction anomalies caused the visual reports (mainly from pilots flying well above the weak ground-inversion and sighting some of the objects maneuvering even above their flight altitudes), I asked Air Force consultant Hynek how he could have permitted those incorrect radar "explanations" to be passed on to press, public, and Congress for all these years. His reply was in the form of a question: "How could I set myself up against all those radar experts from Washington?" This led me to comment that it should have taken him only about one or two weeks of study of standard radar-propagation references to become fully conversant with all relevant radar details, and that homework ought to have been done by him twenty years ago, in view of his UFO consulting obligations. It is, I fear, such casual failure to really close with the puzzling nature of the UFO problem that has left it in limbo for twenty years. And all of that time, Pentagon press statements gave repeated assurances that real expertise was at work proving the correctness of the Air Force position as to misidentified natural phenomena. It is a very distressing and a very unbelievable story, which is only faintly hinted by the brief remarks that can be made here. But from the point of view of deserved international scientific attention to the UFO problem, candid criticisms of the USAF handling of this problem seems necessary to make clear that there has never been any in-depth UFO study within the U. S. Hence, I now wish to put myself on record once again as characterizing most of the past 15 years of Bluebook work as

scientifically incompetent and superficial. Yet it has done the trick: it has kept all of us unconcerned about the UFO problem.

Conspiracy? No, not as I see it. Foulup.

Case 6. Near Barcelona, Spain, September 10, 1967

Over the past twenty years, airline pilots and flight crews have been a continuing source of scientifically puzzling UFO reports. One of the earliest, still carried by Bluebook as one of its UNIDENTIFIEDS, is a July 4, 1947 UAL sighting near Boise². When some months ago I interviewed Capt. E. J. Smith, pilot of the DC-3 from which the sighting was made at sunset, shortly after takeoff, his opinion that the two formations of disc-like objects that he, his co-pilot, and a stewardess had seen 20 years earlier were no conventional aircraft seemed as strong as it had been when he was interviewed by reporters in 1947. From Capt. Smith's sighting down to the present, the class of airline-pilot reports has remained a most important class because of obvious observer-credibility factors. Let me recapitulate a much more recent one.

Just before sunset on September 10, 1967, four crew members of an Air Ferry Ltd. DC-6, bound for England from Majorca, sighted an unconventional airborne object about 60 miles NW of Barcelona, at 16,000 ft. A brief report appeared in the Sept. 11 edition of the London Daily Express, independent British investigators assembled further information, and one of the crew, F/L Brian Dunlop, submitted a summary account to VFON headquarters (Volunteer Flight Officers Network, a clearing-house in Denver for meteor, vehicle-reentry, and other aerial-sighting reports).

When first sighted, according to Dunlop, the unknown was about 30° to the left of their northbound flight path, heading towards the west at an altitude slightly above theirs. Its initial estimated distance was put at a number of tens of miles as it crossed to their right, turned towards them, and then approached after an apparent deceleration and a descending motion. The shape of the metallic-appearing object resembled an inverted ice cream cone, with a rounded base and pointed top. Dunlop stated, "There was a definite solid object the like of which none of the four crew that saw it had ever seen before, and we had been quick enough we could have got a good photo of it." Capt. F. E. C. Underhill stated in another interview that the UFO "must have been under control...it definitely altered course substantially." The course alteration brought it on a head-on approach, but it passed under the DC-6's starboard wing and disappeared to their south. The crew did not alert any of the 96 passengers aboard in the total viewing time of about 2-3 minutes, not wishing to alarm them. Estimated speed of the object was 600-700 knots, whereas the ambient wind at flight level was only 10 knots from the north. A check with Barcelona flight controllers indicated there were no known aircraft in the area, but reports do not indicate if radar coverage was available.

The shape, the veering path, the passage under the aircraft's flight level all rule out meteoric phenomena. That it was not a balloon was indicated not only by the shape, but its reported motions do not match balloon behavior in any obvious way. It would seem to be one more airline-reported unidentified flying object.

Case 7. Peruvian coast, December 30, 1966

South America has been a source of extremely large numbers of UFO reports. I have never been in a good position to evaluate the credibility and credentials of witnesses in these reports and hence pass no present judgment on most of them, but stress that they warrant searching study. One rather interesting

case that has been cross-checked sufficiently to appear well authenticated involves observations by the 6-man flight-crew of a Canadian-Pacific Airlines DC-8, who sighted an unconventionally behaving airborne object over the Peruvian coast as they headed northwest at 35,000 ft altitude on the indicated date early in the morning (0300 LST). A report to VFON, and other reports in the press and elsewhere, give salient features of the event.

Capt. Robert Millbank's report stated that the unknown was first spotted 70° to the left of their flight path, at an estimated elevation angle of about 10°. There was a clear sky, with stars visible. At first detection, the unknown seemed to consist of a pair of lights of high luminosity, hovering for perhaps a minute, and pulsating. It next moved down towards the plane, and assumed a position off their left wing, seeming to pace the DC-8 for another minute or two.

All six crewmen took turns looking at the unknown through various windows to be positive that window-reflection effects were not involved. As the unknown paced the aircraft, it appeared to be a pair of bright lights, separated by 3-4°, and with some vaguely perceptible structure joining the lights, according to some of the crew's accounts. Others felt that no interconnecting structure was discernible, in the estimated 1-2 minutes that the object lay off the port wing (at a distance that could not be reliably estimated, but was felt to be of the order of perhaps a mile). A V-shaped pair of thin light beams emanated from the object, pointing upwards initially, but downwards later, according to Millbank's account. All passengers were asleep, and no photographs were made.

Millbank stated that "in 26 years of flying I have never seen anything like this before." Second Officer J. D. Dahl said, "...in my opinion, the only answer to this sighting is a craft with speed and controllability unknown to us." Other sighting details will be omitted here. After a few minutes of pacing to the DC-8's port side, the object was seen to accelerate, pull away, and climb rapidly out over the Pacific to the west, where it was lost in the distance.

Here, as in such a disturbingly large number of commercial airline UFO reports that have been ignored or explained away during the past two decades, one is hard put to give any conventional explanation. Clearly, unless one throws out most of the sighting details provided by the six crewmen, it will be quite unreasonable to call this unknown an aircraft, a balloon, a meteor, a plasmoid, an hallucination, or any of the other frequently-invoked mis-identifieds.

Case 8. Corning, California, July 4, 1967

At about 5:15 a.m., PDT, on the morning of July 4, 1967, at least five witnesses (and reportedly others not yet locatable) saw an object of unconventional nature moving over Highway 5 on the edge of Corning, California. Hearing of the event from NICAP, I began searching for the witnesses and eventually telephone-interviewed four. Press accounts from the Corning Daily Observer and Oakland Tribune afforded further corroboration.

Jay Munger, operator of an all-night bowling alley, was drinking coffee with two police officers, James Overton of the Corning force and Frank Rakes of the Orland force, when Munger suddenly spotted the object out the front windows of his bowling alley. In a moment all three were outside observing what they each described as a dark gray oval or disc-shaped object with a bright light shining upwards on its top and a dimmer light shining downward from the underside. A dark gray or black band encircled the mid-section of the object. When first sighted, it lay almost due west, at a distance that

they estimated at a quarter of a mile (later substantiated by independent witnesses viewing it at right angles to the line of sight of the trio at the bowling alley). It was barely moving, and seemed to be only a few hundred feet above terrain. The dawn light illuminated the object, but not so brightly as to obscure the two lights on top and bottom, they stated.

Munger, thinking to get an independent observation from a different part of Corning, returned almost immediately to telephone his wife; but she never saw it for reasons of tree-obscuration. At my request, Munger re-enacted the telephoning process to form a rough estimate of elapsed time. He obtained a time of 1-1.5 minutes. This time is of interest because, when he completed the call and rejoined Overton and Rakes, the object had still moved only a short distance south on Highway 5 (about a quarter of a mile perhaps), but then quickly accelerated and passed off to the south, going out of their sight in only about 10 seconds, far to their south.

Many skeptics reasonably enough ask why there are not many good photographs of UFOs. This is a difficult question to answer; certainly it is true that when hoax photos or dubious photos are excluded, one seems to have left a dismayingly small number of good UFO photos after 20 years of UFO sightings. A factor that may often be involved is that even those witnesses who do have loaded cameras nearby may not recover from their surprise before the object is gone. Officer Overton stated to me in my telephone interview that he had binoculars and a loaded camera in his patrol car, only a few tens of feet from the parking-lot spot where he stood gazing at the object, yet he was so stunned by the unprecedented nature of what he was seeing that it never occurred to him to run for his camera. Munger's phoning-time check suggests that this failure to think of his camera lasted over an interval of about a minute and a half.

Paul Heideman, of Fremont, California, was driving south on Highway 5 at the time of the above sighting, along with a friend, Robert King. I located Heideman and obtained from him an account of his observation made from a point on the highway north of Corning. He saw the light from the object, and had it in sight for an estimated three minutes, as it headed south, and then veered east (a turn not seen from the more restricted viewing point of the bowling-alley parking lot). Heideman said that, when first seen, it lay almost straight down Highway 5, serving to check the estimate of the other observers that the object lay only a few city blocks to their west.

The weather was clear, no haze, no wind, according to the witnesses. Munger's concise comment was, "I've never seen anything like it before." He estimated its "diameter" at perhaps 50-100 ft, and its vertical thickness as perhaps 15-20 ft, with some kind of edge (band) perhaps 5-10 ft thick. No sound was ever heard. Overton stated to me that he had no idea what it was, but that "there was no doubt it was a craft of some sort."

Here one has a daylight sighting by at least five witnesses from two viewing points, lasting for many tens of seconds. The object exhibits opacity plus light-sources. Its motion varies from near-hovering to high speed. It is seen over an azimuthal range of almost 90° by the three observers who got the closest look, yet no wings or empennage is seen. What is it? Lack of sound at as close a range as a quarter-mile and in the quiet of the early morning in a small town rules out a helicopter; lack of wings rules out a conventional aircraft. Balloons, meteors, meteorological-optical effects, and the rest of the constellation of frequently-invoked explanations do not appear to fit such a sighting. It appears necessary to describe the object as an unconventional machine-like object - or reject the witness' testimony. The scientifically embarrassing point here is that many other such hard-to-explain observations of machine-like objects are now on record - and being ignored.

Case 9. Kansas City, Kansas, August 12, 1961

Another such case, involving very much closer-range observation of a craft-like object, is to be found in Bluebook files as an UNIDENTIFIED. (USAF has repeatedly asserted, for 15 years, that in their unidentified cases lies nothing that defies explanation "in terms of present-day science and technology." Not so, I am obliged to say. I am making a special study of Air Force UNIDENTIFIEDS, and would stress that there is a very large body of phenomenology in those UNIDENTIFIEDS that most certainly defies explanation in terms of today's science or today's technology! Indeed, this is the principal conclusion of the studies of all serious students of the UFO problem.)

At about 9:00 p.m. on August 12, 1961, two college-age boys living in Kansas City, Kansas, became involved in a close-range sighting of considerable interest¹². I have recently interviewed both of these witnesses, T. A. Phipps and J. B. Furkenhoff. They were driving towards Furkenhoff's home in Phipps' open-top convertible near Old Mission High School on 50th Street. Furkenhoff sighted the object first and had been watching it for some time before he called it to Phipps' attention. It seemed to be hovering, by that time, at perhaps 50-100 ft altitude over a point only a few city blocks away. It appeared to have lights all around its lower edge, and made no sound then or later.

They drove almost directly under it and looked up at its base, where it hovered over houses whose residents were evidently unaware of the presence of the object, since no other persons were seen out of doors by the two boys. No wings, tail or propellers were visible, and no exhaust or noise was perceptible. The lights around its underside were yellowish and had a neon-glow character, according to Phipps. It was the complete lack of sound that eventually made them uneasy after a total viewing-time that they estimated at several minutes. They did not get out of the convertible, from which they had a quite adequate view. Phipps could not recall whether he stopped his engine.

The size was estimated at that of "a football field" when they were interrogated by USAF personnel in 1961 (Bluebook file account), but when I interviewed them in early 1968, they put it at more like 100 ft across. It was opaque, solid, and obscured the sky above, which was cloudless according to the Bluebook data. The Bluebook file report indicated that its shape was compared to that of a "sled with running boards", yet neither witness, when I questioned them, had the slightest idea how such a description was filed by the interrogating personnel. Their recollections differed as to shape: Phipps recalled it as disc-shaped, while Furkenhoff recalled it as a rounded cylinder.

After about 3-4 minutes of observing the silently hovering object, their uneasiness was broken by the sudden departure of the object. It accelerated from a stationary position and climbed away out of sight in a time of only a few seconds, each witness agreed. The precise climb-out path was recalled somewhat differently by the two witnesses. The 1961 Air Force interview recorded the climb-out as beginning with a directly vertical ascent followed by an inclined departure path to the east.

They each told their parents, and Phipps' mother asked a friend who was on active Air Force duty, a Maj. John Yancer, to phone the Richards-Gebaur AFB near Kansas City. He was told that an unidentified had been seen on radar, and so he urged that the boys be interviewed by USAF personnel. Telephone interviews were accomplished the next day, but no further USAF interrogation in the ensuing half-dozen years was ever carried out. This, despite the fact that it was put in the UNIDENTIFIED category at Bluebook. Such lack of

followup of even the most intriguing UNIDENTIFIED cases is almost the rule, not the exception; this systematic failure to pursue UFO reports is only one of many disturbing facets of the USAF investigations since 1953.

The August 1961 sighting is not readily explained. Economy of expression suggests calling the object an unconventional machine-like object exhibiting performance characteristics well beyond the state of the art. I must say it also seems to defy explanation in terms of present-day science and technology, to use the Air Force's threadbare phraseology.

Case 10. Moe, Australia, February 15, 1963

To maintain a certain international tone, in keeping with the title of my remarks, I close with another interesting sighting made in a distant area. With the aid of the Melbourne VFSRS group, I was able to interview Australian farmer Charles Brew and his son Trevor last summer. They operate a small dairy farm east of Melbourne, near Moe, Vic. My interview was carried out in the milking shed where Brew and his son were working at about 7:00 a.m. on Feb. 15, 1963, when an unusual object swooped down nearby.

It was already light on this summer morning, although rainclouds lay overhead. Trevor was working in a part of the milking shed where his view of the eastern sky was obscured and he did not see the object during its short-duration passage nearby. Charles Brew, however, was standing in an opening, with a full view to the eastern sky when the object descended towards his shed and cattle-pens at an angle that he put at about 45°. The object might be loosely described as a domed disc, estimated by Brew at 25 ft in diameter, gray in color except for a transparent dome on top. Around the circumference of the object he saw an array of scoop-like or bucket-like vanes or protuberances.

As the object swooped down, almost as if to land on the hillside nearby, the cattle and horses reacted in violent panic which Brew described (in his own terms) as unprecedented. It descended to an altitude that he judged to be 75-100 feet, as estimated by the height of a tree near its point of minimal altitude. Then, after seeming to hover near the tree for a few seconds, it began a climb at roughly 45°, continuing on its westward course and passing up into the cloud deck again.

The dome was not rotating, but the central section and bottom portion appeared to be rotating at about once per second, Brew judged. The spinning motion caused the protuberances (Brew thought) to generate the swishing noise, somewhat like a turbine noise, that was clearly audible not only to Brew but also to Trevor, located inside the shed and not far from a Diesel unit powering the milking machines. The sound was even audible over the latter local noise-sources, Trevor stated.

It took some time to recover the animals that had bolted, and those already inside the fenced area were strongly disturbed for some time. Brew stated to me that it was many days before any of his cattle would walk over the part of the hillside pasture over which the object had momentarily hovered. Brew himself reported an uncommon headache persisting for a number of hours after the incident, but whether this was fortuitous cannot be concluded.

Brew has been interviewed many times by Australian UFO investigators without any reasons being found to discount his unusual sighting. My reaction to Brew was similar. It is unfortunate that the son was not in position to confirm the sighting, but he confirms the unusual sound ("like a diggerydoo", as Brew put it). The object is similar in its general features and size to that seen by a witness I interviewed in New Zealand, Mrs. Eileen Moreland. Her July 13, 1959 observation, like Brew's, and like that of many other UFO

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witnesses, is extremely difficult to explain in present-day scientific or technological terms.

* * *

The foregoing constitute ten UFO cases from fairly widely ranging geographical areas, and spanning almost two decades of time. They are intended to be illustrative but not "representative", since one of the baffling features of UFO reports (easily scoffed out of court by the skeptic) is the remarkable variety of shapes, sizes, and maneuvers reported. No mere sample of ten cases can give any feeling for that puzzling range of UFO phenomenology. Nor can a mere ten cases out of the thousands that now are on record in official or unofficial files convince a properly skeptical scientist that we are dealing here with extraterrestrial surveillance (the hypothesis that my studies suggest as most likely). One must carefully examine not tens but hundreds of such reports before the weight of evidence is seen in some perspective. The difficulty has been that very few scientists have carried out such examination to date, and hence the low a priori probability of extraterrestrial surveillance leads most scientists to discount such a possibility.

Hence, the above ten illustrative cases are only intended to convey a general impression of the puzzlement that inheres in so many UFO reports, to suggest that possibly we do have here a problem of considerable scientific interest. In my own opinion, the UFO problem may be the greatest scientific problem of our times; but I do not expect ten cases to convince doubters. I was most certainly not convinced by the first ten good cases I had checked. But I was quite intrigued, and hence kept checking. Many more scientists must do the same and add the weight of their opinion pro and con the extraterrestrial hypothesis.

Alternatives to the Extraterrestrial Hypothesis

The UFO problem is one for which prudence dictates a studied application of Chamberlain's "method of multiple hypotheses". Since I have in previous discussions^{1,8} cataloged the eight alternative hypotheses under which I like to scrutinize UFO data, I shall not recapitulate them here. When I say to you that my present position, based on months of study of UFO cases and UFO investigations, is one of favoring the hypothesis that UFOs are some form of extraterrestrial surveillance devices, I am saying that I feel that all of the obviously competing alternative hypotheses seem inadequate; by a process of elimination I come to the extraterrestrial hypothesis, as have others.

Although argument by elimination is logically sound, it is not the type of argumentation that scientists like to see used in a difficult problem. They much prefer positive arguments. The reason for this preference is simple enough: Success of argument by elimination demands that you have in your initial set of considered hypotheses all possible hypotheses, and one may not be so clever or so unbiased as to start from that point. With respect to UFOs, to put it in simple terms, one would prefer "solid evidence" - in the form of a tail fin, a jettisoned "motor", a crashed UFO, a lot of good photos, etc. Such positive evidence does not seem to exist, despite stories to the contrary. That there seem to be no crashed UFOs can be whimsically explained away by asserting that "they" seem to have attained Zero Defects. Droll, but scarcely overwhelming argumentation (even if it might prove essentially correct).

Hoaxes, illusions, hallucinations, frauds and fabrications must continually be considered, with frauds and fabrications by far the most troublesome from the viewpoint of report-evaluation. Suggestions that UFOs are advanced vehicles of a secret terrestrial technology seem absurd when one scrutinizes UFO reports and then examines the nature and state of advancement

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of global technologies. I omit further comment here because I feel sure that CASI members need no long arguments on that hypothesis.

The leading alternative to the extraterrestrial hypothesis seems to be that of "misidentified natural phenomena", viewed in terms broad enough to include misidentified conventional aircraft, satellites, balloons, etc. The Bluebook position has for years been that UFOs are almost entirely such "misidentifieds", and Bluebook has repeatedly asserted that their small percentage of UNIDENTIFIEDS would fall into that category if more adequate data were at hand. I do not agree, after studying hundreds of their cases. Rather, I say that adequate and open-minded scientific scrutiny of the roughly 12,000 UFO cases now on file at Air Force Bluebook Project would probably raise the percentage of UNIDENTIFIEDS from the acknowledged few per cent (figure varies from year to year) to perhaps 30-40 per cent. An extremely important point to recognize is that intelligence personnel at the airbase levels from which the bulk of Bluebook's reports originate simply do not bother to go through the quintuplicate-filing process on any UFO report that they feel involves somebody seeing Venus, or seeing a strobe-light, or an aerial reconnaissance plane, etc. They operate with a degree of airbase-level flexibility on UFO reporting that serves effectively to filter out the obvious misidentifieds (as well as a lot more, I fear). Few persons sense this important point. The system is so loosely organized and depends so much on the interest and zeal of the individual base intelligence personnel that some obvious misidentifieds do get up to Bluebook, but by no means the large numbers that one might guess. The net result is that the Bluebook files are fascinating - not boring as I suspect many USAF officials with little scientific training think to be the case.

In addition to being fascinating, I found the Bluebook files to be extremely irritating, because after looking at the reported observational material one next looks at the official "explanation", and from a scientific viewpoint there is usually an unbelievable gap between the report-content and the official categorization. When one then tries to query, on scientific grounds, the USAF personnel responsible for those categorizations, one finds he cannot engage in anything like a scientific discussion because scientifically skilled personnel are not involved in the Bluebook operation. It is entirely clear that this has been true for the past fifteen years; and still earlier cases unfortunately point in the same direction, even back in the 1952 period of temporarily energetic investigatory work.

So, when one hears that the USAF position is that the bulk of the UFO reports they get are misidentifieds, it is necessary to probe much further to get at the truth.

Reflections and Mirages - Menzel's Views

However, it is not only Bluebook that stresses misidentifieds. For about 15 years, Dr. D. H. Menzel, former Director of Harvard College Observatory, has been saying that UFO reports fall almost entirely in that category. His two books^{11,13}, other writings, and many television and lecture discussions have invariably emphasized that position. It has been of particular scientific interest to me that a majority of his alternative explanations fall within my own area of interest, atmospheric physics. Consequently I have examined his arguments rather carefully and must say that they do not at all convince me. Since I have cited specific examples and discussed specific objects elsewhere^{1,8}, I shall not give numerous examples here.

But one category of Menzel's explanations that has evidently influenced Bluebook thinking of recent years (since similar explaining shows up in

official files) deals with "reflection" of light from atmospheric inversions and "haze layers." Menzel's explanation of the August 20, 1949, Las Cruces N.M., sighting by Dr. Clyde Tombaugh is a case in point (11, p. 266). Menzel argues that lights from windows on some house, reflected off an elevated inversion layer produced the appearance of six yellowish rectangles that Tombaugh, along with two members of his family, saw shooting across the sky in that famous sighting. Tombaugh first spotted the geometric array of six pale-yellow rectangles almost directly overhead. Menzel suggests that they were reflections of window lights on an inversion layer at which haze had collected (despite Tombaugh's strong emphasis on the unprecedented transparency of the air that night!). Since only collimated beams like searchlight beams can yield distinct spots on haze layers, one seems left only with the notion that when Menzel says "reflection" he means just that. Let us examine the possibility that atmospheric inversion layers could yield perceptible reflectivity at near-normal incidence such as would have to be involved if Menzel's suggestion is to be acceptable.

For ideally sharp refractive index discontinuities, the Young-Fresnel equation (see, for example, 14, p. 420) gives the reflectivity R across a discontinuity between two media of relative refractive index n as

$$R = [(n - 1)/(n + 1)]^2$$

for normal incidence. Even for off-normal incidence angles out to several tens of degrees, the order of magnitude of R is well-estimated by that familiar optical relation. Menzel's qualitative discussions about how UFO apparitions stem from reflection off atmospheric discontinuities frequently involve such near-normal incidence. Hence the question becomes that of asking about how large n can become. For visible light in air at NTP, the refractive index relative to a vacuum is about 1.0003, and temperature effects across an inversion boundary (even if idealized as mathematically sharp) make changes only in about the fifth or sixth decimal place of that parameter. Clearly, then, one will make a gross overestimate of R to go the extreme case of an "inversion" separating standard air from a perfect vacuum, *i.e.*, by inserting into the Young-Fresnel relation the magnitude $n = 1.0003$. The result is seen to be roughly

$$R = 10^{-7}$$

This negligibly small reflectivity could not conceivably yield window-reflections of the type adduced by Menzel to account for sightings such as Tombaugh's, despite its grossly overestimating the actual "inversion-layer" reflectivity that might be encountered in the real atmosphere. Such quantitative considerations are what are not found in Menzel's defense of his discussions of UFO misidentifications, even in areas where his particular professional background ought to have made him sense the orders of magnitude likely to be involved.

In the February issue of *Air Force/Space Digest*¹⁵ will be found a Letter discussing an observation of an odd aerial apparition seen by Lt. Col. R. G. Hill, and treated by *AF/SD* as an example of UFO reports that are explainable if only one looks far enough. I have spoken with Col. Hill to get a few further details and can only wonder if Menzel's "inversion-reflection" ideas and Bluebook's misuse of the same have not misled Hill and the editors of *AF/SD*. The four luminous discs which Hill saw on a November evening a half dozen years ago are tentatively explained in Hill's communication as "Possibly the result of some atmospheric phenomenon that caused two interfacing layers of air to reflect the light from a nearby source such as the mercury vapor lamps illuminating the parking lot at the shopping center where these objects appeared." As I have stated to Col. Hill and to *AF/SD*, this is quantitatively quite out of question, Menzel's and Bluebook's arguments notwithstanding.

Indeed, everyday experience with window-glass, whose refractive index relative to air is about 1.5, ought to have served to prevent the widespread misimpression concerning UFOs caused by "inversion-reflections." Window-glass gives an unimpressive normal-incidence reflectivity of about 4 per cent; yet

it is obvious that it must be orders of magnitude more reflective than adjoining air layers could ever be.

That type of UFO explanation is being so seriously misapplied, by Blue-book staff and consultants, that I believe it may be well to carry the counter-arguments one step closer to the real atmosphere, for deserved emphasis. One never actually deals with mathematically sharp index-discontinuities in the earth's atmosphere, only with layers across which density may vary in some smooth, even if locally steep manner. For such "transition layers" in the index distribution, one cannot apply the Young-Fresnel equation. The mathematical problem is generally quite difficult, but Rayleigh¹⁶ has found one model that permits useful mathematical analysis of wave-propagation at the kind of inversions that can occur in our atmosphere.

To give great benefit of doubt to inversion-reflection, one might imagine an inversion layer of such meteorologically improbable intensity that the air above the layer was 20°C hotter than that below, and in which all of this absurdly large temperature jump was concentrated within a transition layer of the unreasonably small thickness of a mere 1 centimeter. I emphasize that such intense inversions are not known in the atmosphere, so I shall still be seriously overestimating reflectivities by applying the Rayleigh theory to such a case. The computed reflectivity, again treating normal incidence, is found to be

$$R = 10^{-19}$$

I repeat; even this is an overestimate by a very large margin of what to expect in the real atmosphere.

Mirage phenomena are very real; but involve angles of incidence so far from near-normal that the small, but significant, gradients across real inversions do give refractive anomalies of readily perceptible magnitude. But one's line of sight must strike the inversion layers at almost grazing angle (order of only tens of minutes departure from the horizontal in most instances), whereas Menzel has treated miraging in his UFO discussions as if it could occur with lines of sight that often depart by many degrees from the horizontal, which is quantitatively absurd.

I could discuss other aspects of atmospheric physics that seem to me to be mishandled in Menzel's treatment of UFOs, but wish to turn to another, newer effort to account for many UFO reports in terms of another alleged type of atmospheric-physical phenomena - "plasma-UFOs", as recently discussed by Klass.

Corona, Ball Lightning, and Plasma-UFOs - Klass's Views

In working from the method of multiple hypotheses, one needs to look in all directions for possible alternatives. Quite early in my own examination of the UFO problem, I was confronted by colleagues at the University of Arizona with challenges on the ground that UFOs could be some unrecognized form of plasmoid. For example, scientists at our Lunar and Planetary Laboratory proposed that, since the wake of an entering meteoroid is a plasma and since a meteoroid sets up a highly turbulent wake-flow, perhaps vortical motions on the meteor-wake boundary could spin off masses of incandescent plasma that descend into the lower atmosphere and are reported as a UFO. I pointed out seemingly insuperable difficulties centering around rapid ion-recombination and buoyancy of hot plasmoids that would have made it most improbable that any such plasmoids could penetrate from entry-levels to the near-surface levels where innumerable "UFOs" have been reported. But mainly I stressed the more basic point that the type of UFO reports that are provocative are not mere balls of luminosity but structured objects described by seemingly quite credible witnesses as resembling machines of some type.

Klass' Plasma-UFO Theory. I reiterate that latter strong objection to the "plasma-UFO" concept when I turn next to the recent writings of Aviation Week Senior Avionics Editor, Philip J. Klass. My most basic objection to the position he is now defending concerning plasma-UFOs is that I feel he does not confront the fact that the interesting UFO reports do not involve hazy, glowing amorphous masses, but involve reportedly sharp-edged objects often exhibiting discernible structural details, carry discrete lights or port-like apertures, and maneuver for time-periods and in kinematical patterns that are extremely difficult to square with his plasma-UFO hypothesis. And to that objection I add the same one I raise against so much of Menzel's UFO argumentation - it fails to deal quantitatively with parts of the argument that are, in terms of existing scientific knowledge, amenable to quantitative analysis.

(May I interject here that my just-cited objection can and should be turned against my own position as to the extraterrestrial hypothesis on the grounds that we do now know something about prospects of interstellar travel and certain quantitative objections about propulsion difficulties can be raised against such travel. Indeed - and many have already cited these quantitative difficulties, including Purcell, von Hoerner, and Markowitz. I reiterate (see 1, 8) that my lame yet not necessarily invalid defense is that we may not yet know all there is to know about the technology of interstellar travel and hence our attempts at quantitative assessment of the extraterrestrial surveillance hypothesis may be inconclusive. Beyond that I cannot go.)

Klass has developed his position in two magazine articles¹⁷ and a just-published book¹⁸. He does not assert that all UFOs are plasma-UFOs; other misidentifications contribute, he feels. But he does argue that most students of the UFO problem (and he specifically cites me as an example) seem to have missed the "plasma fingerprint" which he sees in so much of the UFO evidence. He disclaims any view that the UFO problem is a "nonsense problem"; rather he suggests that it is one of keen scientific interest because it comprises a body of phenomena from which careful study of the plasma-hypothesis will generate valuable new knowledge of atmospheric physics and atmospheric electricity.

Now one puzzling and far from understood phenomenon of atmospheric electricity that does seem to lie in the plasma category is "ball lightning", which, for brevity, will be identified here as BL. Only within about the past decade has BL been admitted as a real phenomenon rather than some kind of illusion. In this sense, the history of BL studies is amusingly parallel to that of UFOs. It can be stated unequivocally that, in 1968, students of atmospheric electricity have not yet succeeded in developing an adequate theoretical understanding of the baffling phenomena reported under this heading. The fact that BL reports, like UFO reports, come largely from untrained observers who happen suddenly to become witnesses to the phenomenon hampers data-gathering. Also, it is sufficiently uncommon that it has been discouraging to try to set up special recording systems to gather instrumental data on the phenomenon (as is true also for UFOs). And the range of BL behavior characteristics is so wide that no single mathematical model has fit very satisfactorily the reported effects as well as the known atmospheric electrical facts. As I noted earlier above, there even exist parallels to the UFO problem in the sense that a semantic difficulty arises: One is not at all sure, in looking at published summaries of BL reports, that one is dealing with a single phenomenon. One suspects that, mixed into the alleged BL sample, are some other quite different phenomena, so that one may be trying to explain more than necessary.

Summaries of BL reports have been given by Brand¹⁹, Dewan²⁰, Rayle²¹ and McNally²²; and others have published accounts of smaller numbers of individual reports. BL models have been discussed by so many workers that no catalog of

individual papers is in order here. Dewan²³ has presented a brief summary of models developed up to about 1963, and other notions are to be found in a volume edited by Coroniti²⁴. None of these models, or those subsequently offered by others such as Uman and Helstrom²⁵ can be viewed as entirely satisfactory.

However, one major feature of reports and mathematical models is that the majority of the former and all of the latter suggest that BL is a phenomenon closely related to ordinary thunderstorm lightning.

Fair-Weather Ball Lightning. The notion that "ball lightning" can be generated in fair weather free of all thunderstorm activity has been developed by Klass, and defended on the ground that, in the literature of atmospheric electricity, one can find a half-dozen or so reports of lightning discharges in clear air. He also defends it on the ground that, in some of the above-cited summaries of BL reports, are luminous masses that were called "ball lightning" by the witness or the data-collector, yet occurred in the absence of thunderstorms. This is a confusing situation. We do not yet know precisely what we shall mean by "ball lightning", do not know how Nature produces it, and have to concede that we may lump under that one heading phenomena of diverse nature. To illustrate that, consider Klass' citing (18, p. 121) an observation made from a USAF F-100 flying over the British Isles at 11,000 ft near midday, where a luminous orange ball with a tail streaming behind it "somewhat like a flaming meteorite" was sighted by the pilot under clear-weather condition. Klass uses that observation to support his assertions that BL can not only occur under clear-air conditions, but can move through the atmosphere at relatively high speeds. But, one must emphatically object, it is by no means obvious that it is correct to call this a BL report. Far more reasonable would be to call it an observation of a bright daylight meteor, many of which are on record in the annals of meteoritics. The very fact that the original account compares the tail to that of a meteorite ought to prompt this identification in preference to the BL identification. I urge you to read Klass' book in full to see if you do not agree that just such easy slipping of a wide range of odd observations into his plasma category has led his arguments seriously astray.* At no place in his book does he defend his assumption that plasmoids can move through the atmosphere at speeds of hundreds of meters per second, except in one special and quite interesting case - when they are electrically attracted to aircraft bearing tribo-electrically induced charges. Let us examine that notion, therefore.

Attraction of Plasma-UFOs to Aircraft. Klass takes note of the fact that UFOs have been seen following aircraft in flight, and proposes a theory to explain this. Remarking that aircraft often develop strong net charges due to contact with snow, rain, or dust particles, he suggests (18, p. 124) that "an airplane having, say a strong positive charge comes within reaction distance

* The suggestion which Klass makes that BL can form under fair-weather conditions is, like many of his other suggestions, shown to be quantitatively absurd by some elementary computations. The fair-weather earth-air current is known (28, p. 150) to average about 10^{-12} amp/m², and the fair-weather potential gradient averages about 100 V/m. If, then, we ask for the area of the earth's surface over which we would have to collect current to have Joule-heating within a slab, say, 100 meters deep in amount equal to a modest estimate of 100 watts (cf. 25, where 1000 watts is taken as perhaps more representative), we obtain an area of 10,000 km² as our answer! Obviously the assumption of a slab 100 m deep was quite arbitrary, but it would seem to give benefit of doubt to Klass' argument, so the figures suffice to make the notion of fair-weather ball lightning seem rather far-fetched.

of a plasma whose surface has a negative charge" with the result that "the two will be attracted to each other, like two magnets..." He remarks that, since the aircraft has far greater mass than the plasma, the latter "will be drawn towards the aircraft rather than the reverse."

Is this subjected to any quantitative assay? No.

Let's examine that idea quantitatively here, then.

For simplicity, assume a spherical plasmoid, with the greatest allowable surface charge density, namely, that which brings the surface electric field intensity to the dielectric breakdown strength of air, E , of the order of 20,000 V/cm at typical aircraft altitudes. Similarly, let the aircraft be roughly modelled as a sphere, also charged (with assumed opposite sign) to that same breakdown limit (this will actually overestimate net aircraft charge by something like an order of magnitude, giving more benefit to Klass' assumed model). Since the surface charge density σ will satisfy $E = 4\pi\sigma$, each object will then hold a charge $Q = r^2E$ (esu), where r is the object-radius and E is taken as 20,000 V/cm \approx 65 esu/cm. If d is the separation of the centers of aircraft and plasmoid, then the force F (cgs) acting between the two entities is

$$F = Q_a Q_p / d^2 = r_a^2 r_p^2 E^2 / d^2$$

where subscripts a and p correspond, respectively, to aircraft and plasmoid. For present rough purposes, we may generously set both radii equal to ten meters, and we may let the plasmoid tag along behind the aircraft that is dragging it, on Klass' hypothesis, through the air at a lag-distance $d = 100$ meters. We get, then, $F \approx 4 \times 10^7$ dynes.

To fulfill Klass' assumed requirements, this Coulomb attraction F must equal the effective aerodynamic drag force D , to which the fast-moving plasmoid is subjected (if it is not to be torn apart or brought to rest). Calling the drag coefficient C , the air density ρ , and the speed of aircraft and the trailing plasmoid V , we have,

$$D = \frac{1}{2} \rho V^2 C \pi r_p^2$$

and setting $D = F$ to determine the allowed airspeed V ,

$$V^2 = (2r_a^2 E^2) / (\pi \rho C d^2).$$

Thus the radius of the UFO plasmoid disappears from the V -relation. Using $\rho \approx 7 \times 10^{-4}$ g/cm³, $C \approx 0.2$ for the high Reynolds number regime here involved, and the previously suggested values for the other parameters, we get

$$V \approx 4 \times 10^2 \text{ cm/sec} \approx 9 \text{ mph}$$

Thus, even upon assuming a large maximally-charged aircraft and plasmoid, and limiting the trailing-distance to no more than 100 meters, we obtain so low a value for the allowed V that it is absurd.

But the conclusions are even more negative for Klass' hypothesis than is suggested by the limit $V \approx 9$ mph, since it is known from experience with aircraft charging^{26,27} that steady leakage of autogenous charges keep surface field strengths down to values generally under 10³ V/cm (a factor of twenty lower than assumed above for the aircraft), and even that value would not be found in flying through clear air free of snow or dust. And neither Klass nor I have proposed any basis for assuming that his airborne plasmoids will be so decidedly non-neutral as to have surface charge densities anywhere near the breakdown limit, as assumed in the above calculation to give Klass full benefit of doubt on that score. When some allowance is made for those factors, it is seen that a plasmoid could not be drawn through the atmosphere at the pace of even a very slow walk by the Coulomb interactions which Klass

invokes to fit his hypothesis of plasma-UFOs, hence his ideas on plasma-UFOs pacing aircraft are quantitatively untenable. He states that they do not come very close to the charged aircraft because the aircraft's "wind-stream serves as a protective sheath", another qualitatively *ad hoc* assumption that can now be seen to be irrelevant.

In one of his articles¹⁷, Klass explains inability of jet interceptors to close on UFOs as resulting from the circumstance that aircraft and plasma have the same charge, so that the interceptor repels the plasma-UFO and can never catch up with it. This is equally absurd.

Other objections could be raised: Klass fails to confront his hypothesis with cases where UFOs were neither attracted to nor repelled by aircraft, yet UFOs have made close passes coming from all relative directions and exhibited many unusual maneuvers not fitting his model. For example, a very famous UFO sighting, the July 24, 1948, Chiles-Whitted sighting over Montgomery, Alabama, is briefly alluded to on p. 118 of his book, so Klass must know that Chiles and Whitted saw the object (which they said had a double row of windows, a length comparable to a B-29, a cherry-red wake, and a blue glow from nose to tail along its undersurface) come almost directly at their DC-3 on a near-collision course before it passed them and then did an abrupt pullup before it disappeared. Coulomb attractions at work? Innumerable other aircraft-observed UFOs could be cited that would not fit Klass' Coulomb-attraction model, even if it did make quantitative sense for trailing UFOs. It can only be concluded that Klass has not provided an explanation for why UFOs sometimes come near aircraft.

Not only does Klass suggest that "highly charged aircraft" can attract his plasma-UFOs, but also (18, p. 125-6) suggests that charged automobiles attract "low-altitude UFOs". Then, carrying the idea to its full absurdity, he proposes that a charged pedestrian "who encounters a very low-altitude UFO may find it is drawn slowly toward him or that it backs off as he approaches it." The question of whether it shall be attracted or repelled depends, Klass adds, on the sign of the charge of the UFO and that "of the very slight charge on the person". To make such assertions without any attempt at inserting numbers into the elementary calculations that disclose their low plausibility is quite typical of Klass' book.

[It might be added, in this final version of the draft presented at the Montreal CASI meeting, that my use of the figure 20,000 V/cm in my rough check of Klass' aircraft-pacing model was challenged from the floor by Klass. He stated that this figure must obviously be incorrect, for he had information that helicopters flying over dusty terrain can be charged up to 500,000 volts (see 18, p. 171). As I pointed out by way of clarification, Klass was confusing "volts" with "volts per centimeter"; and to reconcile his figure with mine we need only be sure that the helicopter had a clearance above ground of at least 25 cm (since 25 cm multiplied by 20,000 V/cm equals 500,000 volts). Here again, one is startled to encounter confusion over such elementary electrical concepts. That the dielectric breakdown strength of air is of order of 10,000 to 30,000 V/cm, depending on electrode geometry and air pressure is certainly not open to question.]

Formation of Plasma-UFOs in Wingtip Vortices. For the most part, Klass offers his readers no hint of the origin of the plasmoids to which he wishes to equate UFOs. But one case on which he appears to offer an idea of origin is in connection with aircraft. Klass (see below) has the idea that pollution products exert a helpful influence in plasma-formation. Aircraft engines emit pollution products. Therefore Klass suggests that pollutants, along with the charges which he believes are collected in the tip vortices (18, p. 168), somehow form a plasma-UFO.

Let's go over that in more detail. First, to repeat, impact charging of aircraft in clear, particle-free air is negligible. One must have rain, snow, or dust impacting on the aircraft surfaces to generate strong auto-genous charges ^{26, 27}, so Klass is in serious initial trouble on this score alone. Furthermore, when an aircraft is undergoing such impact-charging, what actually occurs is that the surface charge densities build up to an equilibrium value such that the leakage-rate just equals the charging rate. (One great value of charge-dissipating whips on wing trailing edges is that they boost the effective discharge rate to so high a value that the steady-state values of total aircraft charge are low.) Under the steady state that is quickly attained on entering a dust or snow cloud, the air passing off the wing has zero net charge, since the leakage charge just balances the residue left over from the impact charging. Thus, Klass will not get plasmoids bearing any significant net charge by such a process, so his aircraft-chasing UFOs are not accounted for by the only model that he offers his reader to get his plasmoids airborne.

But the difficulties are much more serious than absence of significant net charge. To have a plasmoid in the usual sense of the term requires high concentrations of free electrons, whereas all that will be sweeping off the trailing edge of an aircraft wing when flown under conditions favoring charging (dust, snow, rain) will be "ions" in the sense employed in atmospheric electricity. All free electrons will attach to oxygens in microseconds; and exhaust pollutants will further demobilize the small ions that are thus formed. Between this and ordinary ion-recombination processes, nothing remotely resembling a luminous plasmoid can possibly be expected to appear within the trailing vortices of an aircraft. When Klass states (18, p. 168) that "an aircraft could accumulate electrical energy and focus it into periodic discharges which could create a plasma-UFO in its wake when conditions were right," and then adds that these plasmoids would be left behind so that "another pilot flying along the same airway a few minutes later might encounter a glowing plasma," he is using arguments that would collapse if he were to try to put numbers into them. The temporal and spatial instability of plasmoids is one of their most outstanding characteristics. Klass accounts neither for their formation nor for their survival in this context of aircraft-related plasmas.

Diurnal Variations of UFOs. Klass suggests that UFOs are a mystery of atmospheric electricity. Students of that subject will certainly find some surprising mysteries of an atmospheric-electrical nature on pp. 164-167 ¹⁸.

Klass cites Vallee's evidence for an evening maximum of low-altitude UFO sightings, between 6 p.m. and 10 p.m., roughly. Klass notes that Brand¹⁹ finds a diurnal peak frequency of BL sightings at 5 p.m. Klass feels that this rough temporal correlation indicates a genetic relation between BLs and UFOs. Meteorologists could suggest to him that a 5 p.m. peak in BL observations would match the generally late-afternoon peak of thunderstorm activity. I believe that the early evening peak of UFO reports is the result of greater likelihood of detecting a luminous object at night than a non-luminous object by day. I gather that Klass shares some of the latter view; but he proceeds to a further idea that plasmas are formed with diurnal peak frequency in the early evening. The route by which he gets there is curious indeed.

First, he discusses the diurnal variation of the atmospheric electric field-strength near the earth's surface and calls attention to a tendency for most land-stations to have a maximum of field-strength near 7 p.m. He glosses over the point that more UFOs are seen in summer than in winter, and that during summer most land stations have a strong maximum of field strength

in the mid-morning. But where his physics goes astray is that he mistakenly attributes the peak field-strength to a concurrent maximum of radon gas that produces much of the air-ionization in the lowest atmosphere.

The actual situation is²⁸ that increased ionization would, *per se*, increase the air's conductivity and thus decrease the observed atmospheric electric field strength - precisely the opposite of what Klass claims. Briefly, the earth-ionosphere potential difference may here be treated as constant (we may ignore the well-known universal diurnal variation), whence vertical current densities will remain sensibly constant so long as diurnal factors only alter the conductivity in a relatively shallow air layer near the earth's surface. But with constant current density, the atmospheric electric field intensity must adjust itself to vary inversely with air conductivity. Pollutants decrease air conductivity; ionization processes increase it. The well-known evening increase in field intensity is due to development of an evening low-level inversion that traps pollutants, the pollutants attach small ions to generate large ions of low mobility, the air conductivity consequently goes down, and the observed field intensity must, to maintain fixed current density, go up.

If radon-trapping were the dominating factor here, as Klass evidently thinks, evening would be a time of minimal, not maximal, field-intensity!

He extrapolates the above to a claimed explanation for the higher frequency of UFO sightings in rural areas vs. urban areas; but again it is based on the above misconception of the role of inversions, so that this deduction of Klass' is also invalid.

But even beyond the confusion engendered by Klass' thoroughly confusing the physics of the diurnal variations of conductivity and potential gradient, there lie further basic shortcomings that warrant emphasis. One must ask, just what does he have in mind in talking about all this? How does it relate to formation of luminous, active plasmas? Evidently the answer is to be found on p. 166 (18), where he asserts that these cyclical variations of "pollution and electrification" serve to set the stage "for the chance triggering of a plasma-UFO by a corona discharge on a high-tension line or perhaps by a brief power surge in a high-power TV or radio transmitter.

Let's examine these two categories separately.

One can only conclude that Klass believes that an increase of atmospheric ionization by the small factor (less than about 2) which he had in mind when he became confused over the foregoing diurnal-variation arguments can exert an important "triggering" action on power-line corona. That he is not clear as to the physics of corona-formation seems evident when he states earlier (18, p. 22) that "under freak conditions an electrical avalanche occurs." He must be unaware that corona discharge from power structures is not dependent upon unusual concentrations of atmospheric ions but only upon establishing sufficiently strong field strengths that the continually forming free electrons (ejected by cosmic-ray or air-radioactivity bombardment of neutral air molecules) shall be accelerated within one free path to energies sufficiently high to cause an additional impact-ionization event. Being confused on this point, he draws the erroneous inference that if he could account for some extra air-ionization, he'd account for extra "corona discharge on a high-tension line." Also, coronas don't detach from power lines.

Next consider the idea of a "brief power surge in a high-power TV or radio transmitter. A clear-channel radio broadcasting station is permitted 50,000 watt output. TV stations are typically operated at outputs in the neighborhood of 150,000 watts, though some can legally emit as much as twice this wattage. Let's take a generously large value of 300,000 watts for the

power output from an elevated TV antenna, and, for wavelength reasons, we'll be generous to Klass in assuming an effective emitting area of only 1 m^2 . From the Poynting equation, we then wish to estimate the maximum electric field strength prevailing near the antenna with a flux density of $3 \times 10^5 \text{ watts/m}^2$. Since $P = 1.3 \times 10^{-3} E_0^2$ (P in watts/m^2 , E_0 in V/m), we find by this order-of-magnitude estimate that $E_0 \approx 150 \text{ V/cm}$. Even after allowing for the reduction in dielectric strength of air at the radio frequencies involved, this generously high estimate of 150 V/cm is more than an order of magnitude too low (in fact, probably about two orders of magnitude too low) to initiate rf-breakdown and plasma-formation (see, e.g., 35, p. 185 and 36, p. 156). Thus, far more than "a brief power surge" will be required to cause plasmas to appear around an antenna - and a mere two-fold variation of air-ionization would be entirely inconsequential in abetting this improbable event. So Klass appears to be in difficulty here, too, even if he had not made the prior mistakes with respect to the diurnal variations in atmospheric-electrical parameters that led him into all this.

Air Pollution as a Plasma Promoter. In the foregoing, there have now been several allusions to an underlying idea that runs through much of Klass' book: Air pollutants are alleged to aid in the formation of plasma-UFOs. This is such a curious idea, and the source of this notion is treated so casually by Klass (18, p. 153) that few readers are likely to realize how it arose. Because Klass weaves it into so much of his argument, it warrants closer examination.

Klass contacted Dr. J. R. Powell concerning some interesting laboratory work done at Brookhaven National Laboratory (APS abstract in BNL 10625, entitled "Laboratory Production of Self-sustained Atmospheric Luminosities", by Powell, Zucker, Manwaring, and Finkelstein). Using a 75 MHz rf arc discharge as the primary power source, and feeding its output into a walk-in size resonant cavity filled with selected gases at atmospheric pressure, the Brookhaven group were studying luminosities with radii in the decimeter range and lifetimes of order of a second or more after shutoff of the rf power supply. Early work indicated that such luminosities could be produced in air, N_2 , O_2 , or N_2O , though not in A or CO_2 . It was hypothesized that the rf "pumping" stored energy in certain energetically accessible long-lived (metastable) states of N_2 , or O_2 , or N_2O , and that vaporized electrode atoms (e.g., Cu) produced the visible radiation after acquiring energy in collisions of the second kind with the excited chamber-gas atoms. Possible relations to the ball lightning problem were noted by the investigators.

The important points to note here are that this experiment appears to involve three crucial features: 1) a tuned cavity, 2) an rf power source feeding into it, and 3) a gas, filling the cavity at 1 atm pressure and selected to have metastable states with lifetimes of the order of seconds such as to constitute an energy reservoir upon which the light-emitting species (metal vapor atoms) can feed repetitively during the post-shutoff glow period. (Whether the interpretations put on this promising experimental work stand the test of time need not bother us here; they do appear plausible.)

Upon hearing of this laboratory work, Klass jumped via several erroneous steps to his idea that pollutants from aircraft, cars, and factories will enhance the likelihood of forming plasma-UFOs.

His first error lay in mistakenly identifying what he terms "nitrous oxides" (his plural) with the "nitrogen oxides" of air pollution literature (18, p. 153). As a matter of fact, nitrous oxide, N_2O , is a natural

constituent of air, not considered an atmospheric pollutant (29, p. 156), and is therefore not even mentioned in most air pollution literature on the problem of the nitrogen oxides (30, p. 3-12; 31, p. 83). NO is copiously produced in all combustion processes, including those in aircraft and automobiles, and oxidizes quickly in air to NO_2 , the primary photon-acceptor in photo-oxidation air pollution of the Los Angeles type. N_2O , a rather stable compound, always present in concentrations about twice that of all other nitrogen oxides characterizing polluted atmospheres, plays no part at all in any pollution problems, since it "is dangerous only in concentrations of about 90 per cent and then has mainly an anoxic effect" (32, p. 149). Indeed, chemical analysis of the "nitrogen oxides" in polluted atmospheres was not meaningful until tests, such as the phenoldisulfonic acid method (29, p. 159), were developed to react to all N-oxides except N_2O ! Briefly, through an error of interpretation of elementary chemical terminology, Klass misidentified the N_2O of the Brookhaven experiments with true pollutants and was off on one of the many error-chains that so weaken his treatment of the UFO problem.

Next, he failed to appreciate relevant quantitative aspects concerning the "air pollutants" he thus began to discuss. Average concentrations of N_2O at sea level are near 0.5 ppm (parts per million by volume). Average concentrations of all pollutant-N-oxides in Los Angeles run about half that (31, p. 84). To suggest that any gas present in such trace quantities could play the energy-reservoir role of the test-gases with which the Brookhaven group filled their tuned cavity is to miss completely a basic quantitative aspect of the experiments. Yet this is what Klass suggests; so here we have the next stage in his error-compounding. If the metal atoms have to make a million or more collisions, on the average, before finding one of Klass' pollutant molecules, not much light would be coming from the system.

In fact, it will have to be interjected somewhere here that, once one understands what Powell and co-workers think happens in their chamber, it becomes somewhat unreasonable to talk about adding anything to ordinary air by way of abetting the process, for they clearly assert that the N_2 and O_2 of ordinary air do quite well in providing suitable metastable energy levels to make the process work. In view of this point, all of Klass' discussion about diurnal variation in pollutant concentrations, about pollutants swept into tip vortices, and about alleged concentrations of pollutants near highways is seen to be irrelevant and based on a network of misconceptions.

But, finally, the most basic error of Klass' attempts to fit the Brookhaven experiments into his thesis lies in ignoring the very special nature of the energy source used in the laboratory work, and in casually overlooking the complete absence of anything even roughly similar to it in the outdoor environments in which he claims plasma-UFOs are being formed. The buildup of fields in the standing-wave pattern of the Brookhaven tuned cavity fed at the resonant frequency (75 MHz) provides excitation conditions that simply cannot be blandly assumed to exist aft of a wing-tip, or under an inversion in a rural area, or above an automobile speeding down a highway - or even near a high-power TV antenna, as shown above.

In the light of the preceding points, it is interesting to re-read the kinds of inferences Klass attempts to draw: He asks (18, p. 153) if it is "merely coincidence" that "both air pollution and UFOs have experienced a dramatic increase within the past two decades"; and then goes on in similar vein. "Is it also merely coincidence that many low-altitude UFOs are seen near highways, where growing numbers of autos spew out their pollution products? And is it coincidence again that many of the high-altitude UFOs are reported by pilots while flying along well-traveled airways, where aircraft also leave a trail of combustion-engine pollution products in their wake?"

Other Misconstrued Laboratory Experiments. Although it is the Brookhaven experiments that Klass misuses most extensively in his book, three other experiments are discussed in a manner purporting to provide support for his basic plasma-UFO hypothesis. Because in each instance Klass fails to recognize quantitative factors that render the laboratory results irrelevant to the case he is trying to make, brief comments on all three seem in order.

First, he cites some demonstration experiments devised by A. F. Jenzano, director of Morehead Planetarium in North Carolina, and displays photos in support of the contention that erratically moving cigar- and disc-shaped UFOs may result from open-air counterparts of the planetarium experiments (18, p. 68 and plate 3b; also 17, p. 57 and 61). But when one reads the nature of the experiments in question, they prove to be low-pressure glow discharges carried out under pressure conditions and with externally varying capacitance quite unrelated to anything involved in UFO sightings. To make his point, Klass would have to show that something resembling the electric field strengths and near-vacuum gas pressures used in these demonstrations occurs at times of UFO sightings in the atmosphere; but such confrontation with relevant quantitative considerations is absent here, as elsewhere in Klass' treatment. Jenzano is quoted as saying he uses the device to simulate Northern Lights; this is rather more reasonable. But UFOs and the aurora are certainly two quite different matters.

Secondly, Klass cites (18, p. 132) laboratory work of W. H. Bostick on small moving plasmoids. Klass quotes Bostick as saying "...the plasma travels...not as an amorphous blob, but as a structure (called a plasmoid) whose form is determined by the magnetic field it carries along with itself." He also quotes a passage that may seem to some readers to still further support the Klass plasma hypothesis for UFOs: "...the two plasmoids seemed to seek each other out unerringly...and attach themselves to each other." The implication is that Bostick's work has some bearing on the UFO problem. However, on consulting the original papers (*e.g.*, 33), one finds that to get the observed phenomena Bostick worked at gas pressures of 10^{-5} mm HG (about a hundred-millionth of an atmosphere), except when the pressure was raised to that of "a poor vacuum (10^{-3} mm Hg) in order to slow the plasmoid down". And about equally remote from any conditions prevailing in situations where UFOs have been reported, Bostick used externally applied dc magnetic fields ranging from 500 to 2000 Gauss. The geomagnetic field has a strength of a few tenths of a Gauss. Despite Klass' intimations, the Bostick laboratory experiments bear no relation to the problem of explaining UFOs, their sometimes startlingly fast movements, and their sometimes high luminosity.

Thirdly, Klass recounts (18, p. 284) some laboratory experiments which the press featured as possibly explaining UFOs. Workers at Melpar, Inc. reportedly (34, p. 16) obtained luminous emissions from a mixture of ammonia and oxygen after spark-ignition. Neither cited account permits a reader to decide whether this was some slow combustion process or perhaps chemiluminescence. Klass states that, on triggering the process with the spark, "a glowing saucer-shaped object would form, providing the mixture had the right proportions." "Sometimes the glowing object would hover horizontally...at other times, the tiny UFO would pulsate mysteriously and flip over onto its rim or turn upside down." Interesting, from a scientific point of view; but what can this have to do with the UFO problem? Klass answers that question: "The ammonia gas that Melpar used in its experiments...could be found over newly fertilized farmlands - another possible reason why UFOs are more frequently seen in rural areas." Here is one more good illustration of omitting highly relevant quantitative considerations.

The Melpar experiment is not described in terms one would require in order to make precise statements; but it seems clear that the partial pressure of NH_3 in their reaction vessel is a fair fraction of an atmosphere. Lacking data on maximum NH_3 concentrations over farm barnyards, I will appeal to the fact that public health officials seem never to have expressed concern over the safety of farmers exposed to hazardous concentrations of that gas, so that barnyard concentrations presumably fall well under the 100 ppm "maximum allowable concentration" set as the industrial safe limit (29, p. 24). This would be three to four orders of magnitude below the partial pressures likely to be involved in the Melpar demonstration. Not only would reaction rates be slowed down by something like 3-4 orders of magnitude by virtue of that adverse concentration ratio, but it seems entirely out of the question that it could be self-sustaining in such concentrations, even if there were a spark-source near every barnyard to provide the requisite ignition. Actually, it seems so unreasonable to suggest that farm concentrations of NH_3 could yield effects comparable to those obtained in the Melpar laboratory demonstration that the proper reaction would seem to be astonishment that any such suggestion should have been made in the first place.

Argumentation by Concatenation - Thunderstorms, Dust Devils, and Ball Lightning. Throughout his book, Klass uses a very curious type of "argumentation by concatenation". Noting that there exists some vague relation between concept A and concept B, he next passes on to observe another remote relation between B and C. Then C may have something or other in common with D, and Klass is soon asserting that A and D are related. Put in that abstract form, the only criticism that could be made is that stringing such chains may be dangerous. But seen in the form of particular instances, Klass' use of this mode of deduction appears almost ludicrous. A good illustration has already been cited - that concerning the chain of steps by which Klass went from the diurnal variation of potential gradient at land stations to a conclusion that this bears on the diurnal variation of UFO reports, via pollutants and inversions and radon gas.

Another example of this uncomfortably non-scientific mode of argument leads him to the following conclusion (18, p. 113): "The dust devil and the kugelblitz (BL), which a few weeks earlier had seemed poles apart, now were beginning to show signs of a possible family tie, at least on some occasions. Nature, I was beginning to realize, offers an even wider range of explanations for UFOs than I had first imagined."

Let's trace back through the concatenation of remarks that led to that statement.

He gets into it by attempts to explain the many daytime sightings in which UFO witnesses have asserted that the object looked "metallic". This, Klass feels, can be understood if the UFOs are glowing plasmas (18, p. 108). Briefly, the observer is fooled into thinking that the self-glow is "metallic reflection" of sunlight. Leaving aside objections to that conclusion, we next find (18, p. 109) him bothered by a UFO sighting in which "dark crescents" were seen on an otherwise white or silvery UFO; so Klass asks himself what might render a plasma-UFO dark in spots. He explains: "The most obvious answer popped into my mind: dust particles."

Next he cites a model of BL due to E. L. Hill, in which it had been suggested that BL might consist of "electrically charged dust particles and groups of molecules which somehow are electrically separated into positively and negatively charged clusters by the action of a lightning stroke," a

model which I believe most students of the BL problem would regard as unpromising. But that model has dust and it has spin, and that's the direction in which this chain is to be strung out.

By way of seeming to confirm the notion that dust may be involved in UFO phenomena, Klass then cites (18, p. 111) a UFO sighting in which beams of light, from the UFO's eight large "windows", were described as shining so brightly that air-dust could be seen in the beams. (See 3, p. 69 for the complete account that is very abbreviated in the summary given by Klass. The sighting was made by a minister and his wife in Cleveland in the early evening of Nov. 5, 1955; 'the object hovered for an estimated ten minutes, at a height estimated at 500 ft and at a distance from the two witnesses of about a half mile before it began to slowly move away and pass out of sight. Out of all this, Klass takes the point that dust was visible in the beams reportedly shining out of apertures of some sort on the object, and builds that point into his chain. The fact that this plasma lasted ten minutes and had eight bright spots rather than dust-produced dark spots is ignored. The important point for the idea-chain is that dust was present.)

So next (18, p. 111), Klass ponders "swirling, charged dust particles, interacting in complex ways with charged air particles in a plasma (which could) explain the mysterious, moving, dark crescent-shaped areas" in the sighting that started the chain. This is preparation for the next jump: "This suggested still another phenomenon that I ought to investigate - 'dust devils'...". So he then spoke with several persons who gave him information about the well-known fact that dust-devils and dust storms (28, p.122) can disturb the fair-weather potential gradient by virtue of strong frictional electrification. When one of his informants remarked that dust devils are sometimes formed around the outflowing cool air that spreads out from thunderstorm downdrafts in summer storms over the arid Southwest, the last link in the chain was forged. Klass notes, with an almost audible "Ah, hah!" implicit in the italicized windup that " . . . thunderstorms are the most frequent sources of ball lightning."

That, in brief, is how Klass arrived at the passage quoted at the start of this section. That is how he established the bond between dust devils and ball lightning, with swirling, dust-laden vortical plasmoids created out of the rhetorical exercise.

The term "vortex" is one Klass likes to conjure with; it comes up repeatedly throughout the book, and is woven into his model of the plasma-UFO in several ways - almost invariably without paying any attention to scale-factors, as in the above case of dust devils and BL. One sees that same casual neglect of disparate scale factors, the same word-play in a later discussion where concatenative argumentation takes Klass from tornadoes to spinning UFOs. At one intermediate step of that particular chain (18, p. 157), he begins a paragraph speaking about tornadoes in the ordinary sense of the word, and shifts to an idea proposed by one investigator of the radar-angel problem, namely, that some angels are small airborne vortices, which that investigator dubbed "micro-tornadoes." Because Klass had, elsewhere in the book (18, p. 89) intimated that probably angels are often caused by plasma-UFOs (thus clearing up, in his contention, many cases where UFOs were tracked on radar), one comes out of the cited paragraph on p. 157 with the impression that Klass does indeed infer that "tornadoes and at least some UFOs may be distantly related members of the same family," and evidently "micro-tornadoes" and angels are also in that family. If in approaching problems of meteorology and geophysics, scientists customarily employed that kind of concatenative logic, so casually ignored important scale considerations, and rested everything on verbal arguments almost wholly devoid of quantitative considerations, they could easily show that volcanoes are related to hurricanes and earthquakes to blizzards.

UFOs and Radar. From the chapter so labeled in Klass' book, one can draw additional instances of the author's failure to understand much of what he is talking about. He remarks, correctly, that plasmas can be seen on radar, re-entry plasma sheaths around space capsules and satellite debris being a well-known example. From that qualitatively correct beginning, without further attention to all-important quantitative matters, he proceeds to explain instances of UFOs seen on radar.

Citing (quite incompletely) a case from Hall (3, p. 85) in which an unknown object whose radar return suggested it was as big as "any of our larger transport planes" was followed for over 30 minutes from an East coast USAF radar installation, Klass proceeds to the conclusion that this was just a plasma. The important item of information concerning duration of the radar sighting was omitted by Klass; it was a clear moonlit night in the fall, and plasmoids lasting 30 minutes are rather difficult to explain. The radar target was described as moving, then stopping and remaining fixed (for the 30-minute period). An Air Force C-124 transport that came into the radar-coverage area was vectored towards the unknown. Both blips remained on the scope until the C-124 came to within a distance that the radar operator estimated at about a half-mile from the unknown, at which juncture the unknown suddenly disappeared from the scope.

Klass explains the fact that the C-124 crew could not see the plasma as due to its being "on its last legs", so that "it did not have sufficient energy to be luminous and thus was not visible..." Its sudden disappearance from the radar scope Klass sees as having resulted from the fact that "the proximity of the large metal aircraft hastened the plasma's demise, serving to drain off its residual energy in much the same way that a lightning rod attracts a lightning stroke..."

This kind of easy argumentation makes it possible to assert that casually that a plasma too weak to yield a visible glow is at so high an electrical potential relative to an ungrounded aircraft that it sends out a stroke over the half-mile gap separating it from the aircraft. And it permits Klass to ignore all considerations of recombination-times as he glosses over the 30+ minutes' duration of the reported radar sighting prior to sudden disappearance. Considering lightning returns on radar gives a much fairer comparison than plasma-sheathed re-entry vehicles. The latter draw steadily upon the kinetic energy of the entering object to maintain the plasma against recombinative losses. In lightning strokes, however, no such "steady" energy source is available. The result is that spotting lightning strokes on radar is a rather rare (though definitely well-known) occurrence. Why? Because to get a discernible radar return demands that the electron concentration in the lightning channel shall imply a "plasma frequency" greater than the radar frequency. For the frequencies employed in conventional radar practice, the requisite electron concentration runs from about 10^{10} to 10^{12} electrons/cm³. But recombination processes go on at rates that rise very rapidly (roughly as the square) with increasing free electron concentration, so that lightning channels quickly quench out to radar-invisibility (37, p. 108). Estimated durations of radar-visibility of lightning run well under a second. The sweep-periods of typical search radar are so long compared with this time that the probability of seeing a lightning stroke on radar is rather low.

All the same, basic physics must apply to any plasmoid that one hopes to see on radar. If it lacks a sustaining steady energy source (virtually all of Klass' plasmoids suffer that deficiency), then their lifetimes relative to radar visibility must closely parallel that of lightning channels - of the order of a second or less. An unknown that gives a radar-return as intense as that of a large transport aircraft over a period exceeding 30 minutes can, therefore, be explained as a plasma only if one accounts for a continuing source of energy. Klass does not do so.

(Sudden disappearance of unknowns from radar screens, following unconventional behavior, is encountered in many UFO radar cases. Significantly, "sudden" disappearance in the sense of getting out of sight in a few seconds, is even more common among cases of visual sightings by credible observers. As has often been remarked before, anything that could move many miles in a few seconds would seem to disappear "suddenly" from all surveillance radars with sweep periods greater than a number of seconds.)

Another example of misunderstanding of radar principles from the cited chapter concerns anomalous propagation effects (18, p. 88-9). Klass seems to be under the misimpression that 'spurious returns occur with anomalous propagation only if an aircraft is flying in the vicinity to provide an airborne reflecting agent. He also seems to feel that "motions and turbulence in the atmospheric layers" cause ground-returns, bounced off the aircraft, to shift and move erratically, yielding the impression that the radar observer's vicinity "is being invaded by dozens of UFOs." This particular set of misconceptions appears suspiciously like a garbled version of Menzel's misconceptions about anomalous propagation and aircraft-reflections (11, p. 153-171). The reader familiar with radar propagation physics is urged to study both of these treatments and judge for himself. A detailed recounting of Klass' version of the matter does not seem worth presenting here.

He argues (18, p. 89) that because 67 per cent of NICAP's UFO radar sightings³ fell in the months of May, July, August, September, and November, when radar "angels" prove to be most common, it follows that the NICAP radar cases "are classic radar angels", for there would have been "only 42 per cent in these five months had the UFO radar cases been equally distributed throughout the year." Evidently Klass has very scant knowledge of statistical sampling theory, too. He intimates that the famous July, 1952 Washington National Airport UFO radar-visual sightings might have been plasma-UFOs, and closes with the comment that complete analysis is difficult fifteen years later. Not so. The data on that famous sighting, as I indicated earlier here, can be reexamined quite meaningfully even today, including the erroneous USAF claims that anomalous propagation and mirage effects accounted for its main features. Neither the latter, nor plasma-UFOs match convincingly the events of those two famous nights in UFO history.

Klass asks, finally, why all of our surveillance radar nets never see UFOs. My reply to that is to ask why he feels so sure that they do not?

Spinning Plasmas. As noted above, Klass seems to place considerable emphasis upon rotation of his plasmoids. He notes that extensive surveys of ball lightning witnesses (esp. 21, 22) find that from a fourth to a third of the BL reports involve mention of a noticeable spinning motion. His arguments about dust devils, tornadoes, and micro-tornadoes, plus other similar arguments, dispose him to the view that UFO-plasmas will often (perhaps usually) be spinning.

On p. 160, he accepts a qualitative suggestion that rotation of a doughnut-shaped plasmoid might store enough energy as rotational kinetic energy to account for its characteristics. But suppose we hope thereby to extract luminous energy at the modest rate of 100 watts for the reasonable time of 10 seconds, *i.e.*, we ask for 10^{10} ergs. The result is a spin rate of about 1000 rev/sec. Clearly, no human eye could discern angular motions at so extremely high a speed. Angular motions do not constitute a particularly attractive storage mode for energy of plasmoids.

Klass turns to an experiment by Vonnegut, Moore, and Harris³⁸ which, to fill his needs, he identifies as one relating to vortex motion of the outer

shell of a plasma." On reading the original paper, one finds that it is only very distantly related to Klass' idea of plasma-UFOs, for it actually concerns the favorable effects of a vortex on maintenance of an arc discharge struck along the axis of air rotation. The inward-directed buoyancy-forces, the authors note, convectively force the hot arc gases into the center of the vortex, reducing sinuous excursions of the arc and permitting an arc to exist stably over arc-spacings about twice the spacings attainable without the vortex. Clearly, the vortical effects employed here bear on stability of the high-temperature gases in an arc discharge but have no obvious bearing on stability of BL or UFOs, since no one believes that arc discharge is involved in either of those phenomena. One more instance wherein Klass either fails to understand what he is talking about or else crowds it into his mold - probably the former.

The just-cited section of the book is followed by another curiosity. Klass suggests next that "this same vortex motion also helps to explain some of the weird movements reported both for ball lightning and UFOs, such as their right-angle turns, because it would make them behave like gyroscopes (18, p. 161). He next remarks that a spinning gyro "does not move in the direction of the push" one applies to it, "instead its gyroscopic properties cause it to move at right-angles to the direction of the push." He then suggests that "if a plasma-UFO is spinning at moderately high speed when it comes near a metal object or a source of electromagnetic fields, the electrical interaction in combination with its gyroscopic properties could cause it to move at right angles to the direction of its previous motion, as is frequently reported."

Here, as before, Klass gets demerits for ignorance of undergraduate physics. It is torques, not gross body forces, which produce the notoriously perverse reactions of gyros. A fast-spinning gyro acted upon by an external force moves in entirely direct response thereto, and not at 90° to that force, as Klass evidently assumes.

Plasmas as Nature's Rorschach Blots. To meet the objection that many witnesses have reported seeing machine-like UFOs, sometimes with ports, domes, leg-like structures, etc., Klass offers the proposal that a plasma would act like a Rorschach ink blot (18, p. 77). Without wishing to become embroiled in arguments of primarily psychological nature, I would object that projective tests of the Rorschach type do not function by virtue of the illusory mechanism Klass adduces. Normal persons arrive at their Rorschach answers by dint of requested interpretation of the unstructured blots displayed before them. To suggest, as Klass does, that light and dark areas on his alleged plasmoids are illusorily converted by observers into fanciful ports and domes is to introduce something well beyond Rorschach factors. I cite this because it is the closest Klass seems to come to confronting the very important point that, in many highly credible UFO reports, structured, craft-like objects are described in terms that fail to square with an amorphous blob of glowing plasma. I would suggest that his Rorschach idea be dropped as unreasonable. The best observations of machine-like UFOs are daylight observations where no glow is even involved, so the Rorschach-plasma idea seems to fail completely. See, for example, the Powell sighting of May 21, 1966⁸ for a single example which Klass has heard directly from the witnesses, at the same time that I did. An 18,000-hour pilot, with a second witness, saw a domed disc pass his light plane at an estimated distance of a hundred yards in midday, with excellent visibility. It was opaque, and was described as having quite distinct edges, and had a sharply contrasting white dome over red disc. Many others in that kind of category not covered by Rorschach effects could be cited.

Mesmeric Properties of Plasma-UFOs. Not only does Klass propose that his plasma-UFOs are Rorschach blots, but also he intimates (18, p. 227) that perhaps they have "a hypnotic effect on some observers, especially if the UFO were seen at close quarters in darkness." Commenting on use of lights in concentrating a subject's attention in hypnotic experiments, he notes that "the plasma-UFO, with its intense glow, its flashing pockets of color, and its changing shape, certainly would focus the observers' attention. This could deprive his brain of its normal contact with the outside world, especially for night sightings when the object is in a remote spot..."

There is one very striking similarity between Klass' plasma-UFOs and Menzel's meteorological-optical phenomena: Both are stretched to cover a most astonishing range of UFO events. The stretching and straining of scientific principles found in their writings on UFOs is paralleled in the crackpot literature on UFOs. Indeed, if some of the unreasonable argumentation which they employ were found in something by, say George Adamski, it would be regarded as scientifically hilarious. As it is, such warping of familiar scientific principles seems only depressing.

Interference of Non-Coherent Light Sources. Another bothersome example of failure to understand rather elementary physical principles is to be found in Klass' discussion of a sighting in which a chemist, having the presence of mind to try viewing a UFO through his Polaroid glasses, discerned a series of concentric light and dark rings around the airborne UFO (18, p. 99). Klass, ignoring the basic requirement of having coherent light sources if one is to generate interference effects, offers the suggestion that interference between polarized sky light and the light being emitted by the object caused the light and dark circles reportedly seen by Webb. Not realizing that his argument was already lost, Klass continues to suggest that the reason that the light from the UFO was polarized was that motions of charges in the plasma that it really was generated magnetic fields that caused the polarization of the emitted light that then interfered with sky light when viewed through the chemist's Polaroid sunglasses. With arguments like that, one might hope to show that the moon is a plasmoid.

Cold Plasmas of Ice Crystals. Perhaps the most bothersome general feature of Klass' book is the way it repeatedly tends to carry the unwary through what may appear to be reasonable deductions, but which involve large leaps of unjustified nature when you reexamine them.

A good example concerns his discussion of "cold plasmas" (18, pp. 114-115). Let me quote his conclusion first, and then go back over the arguments that purportedly support it: "...one thing was emerging as absolutely certain. Nature has a surprisingly large bag of atmospheric electrical tricks with which it can create unusual 'flying objects.'" Working backwards, one sees some intermediate remarks about "cold plasmas" of charged ice crystals, and working still further back one arrives at a reference to a short note by Vonnegut in the October, 1955 issue of *Weather*. Reading Klass' version of it, one gets the impression that electrical discharges in thunderclouds can so alter electrical forces on charged ice crystals as to make them change attitude relative to the sun that marked reflectivity or transmissivity of the cloud could result, and that this "would cause the ice cloud to appear solid (because no sunlight passes through) and could even give a silhouette effect." Then, in a non sequitur he adds that "the raw materials for such a phenomenon, beyond those provided by nature, could come from the growing numbers of high-altitude jet aircraft", and seems to intimate that the charges are to come from jet turbine blades!

But returning to the foundation on which the above series of steps rests, let us see just what Vonnegut actually reported in the cited note. What he reported was a pilot observation of a bright band that propagated across the top of a thunderhead, a ground observation of a bright streamer of cloud that built up slowly and then disappeared suddenly at the moment of lightning discharge within the thunderstorm, and finally some field observations by Vonnegut on brightness changes (amounting to a mere few tenths of a per cent) of thunderclouds at instant of lightning discharge within the cloud (as detected by radio-frequency noise gear). What in all of this remotely suggests UFOs to Klass? One could start talking about a very large variety of cloud-physical effects of unusual nature and remain equally far from the area of UFOs. Yet after juxtaposing the foregoing, Klass leaves his reader with the conclusion that "Nature has a surprisingly large bag of atmospheric electrical tricks with which it can create unusual 'flying objects.'" What flying objects?

In an earlier discussion of Vonnegut's note¹⁷, Klass went even farther from such slim supporting evidence. Introducing without any atmospheric-physical basis the notion of a "vortex of ice crystals", he merges it with Vonnegut's idea of electrical orientation effects as follows: "If the angle of incidence of sunlight playing on a vortex of ice crystals aligned by electric fields were such that reflected light was directed away from an observer, it conceivably could produce a silhouette effect...(and) if the airborne vortex contains charged dust particles, similarly aligned by electric fields...a very pronounced silhouette could result. If electric discharge is taking place within the vortex between charged dust particles, as has been suggested by some ball lightning theories, it could easily create the illusion of a solid spacecraft with small lighted windows." All of this suggests the conclusion that if someone sets out to create UFOs out of almost thin air, he can do so.

Mirror Images and the Car-Stopping Problem. Klass (18, p. 96) evidently accepts, as do I, the reality of a puzzling number of instances where observers have reported engine and headlight failure coincident with close passage of a UFO. Klass suggests that "because a plasma contains a cloud of electrified particles, there is no doubt that if an auto battery were enveloped by such a plasma the battery could be short-circuited. But it is difficult to explain how a UFO-plasma could gain entry to the car battery in the engine compartment without first dissipating its energy to the metal body of the car."

However, he then comes up with an extremely curious suggestion that may be some measure of the scientific level of Klass' analyses. He needs to have his plasma ions inside the hood, to short the battery. So he remarks that "an electric charge in the vicinity of a conducting surface, such as a car's hood, creates a mirror image of itself on the opposite side of the conducting surface." Quite clearly, Klass is under the impression that "image charges" are real charges, and that the "image charge" induced on the inside of the hooded engine compartment can short-circuit the battery and cause other real effects. This is a puzzlingly erroneous misconception to be held by an electrical engineer.

Aeronautical engineers in the CASI audience can appreciate the parallel to another closely similar situation where boundary-conditions can be handled by a similar ruse: The use of "image-objects" in flow problems near solid, plane boundaries. For instance, the enhanced lift that accounts for the familiar "flare-out" as an aircraft comes down to within a few feet of an airstrip can be treated, mathematically, in terms of an identical aircraft imagined to be upside down and moving along at a distance below the real

aircraft's true distance above the ground-plane. In fact, wind-tunnel tests of flow problems near the ground-plane are actually conducted with real model-pairs mounted in this "mirror-image" attitude. To suggest that a real automobile battery could be shorted out by "image charges" induced in the hood is comparable, then, to suggesting that "flare-out" on landing results from the fact that a real aircraft is actually flying along upside down, just underneath the airstrip.

Summary-Critique of Klass' Plasma-UFO Thesis. In the foregoing sections, I have pointed out a number of serious scientific errors and misconceptions that mark Klass' writings on UFOs^{17,18}. Although he has diligently pursued the subject of UFOs for some months, his handling of the scientific questions involved reveals so many misunderstandings, often of elementary principles, that his principal thesis, namely, that a substantial portion of the previously most puzzling UFO cases can be explained as plasmas, cannot be regarded as supported.

It is important to note that Klass does not claim that all UFOs are plasmoids (18, p. 282); he feels that meteors, balloons, optical phenomena, planets, and other misidentified phenomena account for many UFO reports. He does indicate, however, that he feels he has "identified most if not all of the previously unexplained UFOs as atmospheric electrical phenomena, using NICAP's most convincing cases (18, p. 174)." By the latter, he refers to the more than 700 cases in Hall's *UFO Evidence*³. Such a claim is fatuous; there are in Reference 3 hundreds of cases that could not even remotely be reconciled with Klass' plasma-UFO hypothesis on any reasonable, scientific grounds. Indeed, even considering the percentually small sampling of those NICAP cases that are specifically cited in Klass' book, I would say that only perhaps two or three cases could be even tentatively viewed as some atmospheric-electrical plasmoid phenomenon. His claims to have "identified" the difficult NICAP UFO cases are gratuitous and lacking in scientific basis.

Klass asserts (18, p. 286) that "it is time that these two influential organizations (meaning NICAP and APRO) encouraged their members to open their minds to the possibility that UFOs may be only freak atmospheric electrical phenomena." He adds that NICAP and APRO should "more fully inform their members about the plasma theory", evidently thinking that this will lead them to accept his hypothesis that the most interesting UFOs are "freak atmospheric electrical phenomena." As a matter of fact, members of NICAP and APRO had weighed and rejected hypotheses similar to Klass' long before he developed an interest in the UFO problem, and three communications cited in his book (18, pp. 55, 58, and 177) from NICAP members contain more reasoned, albeit brief, reactions to that hypothesis than one finds in all of Klass' writings. The provocative UFO cases are low-altitude, close-range sightings of structured, machine-like objects of entirely unconventional nature, reported by witnesses whose credibility does not appear to be in question. The nearest Klass comes to confronting such cases is to suggest hypnotic effects or Rorschach-projective effects that make the witnesses see plasmoids as if they were structured vehicular objects with domes, panels, legs, ports, markings, etc. I have, myself, interviewed so many witnesses who have seen such objects that I can only smile weakly at the unreasonableness of Klass' intimation that he has "identified" such UFOs as plasmoids.

Furthermore, implicit in Klass' plea that NICAP, APRO, and the rest of those whom he labels as "UFOrians" should be made "fully informed" about plasma theory, is the tacit assumption that Klass, himself, is so informed. The many instances cited above wherein Klass completely misconceived pertinent aspects of the plasma physics he was attempting to talk about make such a plea quite hollow. The net effect of further study of plasma theory by

any "UFOrians" will be to make still clearer that Klass has written a book filled with sometimes ludicrous errors concerning plasma theory and related physics. He accuses the "UFOrians" of having closed minds; looking at his handling of the UFO problem, I am left with the difficult choice of deciding whether he, himself, has an even more tightly closed mind or whether the glaring weakness of his book simply reflects his ignorance of elementary principles of physics and electrical engineering. Rather than make that choice, I split my opinion about down the middle on those two alternatives.

The principal points I would emphasize by way of critique of Klass' plasma-UFO theory are the following:

- 1) He fails to put numbers into his hypotheses where numbers are readily inserted. The result is that he presents what may appear to be plausible arguments because they contain some qualitatively plausible elements. In this regard, Klass resembles Menzel. Quantitative evaluations reveal serious difficulties, sometimes outright absurdity, in instance after instance in the writings of these two principal proponents of the notion that UFOs are only misidentified natural phenomena.
- 2) Plasmas are notoriously unstable and evanescent, except when suitably contained and provided with sustaining energy sources. Klass appears to be almost unaware of these prime characteristics of plasmas for he casually adduces plasma-explanations in UFO incidents for which he offers no suggestions as to what provides the continuing energy sources of his plasmas, often over times of the order of not only tens of seconds, but often tens of minutes.
- 3) In the one or two instances where Klass does actually propose something resembling an energy source (powerline corona, TV antennas, aircraft charge-leakage), it has been shown above that there are fatal difficulties with his position.
- 4) Through a quite astonishing series of misunderstandings, Klass builds up a thesis to the effect that air pollutants are favorable to plasma-formation, and from this, makes repeated deductions (such as greater incidence of high-altitude UFOs because of more jets polluting the airways) of exorbitant nature. That Klass would go to press with such error-riddled ideas is surprising.
- 5) Through failure to understand elementary principles of atmospheric electricity (the field in which he claims to be making discoveries), he builds an error-chain extending from diurnal variation of atmospheric potential gradient to diurnal variation of UFOs, and deduces therefrom an "explanation" of excess of rural over urban sightings. For someone claiming to have uncovered an intriguing new phenomenon of atmospheric electricity, Klass' ignorance of fundamentals of that subject seems startling.
- 6) His claim to have accounted for the high frequency with which pilots observe UFOs following aircraft falls apart completely on subjecting the idea to quantitative assessment, as shown above. His related intimations that charged automobiles and charged pedestrians also attract plasma-UFOs are absurd. It is to be stressed that the quantitative evaluation of that hypothesis involves only elementary physics and, say, electrical engineering, yet no such evaluation was made by Klass. And, to add an extremely important criticism, he overlooks dozens of well-reported cases wherein UFO maneuvers would defy explanation in terms of his Coulomb-attraction hypothesis.

- 7) It seems entirely fair to suggest that part of the reason for the credence and attention given Klass' plasma-UFO hypothesis in press and non-scientific journals rests on his being an electrical engineer (the other part being, of course, his senior editorial position with a well-known aviation/aerospace magazine). In this light, his almost incredible misconceptions about "mirror-image charges", as noted above in connection with the long-puzzling UFO car-stopping problem, and the cited instance in which he was clearly confusing voltage and voltage-gradient, not to mention the many misconceptions about plasmas themselves, deserve the emphasis given to them above.
- 8) Finally, the most pervasively disturbing feature of Klass' book¹⁸ is the frequency with which it relies on argument by innuendo, argument by concatenation (to re-use the phrase employed above, argument by juxtaposition - that is, his specious assembly of what to many an unwary reader will look like a clever series of related deductions, carried out in the detective-story atmosphere that he repeatedly tries to create in his writing. After giving that annoying feature of his writing a good deal of thought, and after reflecting on the high frequency of scientific errors in his writing, it is my guess that these arguments are probably not deviously contrived to fool the reader but constitute reflection on the lack of preparation of the author. The reason that they need exposure, however, is that at the present time, the UFO problem is not yet being fought-out in the usual context of serious scientific discussion. The present major difficulty still remains that of convincing a large number of persons (in the scientific community, in federal science-related agencies, in Congress, and in the general public) that the UFO problem is an extremely serious scientific problem too long laughed out of court. For this reason, the kind of easy acceptance already given to Klass in the press cannot be viewed as unimportant. Menzel's role in helping to foster the impression, for many years now, that UFOs are all explainable in quite conventional terms has had very deleterious influence on the UFO problem; Klass will now join Menzel in extending that influence if the serious deficiencies of his thesis are not held up to careful scrutiny. It is for this reason that I have devoted so much space here to what ought perhaps to be regarded as so unscientific an exposition as to need no comment.

Summary and Conclusion

Returning now to more positive considerations, let me stress that my own studies of the UFO problem have forced me to the conclusion that it is an international scientific problem of potentially enormous importance.

In my view, the hypothesis of an extraterrestrial origin for UFOs appears (via argument by elimination of many alternative hypotheses) to be the most satisfactory hypothesis to account for the impressive body of observational evidence that has been accumulated over the past two decades of UFO sightings. Space has not permitted my confronting here the many obvious challenges that such a position properly evokes; I have confronted some of those elsewhere in cited references. Others are simply unanswerable in terms of presently available information. That's scarcely a new situation in the history of science.

If there is admitted to be even a very slim possibility that UFOs are extraterrestrial surveillance devices of some type (and I incline to that

view at present, as do many other serious students of the UFO problem), then it should be obvious that a very energetic scientific investigation of that possibility ought to be launched. Instead, to date, world scientific opinion still leans predominantly in the direction that UFOs constitute a "nonsense problem", a bothersome host of reports of misidentified natural phenomena. However, one finds that the spokesmen who most strongly emphasize that view are (with almost no exceptions) quite uninformed as to the real nature of the UFO evidence. Ridicule and official mishandling of the problem have kept the true nature of the UFO evidence well out of sight. As one American writer recently quipped, "The American public is not telling the Air Force the truth about UFOs." This has been true on a global scale, while the mass of evidence has grown steadily greater.

New, independent, vigorous UFO investigatory programs are sorely needed. Investigators in countries other than the U.S. may have a superior opportunity to make progress towards clarification of the UFO problem because they will not be working against the long-standing prejudices so visible in official U.S. handling of the subject. Thus, I urge that programs such as the newly created Canadian UFO investigation at the University of Toronto be instituted in other countries in all parts of the world, to delve vigorously and imaginatively into the fascinating and potentially world-shaking problem of the Unidentified Flying Objects.

UFOs are, in my opinion, the greatest international scientific problem of our times.

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SCIENCE, TECHNOLOGY, AND UFOS
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Science has, over the past few centuries, erected a strong framework of fact and theory that successfully compasses much of our experience. On this impressive and steadily rising framework are supported our ever-broadening technologies - the kinds of technologies so well represented by the aerospace technology in which many of you are engaged. These Laboratories here in East Hartford where we are meeting today exemplify the symbiotic interrelations of technology and science that mutually support and nurture both of these important activities of modern man.

Some Truisms About Science, Technology, and UFOs:

A truism about science that has strong bearing on what I shall be saying to you concerning the UFO problem is this: Proud as we can be of today's cumulative record of scientific exploration of the world about us, we certainly do not yet know all that deserves the name of fundamental scientific knowledge. Indeed, do we not all subscribe to the spirit of the closing lines of Alfred Noyes' moving trilogy about science, "The Torchbearers",

*"Who that has once seen how truth leads on to truth
Shall ever dare to set a bound to knowledge?"*

A truism about technology that has strong bearing on what I shall be saying about UFOs today is this: Given time, an edifice of expanding technology far more impressive than that which we see about us in 1967 could be erected simply on the basis of the present stock of fundamental scientific knowledge. The magnitude of the technological edifice that will grow with the seemingly exponential increase of future scientific discoveries is vastly greater, unforeseeably greater than our current technology.

A truism about modern man's outlook on nature and on his place therein that has strong bearing on the present status of the UFO problem is this: In his centuries-long struggle out of slavery to superstition and fear of the supernatural, modern science-oriented man has developed subtle but well-ingrained dispositions to reject observations and reports of the anomalous and the inexplicable; and that rejection is the more vehement the farther the observations seem to lie beyond the pale of present-day science.

Finally, a truism about UFOs themselves: Today, as for the past twenty years of "the UFO era", a majority of scientists tend to view UFOs as a non-sense problem, one deserving only scorn or silent disdain. Throughout the entire world, only a small handful of scientists have taken the trouble to attempt direct checks on the puzzling and recurrent reports of UFO phenomena; compared with that handful, there has been a large and rather vocal group who have either explicitly or indirectly ridiculed the notion that there might be unconventional craft-like objects operating over our planet, and their scoffing has been based not upon extensive personal investigations of UFO reports but primarily upon *a priori* considerations. Most of this scorn has been directed against the suggestion that UFOs are of extraterrestrial origin (Ref. 1). Because I shall be referring to this latter idea frequently here, I shall use ETH to denote the extra-terrestrial hypothesis concerning UFOs. It will here imply the hypothesis that UFOs are some kind of extraterrestrial probes or vehicles, products of some technology other than our own.

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Other Hypotheses Competitive with the ETH:

Although I shall not here examine them in any detail, it will be well to list the principal alternative hypotheses for accounting for UFOs. One can group them usefully into the following eight categories: 1) Hoaxes, fabrications, and frauds; 2) Hallucinations, mass hysteria, rumor phenomena; 3) Lay misinterpretations of well-known physical phenomena (meteorological, astronomical, optical, etc.); 4) Advanced technologies (test vehicles, satellites, re-entry phenomena, etc.); 5) Poorly understood physical phenomena (rare atmospheric-electrical effects, cloud phenomena, plasmas of natural or technological origin, etc.); 6) Poorly understood psychological phenomena; 7) Extraterrestrial probes, *i.e.*, the ETH; 8) Messengers of salvation and occult truth.

Skeptical scientists with limited exposure to the UFO record generally prefer to think that UFO reports can be explained adequately by some admixture of hypotheses 1, 2, 3, and perhaps occasionally 4. If they have given the existing UFO literature (Ref. 2) more than cursory inspection, they may somewhat grudgingly add that possibly hypothesis 5 warrants study, since something of real scientific interest (perhaps in atmospheric physics, say) might be learned by a closer examination of selected reports.

I have encountered a substantial number of skeptical laymen, aware that many UFO reports seem to comprise credible accounts of machine-like objects maneuvering in our atmosphere in unusual manner, who prefer hypothesis 4. In 1947 and 1948, when UFO reports first exploded into public attention, hypothesis 4 was a sensible working hypothesis. However, persons familiar with the state of present-day technology and with the serious difficulty of keeping entirely secret any new and massive block of technology of the sort that would be required to produce craft matching the performance characteristics of UFOs, do not today seriously consider hypothesis 4. I reject it categorically as an explanation of any but occasional reports of inherently small interest (re-entry luminosity, unaccounted sonic booms, sunlit contrails, etc.). A recently-published book by Bloecher (see Ref. 2) has strong bearing on hypothesis 4, since Bloecher has uncovered over 800 UFO sightings in an approximately two-week period in the summer of 1947, when the "flying saucers" first received public attention. Many of those reports are essentially similar to 1967 sightings; so one seems forced to say that at least as early as 1947 (and probably substantially earlier), the UFOs were with us. To assert that some secret technology was, right after World War II, producing superlative vehicles still far beyond the known state of propulsion technology should sound particularly unbelievable here at United Aircraft. I say that all such ideas centered on hypothesis 4 can be regarded as having only vanishingly small probability of explaining the UFO puzzle.

Persons subscribing (often fervently) to hypothesis 8 have undoubtedly contributed in a significant way to discrediting the UFO problem. Cultist and crackpot ideas abound in a garish "literature" of paperbacks and magazine articles, mainly aimed at the suggestion that the Space Brothers from Venus, Mars, and Saturn are here to save us from such hazards as "unbalancing the atomic state of the upper atmosphere with H-bomb radiations". This all-too-visible group is frequently identified by scientists as constituting the totality of those who take seriously the UFO problem. To lump serious students of the UFO problem together with the cultist-crackpot fringe is an error that results simply from limiting one's examination to a superficial, armchair approach to the UFO record. One can, in fact, easily and quickly separate the crackpots and identify the serious investigators. Regrettably few scientists have yet taken the trouble to do so (Ref. 3).

Mirages and Ball Lightning:

One of the few scientists who have examined a substantial number of UFO reports and still scorn hypothesis 7 is Dr. Donald H. Menzel, former Director of Harvard Observatory. His second book (Ref. 4) is chiefly aimed at explaining UFOs in terms of hypothesis 3 and especially in terms of atmospheric-physical phenomena (refractive anomalies, mirages, meteorological optical effects, etc.). In a small fraction of all the reports he treats, he adduces hypotheses 1, 2, or 4; but mainly he stresses hypothesis 3. I have elsewhere (Ref. 5) cited a number of specific examples of objections to Dr. Menzel's approach in explaining away UFO reports. A characteristic defect of his treatment is, in my opinion, his use of arguments that are perhaps qualitatively reasonable but definitely not quantitatively reasonable. In other instances, I would object that he simply ignores essential parts of the sighting in arriving at his conclusion.

In the famous July 24, 1948, Chiles-Whitted sighting over Montgomery, Alabama, involving two experienced Eastern Airlines pilots, Dr. Menzel insists on the "meteor" explanation of the fast, glowing object that passed a DC-3 on near-collision course, despite the clear-cut testimony by both men that, just as the object passed on their starboard side, it executed an abrupt pull-up. I have recently interviewed both Chiles and Whitted, confirming this important point and many others that cannot be squared with the "meteor" explanation that Dr. Menzel stresses, that Air Force consultant Dr. J. A. Hynek first proposed in 1949, and that Air Force Project Bluebook officially accepted as its explanation a half-dozen years ago (see, e.g., Ref. 6). Both pilots reiterated to me, quite recently, that each saw square ports or windows along the side of the fuselage-shaped object from the rear of which a cherry-red wake emerged, extending back 50-100 feet aft of the object. To term this a "meteor" is not even qualitatively reasonable. One can reject the testimony; but reason forbids calling the object a meteor.

Another example of both Dr. Menzel's and Project Bluebook's insistence on explanations that are not even qualitatively reasonable can be found in a multiple-witness sighting at Vandalia, Ohio on the morning of March 8, 1950. Despite the fact that the object was sighted in daytime condition by several pilots in the air (hence viewing the glowing object through a windshield and viewing it from a moving platform), Dr. Menzel concludes (with Bluebook) that this was a case of the planet Venus misidentified as a UFO. That ground radar at Wright Patterson AFB got an echo from the unknown, he explains away as due to a radar return from an "ice cloud", ignoring the point that only in the closing portions of the extended observation were clouds present. Two F-51 pilots were scrambled and, by Dr. Menzel's own admission, had no difficulty in climbing up with the object in steady view (until a cloud deck finally interfered). Anyone who has tried to find Venus and then to keep it located while engaged in even the slightest distractive activity will surely agree that it is essentially out of the question for a fighter-pilot to execute flight maneuvers and keep Venus identified in daytime conditions. Still more qualitatively unreasonable is the testimony of one of the commercial airline pilots, whom I have quite recently located and interviewed. TWA Capt. Dean Miller, inbound to Vandalia, saw the object dead ahead of his plane, in a direction not at all matching Venus' sky-location; and, while he had it well in sight, observed the shiny or glowing elongated object move out from its hovering position and climb through a ninety-degree arc to another position again inconsistent with Venus' position in the southeastern sky. The fact that one military pilot objected to the Bluebook Venus explanation on grounds that he looked in the same part of the sky the following day and found no such object as he had pursued in his F-51, Dr. Menzel explains away as follows:

"...weather conditions the first day would have distorted the image and made it unlike the pale light of Venus

occasionally visible in the daytime. It was not visible at all the following day because of different weather conditions."

Are any quantitative arguments offered to support such a conclusion? No. As a matter of fact, for the substantial angular altitude of Venus at the time of this protracted ground-air-radar observation, nothing but direct smoke- or cloud-obscuration could comprise a "weather condition" that would significantly affect the difficult task of finding Venus in the daytime sky. I here add to my previous criticisms of Dr. Menzel's approach to the UFO problem because he has had what I can only view as a deleterious influence on scientific thinking about the UFO problem. A scientific colleague of mine, who was in Russia not many months ago, asked many Russian astronomers how they felt about the UFO problem and was told by most that Menzel had explained the whole thing quite satisfactorily. I strongly disagree. Some of his explanations are acceptable, but the bulk of them do not seem to me to constitute reasonable assessments of the facts.

Because we always have more to learn, most scientists approaching the UFO problem for the first time will surely keep hypothesis 5 well in mind. There may be still-poorly understood atmospheric or even astronomical phenomena which are being misinterpreted by observers as vehicular objects of unconventional nature. I agree with the importance of repeatedly assessing this possibility and carefully matching it against the details of well-reported UFO observations. The serious difficulty with this hypothesis is posed by the many reports from apparently quite credible witnesses in which the object seen is entirely too much like a fabricated product of technology (*i.e.*, machinelike) to warrant an explanation, say, in terms of some poorly understood plasma phenomena. I have said before (Ref. 5) that attempts to account for the core of the UFO problem in terms of corona-discharge and ball lightning effects represent failure to confront the fact that the bulk of the important cases are not even remotely like such plasmoids. In my opinion, Philip J. Klass, one of the editors of *Aviation Week*, has yet to advance arguments adequate to support his repeated contentions that UFOs are simply various types of plasmoids. To be sure, plasma-like glows accompany many nighttime reports of high credibility, but daytime reports of formations of disc-like objects flying overhead or pacing aircraft under fair weather conditions are not as easily subsumed under the plasmoid heading as Klass would suggest.

A report of seemingly high credibility which, interestingly enough, was jointly heard from the eye-witnesses by Dr. Menzel, Mr. Klass, and myself, along with several hundred editors of major American papers (April 22, 1967 session of the American Society of Newspaper Editors, Washington, D.C.) is a case in point. On the afternoon of May 21, 1966, we were told, Mr. William C. Powell and Miss Muriel McClave were flying in a Luscombe over Willow Grove, Pennsylvania, at about 4500 ft altitude, with 15-mile visibility. Powell, the pilot, has 18,000 hours to his flying record (RCAF, AAF, KLM, and executive-transport work currently). After a flight of Navy jets climbed out under his wing from Willow Grove NAS, Powell spotted an object closing on the jets from their rear. Noting absence of a vertical tail-fin, he watched more closely and saw it make an abrupt (no-bank, no-slewing) turn of about 150 to 160 degrees and head for his aircraft. He and Miss McClave watched it approach on seeming collision course at their level, until it passed their starboard wing at a distance Powell put at perhaps 100 yards. Powell said, "It was just like looking at a Cadillac." The object, no Cadillac, was described by both as a domed disc, of diameter 30 to 40 feet, with a bright white dome on a red discoid base. One can reject the testimony here, of course; but it would not seem reasonable to try to account for this as some refraction anomaly or other aberration of meteorological optics,

nor is it reasonable to assert that here was some peculiar fair-weather variant of ball lightning. Examples equally difficult to force into those pigeonholes are very easily multiplied, but the time at my disposal here precludes the kind of extensive recapitulation of cases that can be adduced in support of my position (see refs. 2 and 5 for more examples).

I have now made brief comments about all of the listed hypotheses except 6, the psychological hypothesis. Having discussed this one with many psychologists, I am forced to the conclusion that it is quite unlikely that UFO reports will prove to be some globally-epidemic wave of hallucination or psychosis, interesting and significant as this would be. I shall not here say more about it, despite having given it much thought.

My list of eight hypotheses is not exhaustive because other hypotheses still more bizarre than, say, numbers 7 or 8 can be proposed (time-travel, hidden terrestrial societies, mad millionaires with secret laboratories, etc.). However, those eight cover the most commonly proposed ideas advanced by persons seeking to explain the enigma of the UFOs, and perhaps I have now offered adequate suggestion of why I reject most of those.

The Official Air Force Project Bluebook Position:

Since I have presented a fairly long discussion of the Air Force position and the history of its handling of the UFO problem elsewhere (Ref. 5), I shall not do more than summarize here. As I studied the Air Force record, it appeared to me that, following an important turning point of 1953 (Robertson Panel), the official objective has been to debunk "flying saucers" as a non-sense problem that imposes a bothersome public relations burden on the Air Force. From visits to Wright-Patterson AFB and discussions with a number of persons affiliated with Project Bluebook, I conclude that only abysmally limited scientific competence has been brought to the study of UFOs within Air Force circles in the past fifteen years. Unfortunately, during all this time, the scientific community and the public were repeatedly assured that substantial scientific talent was being used in Air Force UFO studies. This was untrue, and I believe that it has been scientifically disastrous to UFO studies that this image was steadfastly built up.

Jerome Stanton, in a valuable analysis of the history of the UFO problem (Ref. 7), speaks of the way in which the Air Force "created the impression that a scientific investigation of UFOs was going on when in fact nothing of the kind was being done." Stanton asserts that "...until the well-publicized sightings of 1965 and 1966, no serious effort to do more than narrow down the residue of unknowns to as small a percentage as possible appears to have been made." I would feel obliged to comment that what he calls "serious effort" is not to be confused with "competent scientific effort"; to me, the record reveals only a rather low-powered, low-priority whitewash job by a very tiny project (three persons: officer, sergeant, secretary, as of 1966 when I visited Bluebook). Stanton, after reviewing a few instances of the many outrageously unscientific UFO evaluations that Bluebook has issued over past years asks: "...What is the motive for identifications so absurd that they fool no one, destroy public confidence, and insult and anger the people who report such things in good faith?" He rejects, as do I, the suggestion that the Air Force knows the UFOs are extraterrestrial and are trying to avoid public panic. He concludes, as I have on basis of all evidence I have seen to date, that we confront here no grand conspiracy, but rather an incompetently handled operation devoid of scientific talent.

Another journalist who has, like Stanton, recently surveyed UFO history, comes up with a rather different conclusion. In another one of the few valuable UFO books to appear in a recent flood of bad ones, Mort Young (Ref. 6) prefers the "grand conspiracy" hypothesis. He states that, "the Government is trying to keep flying saucers out of the realm of serious, public

discussion," and presents a number of cases which, I agree, constitute a form of coverup. Where I would (at present) disagree with Young is in his equating the sum of many such coverups to a "grand conspiracy". Rather, I remain on record as regarding them as just a lot of little coverups of the type that can become all too common in a military milieu, especially when a highly visible official position would be embarrassed by a policy of candor.

The UFO problem has been so badly mishandled, for so many years, by Project Bluebook that it is almost easier to imagine this part of a grand design of some high-level intelligence agency than to accept the conclusion that any program could possibly be handled so ineptly. I have to concede a point to those who criticize my position when they stress, "It's hard to imagine that they could be that incompetent." Readers unfamiliar with UFO history cannot possibly appreciate the full force of that argument against what I nevertheless defend as the "grand foulup" alternative to the "grand conspiracy" hypothesis for interpreting official Bluebook handling of the UFO problem.

For the record, let me reiterate (see Ref. 5) that I have never been dogmatic about insisting the "grand foulup" theory, and I have never scoffed at those knowledgeable students of the UFO problem who defend the only seemingly sensible alternative, "grand conspiracy." The existence of repeated small (?) UFO coverups so confuses the issue that one cannot be certain. The group which I regard as having made by far the most significant contribution toward past clarification of the UFO question, the National Investigations Committee on Aerial Phenomena (NICAP, Washington, D.C.), has always inclined toward the grand conspiracy theory. Before anyone casually pooh-poohs their position, he will do well to make himself aware of the body of evidence upon which NICAP has based its preference for that theory. I have attempted to examine much of that evidence and can only say that it is impressive, puzzling, and argues caution in defense of the grand foulup interpretation. Yet, to repeat, I still see a larger fraction of the total visible evidence explained as foulup than as high-level coverup. It is a big question, and I cannot do much more in this limited space towards elaborating my position than the above.

For deserved emphasis, I wish to repeat a statement that I made to the American Society of Newspaper Editors (Ref. 5) on the grand conspiracy theory: If that theory does in fact prove to be correct, that is, if we ultimately learn that for the past fifteen or more years it has been accepted at some high level in our intelligence machinery that UFOs are extraterrestrial surveillance devices, while a studied effort has been maintained to conceal that from domestic and foreign scientific view, then I shall be only one of an outraged body of scientists throughout the world who will ask how a decision to conceal such information from the world scientific community could have been arrogated to itself by any national intelligence or military organization. I have made this same statement before a number of scientific audiences in recent months, and I am deeply troubled to find that more than a few who have heard it have taken the trouble to tell me that I am naïve if I think that such deception is out of the question. I do not wish here to pursue further this line of thought, important as it is in the minds of all who have diligently examined the UFO evidence; to dwell too long on these points before a group not already thoroughly familiar with the incredible history of the UFO problem is to invite criticism of forgetting the primary scientific issues at stake. Just let one remark summarize: that one of the by-products of extensive study of the UFO record is a puzzled preoccupation with the coverup vs. foulup question.

Evidence For and Against the Extraterrestrial Hypothesis:

The ETH seems, of course, absurdly improbable on both first and second inspection. One has two choices: intrasolar-system origin, or origin in a planetary system of some distant star. The cultist easily brings in his spaceships from Venus, Mars, Saturn, and sometimes even Jupiter and Neptune, and does not bat an eye as he relates being told by the Space Brothers that Venus has cities and streets, fields and farms, running rivers and streams, timbered hills - the works. However, scientists aware of the growing body of knowledge concerning conditions on the other planets of the solar system find it difficult to imagine that a high technology could possibly exist on any other planet of our solar system, utterly fascinating as such a conception might be.

That's too bad, since it crowds into a tight corner the supporter of the ETH. He is, quite properly, confronted with the challenge to come up with some answer as to how the UFOs cross the vast reaches of interstellar space in reasonable intervals of time. In that challenge lies the heart, I believe, of most present scientific rejection of the ETH - a seemingly insuperable propulsion problem. Markowitz (Ref. 1) has recently made much of this, and earlier Purcell and others have examined the problem with rather discouraging results.

My own inclination (supported by months of study of the UFO evidence) is to appeal to the implications of that boundless future of science and technology that we seem to be able to discern as an extrapolation of our own present-day progress. What seemed absurdly impossible a century ago, we do today and take it for granted. A few weeks before the Wrights flew, noted astronomer Simon Newcomb published an article showing why heavier-than-air flight by man was out of the question. His error was simple: he failed to reckon with the possibility that engines of sufficiently low weight-to-power ratio would be produced; he must have known only of Hiram Maxim's monstrosities. The Wrights got off the ground at Kitty Hawk with an engine of 15 lb/hp; Manley, Langley's assistant, had one operating at about the same time with a ratio of only 3.6 lb/hp. By World War II that crucial ratio was driven below 1.0 lb/hp. And as the ratio went down, absolute thrust ratings went up; imagine how Newcomb's aplomb would have been shattered to witness a thrust-test on a Pratt & Whitney turbojet in the 50,000-lb class, only one human lifetime later than his "conclusive" 1903 analysis.

Propulsion is indeed very much at the heart of the ETH puzzle. So compare Goddard's 1935 record of a rocket ascent to a then-impressive 7500-ft altitude with our rocket-technology 30 years later - and then reflect that, broadly speaking, this progress was made on the basis of scientific fundamentals already available well before 1935. That is, this stunning gain came without any truly new scientific insights, "merely" through improvements in innumerable contributing technologies. When one reflects a bit along these lines, and recalls that, months after the first success at Kitty Hawk, Dayton newspapers refused to run any stories about all those silly rumors that two brothers were actually flying a machine along the interurban line on the outskirts of town (it just didn't make sense), then one is disinclined to be overpowered by arguments of those who, like Markowitz, would reject the ETH on grounds that nothing in our existing propulsion technology and nothing in our currently foreseeable technology makes "sense" out of the notion of interstellar travel. To be sure, we don't yet have any red hot ideas for getting out to Tau Ceti; but the pace and tempo of our own technology ought to give pause to those who would insist that there are no Tau Cetians who can do that which we still regard impossible.

I like to put it in this way: Imagine the consternation, the sheer disbelief of a Solomon Islander who, with only the most shadowy prior contact

with twentieth-century industrial-scientific technology, suddenly found himself witness to a 1942 amphibious invasion. How could the mind of one still in the Stone Age encompass arrival of dozens of enormous ships of all shapes, from which fire, smoke and unpleasant crashing noises spewed, and from some of which still other smaller ships were discharged, only to have the latter run up on the beach and disgorge a bewildering variety of men and moving devices out of which more noise and fire came. Imagine his puzzlement to then see dozens of aircraft move over, drop bombs, strafe, and engage in intricate air combat with still other aircraft, the like of which we are to here imagine he has never before seen. One can pursue this metaphor much farther, obviously, and I believe it is a good exercise for those inclined to arch skepticism about UFOs. For we may be like the Solomon Island Stoneager relative to the bewildering variety and number of UFOs that seem to be credibly reported as operating in our environment. We cannot understand how any society could produce such devices, accomplish such feats, display as many craft of such unprecedented performance characteristics, and do things that to us border on the miraculous. But remembering the Solomons invasion may give us perspective on our own present situation; and thinking about how our own technology has forged ahead in mere decades may give us second thoughts about Science, Technology, and UFOs.

So What? And So Where Next?

So What? I'm glad to report that I have been asked that by only one or two scientists out of the hundreds to whom I have been speaking about UFOs in the past year or so. One ought not need to emphasize that if the ETH is correct, it would constitute one of the most startling scientific revelations of all times. (Scientists need not look for Nobel prize material herein; the priority credit for judiciously arriving at and publishing the ETH concept appears assignable to writer Maj. Donald E. Keyhoe; his 1950 journal of publication was *True Magazine*!)

Not only would science move ahead enormously, once it got over what can now only be predicted as a dreadful shock of recognition, if the ETH is correct, but also the technological gains that could accrue from contact with and study of a technological society far beyond ours could be enormous. I cannot refrain from smiling a bit at some of the arguments made in recent years in support of efforts at interstellar communication, arguments centering around what I like to call the "interstellar brain drain", the leap ahead we'd enjoy if we could make radio- or other remote-contact with high civilizations far out in the galaxy. But, in principle, that argument makes good sense; doubters can review some facets of it in Cameron's book (Ref. 8).

Still, there might be other consequences of a full confrontation of the UFO problem, consequences unforeseeable and even fraught with hazard to us all. I like to think not; and twenty-plus years of evidence provides a good deal of reassurance, I believe. Freeman Dyson has waved aside unwarranted optimism about the benevolence of advanced technologies and has remarked that, for all we know, technology may be a cancer sweeping across the Galaxy. Possibly; but I'm glad to report that a close look at the UFO evidence does not suggest that we are about to be given an exposure to such a virus.

What a closer look at the UFO evidence does, however, suggest is this: Current scientific attitudes towards the UFO problem must be radically altered. We must stop smugly laughing at "all those nuts" who see UFOs, stop accepting hollow assurances from the official agency that has so long and so incredibly mishandled the UFO problem, and stop assuming that the very idea of our being under extraterrestrial surveillance is so amusingly absurd.

In past months, I have been at most of the Washington agencies one might expect to take a new, hard look at UFOs. To sum up briefly my results -

zero-point-zero. Despite NASA's claim that it has keyed its whole space program to the "search for Life in space", NASA seems not to be even slightly interested in looking into the UFO problem. Other science-oriented agencies may see subtle political hazards in moving into the UFO problem. Congress seems indisposed to initiate any action. And at every turn one hears, "Wait till Colorado makes its report."

The Condon Committee:

After the 1965 summer wave of sightings and a long series of editorial criticism (Refs. 5, 7), the Air Force took steps to do something about UFOs. I have talked with enough persons directly and indirectly associated with the sequence of events that led from that August, 1965, epoch to the October, 1966, announcement of a \$300,000 project at the University of Colorado, to feel entirely confident in saying that public relations difficulties, not scientific considerations, were of dominant importance in the establishment of the project now headed at Colorado by Dr. E. U. Condon.

Frankly, my early hopes that the Condon Committee would work vigorously and open-mindedly to unravel the UFO problem have dimmed very considerably as time has gone by. This is not the place to elaborate in detail my growing pessimism; but I must say, candidly, that I no longer view Dr. Condon's approach as either scientifically vigorous or scientifically very open-minded. Dr. Condon has stated directly to me that he is not himself interested in doing any interviewing of the witnesses in the classic cases which have led to the very problem he took on. And he has repeatedly indicated an almost whimsical preoccupation with the crackpot and cultist aspects of the UFO problem. I submit that one can easily and with confidence make a very effective separation of the irrelevant crackpot material from that warranting scientific attention; hence, I find it difficult to justify Dr. Condon's interest in the crackpot aspects to exclusion of consideration of reports of pilots, scientists, engineers, law enforcement officers, and all the other credible witnesses whose testimony has been so impressive to most who have been willing to examine it at first hand.

I had hopes that the Condon Committee would prove a turning point in scientific confrontation of the UFO problem, and I fully understand how easy it is in Washington to say, "Let's wait for Colorado." It makes sense; but only in Washington - not in those circles where a large volume of UFO evidence has already been weighed. In such circles, the present situation appears gloomy because of Dr. Condon's publicly expressed attitudes.

There are issues so sensitive here that I cannot fully discuss them in the present context. But a basic prerequisite seems now to get some entirely new study underway, entirely removed from sponsorship by any of the agencies that have had any past responsibility for UFO studies. I do not here cry, "Whitewash!" I do not see whitewashing underway. I see, instead, a lot of persons whose minds have long been made up about UFOs, going through motions that are not scientifically motivated, and moving in directions that do not augur well for early clarification of the UFO problem.

The situation is gloomy enough that there are days when, despite my having been driven by my studies ever farther towards support of the ETH, with all of its profound implications, I almost wish someone would come along and show conclusively that UFOs are just "something seen by a lot of nuts," nothing more. Then I could forget the whole thing and get back to what I was working on when I decided, in the spring of 1966, to take my first close look at the full history of the UFO problem. But that hope, I know, is futile. The evidence is just not that weak and vulnerable. Quite the opposite.

Hence, for the moment, the best plea I can make to you, as fellow-scientists, is to try to do as a number of us have, take a closer look at the UFO evidence and decide for yourselves. Evidently the need is for a much greater weight of scientific opinion pleading for a vigorous investigation backed by ample resources. I have elsewhere indicated some of the approaches that I think need to be used (Ref. 5); at the moment, the problem seems to be slipping back to the prior level of convincing the appropriate agencies and persons in Washington that there really is a problem here. The latter task was the one task many of us hoped Dr. Condon would perform when he took on the UFO study. Instead, he appears to be deepening the problem by virtue of his evidently slight interest in the whole business.

A Longer-Range View:

After about eighteen months of study and direct interviewing of about three hundred witnesses in important UFO cases, I can say to you that I see the UFO problem as one of extraordinary scientific importance.

I regard the ETH as the most probable hypothesis to explain the UFO evidence. To go from that expression of hypothesis-preference to a position of claiming adequate proof is no small step, needless to say. That step will not be taken until quite large financial resources are behind monitoring and observational programs, supported by budgets that will probably dwarf the present NASA budgets. And that step will not be taken until large numbers of scientists in many disciplines begin to confront the enormously intriguing questions posed by the UFOs. If my remarks to you today serve in any small measure to increase the number of scientists and engineers seriously concerned with the UFO problem, I shall consider my time well spent.

References and Notes

1. Markowitz, W., *Science*, 157, 1274, 1967. Markowitz, in concluding, expressed his fear that "21st-century science will contemplate with wonder the fact that, in an age of science such as ours, the U. S. Air Force was required to sponsor repeated studies of UFOs." Dr. Edward U. Condon, director of a current UFO investigation sponsored by the U. S. Air Force, in an interview of Sept. 27, 1967, with the *Rocky Mountain News*, was quoted as agreeing in general with Markowitz, and more specifically paraphrased Markowitz by saying that "the 21st century may die laughing (when it looks back on the many things we have done). This (the Colorado UFO study) may be one." He stated, "I'm almost inclined to think such studies ought to be discontinued unless someone comes up with a new idea on how to approach the problem."
2. The totality of UFO "literature" includes much that is scientifically worthless. I regard as the outstanding contribution to the more solid UFO literature *The UFO Evidence*, edited by R. H. Hall, and published (1964) by NICAP, 1536 Connecticut Ave., N.W., Washington, D.C., 20036. Another very recent addition to the UFO literature that deserves wide study is a book by T. R. Bloecher, *Report on the UFO Wave of 1947*, also available from NICAP. Recent, useful books by Stanton and Young are cited below. An earlier and quite significant reference is E. J. Ruppelt's *Report on the Unidentified Flying Objects*, Doubleday, 1956 (currently available as an Ace paperback). A useful source on a selection of about 160 interesting cases is *The Reference for Outstanding UFO Sighting Reports*, available from UFOIRC, Box 57, Riderwood, Maryland, 21139. Others could be cited, but the main point stressed here is that there do exist references from which a reliable estimate of the nature of the UFO problem may be drawn.

3. Predisposition to identify the entire UFO problem with the crackpot aspects was particularly well-documented in the views expressed by a number of scientists interviewed as part of an hour-long program produced in the "CBS Reports" series, on May 10, 1966, titled "UFO: Friend, Foe or Fantasy." The viewer could only conclude from this program that scientists believe that UFOs are seen and discussed almost entirely by persons who have "a need for miracles", a "need to believe". My own investigative experience runs exactly counter to this: I have found that the "believers" are hardly interested at all in UFO reports *per se*, not needing them to back up their firm convictions. And by contrast, the impressive reports come from responsible persons whose typical reluctance to come forward and report what they have seen results from concern that they in no way be confused with such "believers." Scientists who condemn UFO witnesses as "believers" deserve strong criticism for their non-scientific behavior!
4. Menzel, D. H., *The World of Flying Saucers*, Doubleday, Garden City, New York, 1963. The book is subtitled, "A Scientific Examination of a Major Myth of the Space Age."
5. McDonald, J. E., *UFOs - Greatest Scientific Problem of Our Times?* presented to the American Society of Newspaper Editors, Washington, D.C., April 22, 1967. Copies of this presentation have been reproduced for sale by UFORI (formerly Pittsburgh Subcommittee of NICAP), Suite 311, 508 Grant Street, Pittsburgh, Pennsylvania, 15219. The ASNE material is combined with material presented to the Outer Space Affairs Group of the United Nations and material presented to the District of Columbia Chapter, American Meteorological Society by the same writer. Inquiries should be sent to the indicated address.
6. Young, Mort, *UFO: Top Secret*, Simon & Schuster, New York, 1967 (paperback).
7. Stanton, L. Jerome, *Flying Saucers: Hoax or Reality*, Belmont Books, New York, 1966 (paperback).
8. Cameron, A. J. W., *Interstellar Communication*, W. A. Benjamin, Inc., New York, 1963.

ADDENDUM

In the discussion following the UARL presentation on 1/26/68, a number of floor-questions asked what specific scientific programs or investigations the speaker would recommend to achieve clarification of the UFO problem. As indicated, a number of such recommendations are already presented in Ref. 5 above. A brief summary of possible scientific investigations is appended below for completeness.

1. As someone has observed, the most important step in solving any problem is to recognize that there is a problem. The scientific community will take this step only when a substantial number of scientists have investigated enough past and current UFO reports to sense that (a) an astonishingly large body of observations by credible observers points to the presence of entirely unconventional machine-like objects maneuvering in our global airspace, (b) that this has been occurring for more than 20 years, and (c) that despite all official assurances, there has never been any substantial scientific examination of this body of observations. One might hope that the Condon Committee will accomplish this first step, though basis for optimism thereon seems to be diminishing.

2. Assuming accomplishment of Step 1, a first escalation of scientific effort would be justified. A number of task groups should be created to investigate certain specific questions: (a) An extremely intensive examination should be made, on an international basis, of all known sighting reports from all accessible parts of the world. I would estimate that we probably know of less than ten per cent of all sightings, due to the "ridicule lid" holding them below the level of visibility. This lid will immediately disappear upon accomplishment of Step 1, with the result that an order-of-magnitude increase in reports may be expected to come to the surface almost immediately. As with past reports, not all will be significant. However, by securing full cooperation of press and other media, rapid clarification of what constitutes a worthless report, what constitutes a significant report can very quickly be communicated to persons in most of the countries of the world. Such an educational program poses no intrinsic problems, although it would require a degree of cooperation between mass media and scientists that does not now exist with respect to UFOs. Step 1 being accomplished, that degree of cooperation would appear instantly, in my opinion. (b) In order to undertake the first adequate quantitative analysis of significant patterns of movements and appearances of UFOs over the globe, computer processing of the suddenly increased body of available reports would be necessary. Design of Step 2a would have to be made with careful regard to Step 2b, to insure effective data-handling and data-retrieval of the large body of observational material that would have to be processed. At the start (first few months only), limitations of number of scientists with adequate familiarity with the UFO problem would be a handicap. My own experience leads me to suggest that a crash-training program could be confined to a period of at most two to three months for the personnel doing the design work for Steps 2a and 2b. Fortunately, as stressed in Ref. 2 above, there does, in fact, exist a quite usable UFO literature upon which to draw in this initial training effort. Once new reporting procedures and reporting questionnaires were designed for compatibility with adequate data-processing, something like three or four hundred scientists in the physical and social sciences could be engaged in Steps 2a and 2b in a number of investigative centers distributed around the world. (c) Concurrently, special investigative groups, not primarily concerned with interviewing or data-processing, should attack selected questions that appear to be of high priority. For example, the moot point of UFO disturbances in large power systems clearly warrants exceedingly careful scrutiny. I know of about a dozen instances in which there seems to be evidence for such disturbances; there is much more evidence indicating frequent presence of UFOs near power facilities without any apparent system-disturbances. The fact that a number of UFO observations accompanied the Northeast Blackout of Nov. 9, 1965, is not widely known; that many smaller-scale electrical disturbances appear to have accompanied close passage of a UFO is also not generally appreciated. Engineers and physicists should pursue this question as one that might involve "hazard considerations"; their objective would be to reject or otherwise pass on the current suspicion of some students of the UFO problem that a potentially serious problem could exist in this area. Secondly, the large category of automobile-stopping cases warrants intensive study by engineers and physicists to try to draw from available reports implications for the possible mechanism of this frequent process. Magnetic effects come under serious suspicion here, though it is difficult to propose any single adequate mechanism at present. Thirdly, the long-rumored but only superficially studied cases of aircraft-interferences might be studied by persons with suitable backgrounds, given completely free entry into all necessary files. Fourthly, historians of various specialties should be urged to begin critical review of pre-1900 sightings that seem to bear provocative similarity to current sightings. The important "airship episode" of 1896-7 constitutes only a single such topic warranting the most careful study. Much amateur

speculation on pre-1800 sightings is, at present, worthless; scholarly scrutiny of this curious body of early reports might, in light of new insights gained from other parts of the escalated UFO studies, shed new and important light on whether the UFO phenomena have been going on for much more than a few decades. This has potentially important bearing on "hazard considerations", for obvious reasons. Fifthly, psychologists and psychiatrists should focus attention on the substantial subgroup of reports (usually skirted by physical scientists such as myself) in which seemingly credible and stable observers have reported paranormal, psychological experiences in conjunction with UFO observations. Details will be skirted here, in keeping with my usual unwillingness to become too specific on this matter lying well outside my own area of competence. Sixthly, the "occupant problem" should be searchingly explored by psychologists and biologists, armed with the most complete available assemblage of reports from all parts of the globe concerning observers who have reported seeing one or another type of "creature", "entity", "humanoid", etc., emerge from UFOs. At present, this subset of UFO reports is getting essentially no solid scientific attention. Accomplishment of Step 1 would immediately push this subset into a position of prominent importance. I, myself, can only say that I am deeply puzzled by the large number of "occupant" reports of which I now have knowledge. I make no present judgment, however, as to their significance. (In addition to the cited special programs, a number of others would be needed, but will be omitted here.)

3. Towards the end of the time-period needed to carry out Steps 2a, 2b, and 2c, certain follow-on efforts would probably be undertaken. Step 3a would be the deployment on a global basis of an adequate network of new UFO-sensors, designed on the basis of information assembled in previous steps of the escalating UFO program. Past evidence points conclusively to the fact that UFOs can be tracked, at least under some conditions, on radar. We already have radar equipment all over the globe. Special study groups would review all available past data on radar-sightings to suggest best procedures for collecting far more complete radar data from existing gear. On the basis of that study, plus continuing efforts, new electromagnetic sensing devices should be conceived and deployed. There is on record a wide range of electromagnetic disturbances accompanying close passage of UFOs (see Ref. 5, for examples). Systematic searching with broad-band EM sensors, with frequency-scanning devices covering the full radio spectrum, and with both existing and specially-designed magnetometers could, with adequate support, rapidly increase our knowledge of how to secure new types of objective (rather than subjective) instrumental (rather than anecdotal) data on the movements of UFOs. In addition, optical and spectroscopic techniques of observing UFOs would be developed. It is often objected that we already have many networks of radar and optical observing devices, but close examination of how they are set up almost invariably reveals that built into such systems is a sharp selectivity, with provisions to reject all "tracks" not satisfying pre-set criteria. Such selectivity is almost indispensable in monitoring systems to avoid being flooded with unwanted data. Our present technologies in all these areas are capable of an extremely rapid improvement over the present zero-level effort in remote-sensing of UFOs. Much of the initial design discussions aimed at Step 3 could and should begin soon after Steps 2 are set in motion, possibly sooner. From the results of Step 3 would come the first reliable basis for searching for significant patterns of UFO movements. Obviously, the search for such patterns holds high priority in solving the UFO mystery.

4. Attempts at communication, possibly in entirely novel manner not now under consideration even by students of the UFO problem, should be a goal of earlier studies. Interestingly, there do already exist credible reports of "communication", but on a level so technologically primitive as to do injustice to

terrestrial science. That "response" does seem to have been obtained in a few instances is intriguing. But far more elaborate techniques and systems are easy to imagine. Social scientists, however, need to ponder certain "hazard considerations" before Step 4 is set in motion, so there is little point in attempting more specific proposals here. Along with efforts towards communication should go extensive studies aimed at elucidating propulsion techniques and a host of other currently inexplicable "performance features" of UFOs.

The above suggestions are intended only to indicate a bit more specifically the kinds of scientific efforts that one might envisage should the "UFO problem" be generally recognized as a scientific problem rather than the nonsense problem that it has been regarded for the past two decades.

To accomplish Steps 1 and 2 might require an international-total expenditure of a few tens of millions of dollars, say the price of an SST or a few large bombers or one small naval vessel. To go on to Steps 3 and 4 would, of course, involve greater total expenditures, but still at a level small compared with the international-total funding of present space programs. Ultimately, if we are indeed under some form of extraterrestrial surveillance, global expenditures at the level of billions of U. S. dollars per year would become a small price to pay for clarification of such a profoundly important issue.

The problem of the moment, however, is to see that there is a UFO problem.

Congress of the United States
Office of the Minority Leader
House of Representatives
Washington, D.C.

March 28, 1966

Rep. George P. Miller, Chairman
Science and Astronautics Committee
U. S. House of Representatives
Washington, D. C.

Dear Chairman Miller:

No doubt you have noted the recent flurry of newspaper stories about unidentified flying objects (UFO's). I have taken special interest in these accounts because many of the latest reported sightings have been in my home state of Michigan.

The Air Force sent a consultant, astrophysicist Dr. J. Allen Hynek of Northwestern University, to Michigan to investigate the various reports; and he dismissed all of them as the product of college student pranks or swamp gas or an impression created by the rising crescent moon and the planet Venus. I do not agree that all of these reports can be or should be so easily explained away.

Because I think there may be substance to some of these reports and because I believe the American people are entitled to a more thorough explanation than has been given them by the Air Force to date, I am proposing that either the Science and Astronautics Committee or the Armed Services Committee of the House schedule hearings on the subject of UFO's and invite testimony from both the executive branch of the government and some of the persons who claim to have seen UFO's.

I enclose material which I think will be helpful to you in assessing the advisability of an investigation of UFO's.

May I first call to your attention a column by Roscoe Drummond, published last Sunday in which Mr. Drummond says, "Maybe all of these reported sightings are whimsical, imaginary or unreal; but we need a more credible and detached appraisal of the evidence than we are getting."

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Rep. George P. Miller, Chairman
Page Two
March 23, 1966

Mr. Drummond goes on to state, "We need to get all the data drawn together to one place and examined far more objectively than anyone has done so far. A stable public opinion will come from a trustworthy look at the evidence, not from belittling it.

"The time has come for the President or Congress to name an objective and respected panel to investigate, appraise, and report on all present and future evidence about what is going on."

I agree fully with Mr. Drummond's statements. I also suggest you scan the enclosed series of six articles by Bulkley Griffin of the Griffin-Larrabee News Bureau here. In the last of his articles, published last January, Mr. Griffin says, "A main conclusion can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentification of familiar objects, such as balloons, stars and aircraft."

I have just today received a number of telegrams urging a congressional investigation of UFO's. One is from retired Air Force Col. Harold R. Brown, Ardmore, Tennessee, who says, "I have seen UFO, Will be available to testify."

Another, from Mrs. Ethyle M. Davis, Eugene, Oregon, reads, "Nine out of ten people want truth of UFO's. Press your investigation to the fullest."

Ronald Collier of Los Angeles, who identifies himself as - "a scientist from M.I.T.," urges that you "do everything in your power to make Air Force Project Blue Book (the AF name for its study and verdicts on UFO reports) known to the people." Are we to assume that everyone who says he has seen UFO's is an unreliable witness?

A UPI story out of Ann Arbor, Michigan, dated March 21, 1966, states that "at least 40 persons, including 12 policemen, said today that they saw a strange flying object guarded by four sister ships land in a swamp near here Sunday night."

Matt Surrell of Station WJR, Detroit, cites an eye witness account of a recent UFO sighting by Emile Grenier of Ann Arbor, an aeronautical engineer employed by Ford Motor Company. He points out that an aeronautical engineer can hardly be considered an untrustworthy witness.

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Rep. George P. Miller, Chairman
Page Three
March 23, 1966

In the firm belief that the American public deserves a better explanation than that thus far given by the Air Force, I strongly recommend that there be a committee investigation of the UFO phenomena.

I think we owe it to the people to establish credibility regarding UFO's and to produce the greatest possible enlightenment on this subject.

Kindest personal regards.

Sincerely,

Gerald R. Ford, M.C.

GRF:plr

Enclosures

bcc: Rep. William H. Bates, R-Mass.
Armed Services Committee

Rep. Joseph W. Martin, Jr., R-Mass.
Science and Astronautics Committee

Rep. James G. Fulton, R-Pennsylvania
Science and Astronautics Committee

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ARE UFOs EXTRATERRESTRIAL SURVEILLANCE CRAFT?

James E. McDonald, University of Arizona*

Abstract of a talk given March 26, 1968 before the American Institute of Aeronautics and Astronautics, International Hotel, Los Angeles.

If it were insisted that I limit my entire talk to a one-word answer to the question posed in that title, I should find it hard to choose between the safer answer, "possibly", and the riskier answer that actually comes closer to my present opinion, "probably". The ever-increasing weight of the evidence I have been examining would drive me to the latter answer, if I had to compress an hour's remarks into a single word.

Surely AIAA members would wholeheartedly agree that if there were even a slim possibility that the earth were under extraterrestrial surveillance in any form, that would be a matter of the greatest scientific importance, warranting the most vigorous investigation. In fact, the evidence that seems to point to the conclusion that UFOs could be such devices is far from negligible; yet because of the history of official and scientific response to the earlier UFO reports, we continue to see mainly neglect or ridicule of this intriguing question.

After nearly two years of intensive study of many facets of the long-standing UFO problem, after examining around a thousand UFO reports and directly interviewing several hundred witnesses in selected UFO cases of outstanding interest, and after weighing alternative hypotheses, I find myself driven steadily further towards the position that the extraterrestrial hypothesis is the most probable hypothesis to account for the UFO.

That hypothesis is, of course, not original with me; it has been urged for many years by persons knowledgeable with respect to the UFO problem, who spoke from outside scientific circles. Our collective failure to examine scientific aspects of the UFO problem will, I fear, be held against the scientific community when the full dimensions of the UFO evidence come to be recognized. And the latter date may not be far off.

The principal points which I wish to emphasize include the following:

1) For the past half-dozen years, our American space program has been keyed to "the search for life in space", yet the now impressive UFO evidence that "life" may, in some sense, already have found us is either scoffed at or wholly ignored, even within such space-oriented agencies as NASA. I speak from first-hand experience in making that observation.

2) Twenty years of USAF responsibility in handling UFO reports appear to me to constitute about that same number of years of superficial and scientifically incompetent response to the UFO problem. Aside from brief periods in 1948 and again in 1952-3, USAF investigations of UFO reports have been perfunctory, aimed generally at finding any "explanation", however inadequately it might match the reported facts.

*Dr. McDonald is Senior Physicist in the Institute of Atmospheric Physics and Professor in the Dept. of Meteorology at the University of Arizona.

3) The principal reason that no other adequate scientific investigation has ever been initiated has been that, despite almost complete lack of any scientific expertise in the USAF program (Project Bluebook), public pronouncements have repeatedly given strong assurance that the investigations were drawing upon the best scientific talent available to the Air Force. Nothing could be further from fact. Examples will be cited to back up this point.

4) The present Air Force-sponsored study at the University of Colorado offered promise initially. However, repeated indications of negative bias in public statements by the Project Director, combined with lack of vigorous investigation of the most provocative types of UFO cases reported over the past 20 years, suggest that the Colorado program will fall far short of the required level of investigation. It is very desirable that some program be set up entirely divorced from Air Force affiliation, a conclusion underscored by recent developments at Colorado.

5) I have just returned from a visit to Canada where I discussed international scientific aspects of the UFO problem before the Canadian Aeronautics and Space Institute at their March 11-12 Montreal meetings. I emphasized the likelihood that UFO investigatory programs in countries other than the U.S. may have distinctly better chances of making rapid scientific progress towards clarification of the UFO question by virtue of the fact that they'd not be fighting uphill against the kind of thinking that USAF handling of the problem has engendered here. An encouraging new UFO investigation is, in fact, now being organized within the Institute for Aerospace Studies of the University of Toronto. I had an opportunity to confer with scientists beginning that study, on March 13. Quite recently, indications of a similar study being developed in France have appeared. The Russian position remains unclear. There are indications that a new level of official attention to UFO reports is appearing in other countries, but hard information thereon is still scant.

6) The types of UFO reports that are most intriguing, and point most directly to an extraterrestrial hypothesis, are close-range sightings of machine-like objects of unconventional nature and unconventional performance characteristics, seen at low altitudes, and sometimes even on the ground. The general public is entirely unaware of the large number of such reports that are coming from credible witnesses, because ridicule and scoffing have made most witnesses reluctant to report openly such unusual incidents. When one starts searching for such cases, their numbers are quite astonishing. Also, such sightings appear to be occurring all over the globe, possibly with increasing frequency in the past year (an inference based on uncertain data because the "ridicule lid" seems to be lifting of late, and this may simply be bringing a larger fraction of such incidents to light). Examples will be presented.

7) Suggestions that such observations can be explained away in terms of meteorological optics (Menzel's principal thesis) or in terms of atmospheric plasmas (Klass' principal thesis) cannot be supported with cogent scientific arguments. The recently-published book by Klass ("UFOs - Identified") is filled with erroneous conceptions and with qualitative arguments that fall apart on assessing them in quantitative terms. Examples will be presented.

8) Many obvious questions and challenges can be, and must be, raised against the extraterrestrial hypothesis: How sure can we be that

UFOs aren't some still poorly understood natural phenomenon? How can we be sure UFOs aren't secret test vehicles (ours or theirs)? If extra-terrestrial, why no contact? Why no crashed UFOs? Why aren't there lots of good photos if UFOs are real? Why aren't UFOs seen in cities rather than in remote deserts and swamps? How can we be sure UFO sightings aren't hallucinations? How about hoaxes? Why no sonic booms? How can one account for non-inertial turns and maneuvers? Why don't optical-tracking programs, such as meteor-survey programs, photograph UFOs? Why don't our radar-fences and high-altitude radar-search systems see UFOs? If not of intra-solar-system origin, how could UFOs accomplish inter-stellar transits in reasonable times? Where could they be coming from? How is it possible that other military radar systems throughout the world have failed to detect UFOs if they are real? Why aren't they seen by airline pilots and military pilots? Why aren't they seen by astronauts in orbit? Why aren't UFOs seen occasionally by large crowds of people rather than by single witnesses? To these and related questions there exist some quite good answers and some possibly relevant speculative answers; to others of those questions, there exist no satisfactory answers, to date.

9) The first need in accelerating UFO research is for many more scientists and engineers to review carefully and critically the existing evidence in order to design new sensors. [Electromagnetic effects accompanying UFO sightings offer real promise herein.] Also, it is urgently important to exploit already existing radar networks. Data from the latter networks should be brought under scientific scrutiny to search for systematic patterns of UFO appearances and movements. Present anecdotal data, plus fortuitously revealed radar data, are inadequate to define such patterns accurately (due to the ridicule-lid effect acting as a non-random filter). Following design of sensor-networks specifically planned for UFO detection, a host of other investigations would naturally follow, as I have remarked in other contexts. A few specific examples of the latter will be cited.

10) As a low-cost, minimal-level precursor to such efforts to attain instrumental monitoring of UFOs, it is urged that various organizations and agencies take steps to establish exploratory UFO study programs, even if these involve only two or three scientists per organization. Any aerospace organization or agency that is interested in organizing such a small internal study can secure initial bibliography-assistance, etc., by getting in touch with me. The immediate need is to establish a broader base of scientific recognition of the astonishing nature of the existing UFO evidence. Scientific scoffing at UFOs has gone on long enough. Serious attention is long overdue. AIAA could perform a very useful role in stimulating new and vigorous examination of this intriguing, yet neglected scientific problem. (I am encouraged to learn that AIAA has, in fact, recently formed a UFO Subcommittee and am in touch with it.) Although only a perceptually small number of scientists yet realize it, the past 20 years of yawning neglect of the UFO problem has become a scientific scandal, albeit still well-hidden. The sooner we take a serious new stance and confront the UFO question with adequate scientific talent and manpower, the less embarrassing will be the ultimate admission that we have, for two decades, been overlooking a problem of potentially enormous scientific importance to all mankind.

SOME UFO REFERENCES

Because persons seeking to familiarize themselves with some of the basic aspects of the UFO problem often ask for a list of UFO references, the following list has been assembled. It is certainly not exhaustive; but it cites a number of the more useful and some of the more controversial references. Inclusion here does not at all imply endorsement also there are good sources not here listed, for space reasons. -
J. E. McDonald

1. THE UFO EVIDENCE, Richard H. Hall, editor. Published by NICAP (National Investigations Committee on Aerial Phenomena, 1536 Connecticut Ave., N.W., Washington, D.C., 20036, 184 pp., 1964. Current price, \$5.00. (Available only from NICAP, not via bookstores.) Still the most useful and significant of all references on the subject.
2. THE REFERENCE FOR OUTSTANDING UFO REPORTS, edited by Thomas M. Olsen. UFO Information Retrieval Center, Inc., P.O. Box 57, Riderwood, Maryland, 21139. Current price, \$5.95 (obtainable only from UFOIRC).
3. REPORT ON THE UFO WAVE OF 1947 by Ted Bloecher. Obtainable from NICAP, \$5.00.
4. REPORT ON THE UNIDENTIFIED FLYING OBJECTS by Edward J. Ruppelt. Ace Books, New York, 318 p., 1956. Paperback, \$0.50.
5. FLYING SAUCERS: TOP SECRET by Donald E. Keyhoe. Putnams, New York, 283 pp., 1960. Current price, \$3.50.
6. FLYING SAUCERS AND THE U.S. AIR FORCE by Lt. Col. L. J. Tacker. Van Nostrand, Princeton, N. J., 164 pp., 1960. Current price, \$3.95.
7. FLYING SAUCERS by Coral E. Lorenzen. Signet Books, 278 pp., 1966. Paperback, \$0.75.
8. THE WORLD OF FLYING SAUCERS by Donald H. Menzel and Lyle G. Boyd. Doubleday, Garden City, N.Y., 302 pp., 1963. Current price, \$4.50.
9. ANATOMY OF A PHENOMENON by Jacques Vallee. Henry Regnery, Chicago, 210 pp., 1965. Current price, \$4.95. Ace paperback, \$0.60.
10. INCIDENT AT EXETER by John G. Fuller, Putnams, N.Y., 251 pp., 1965. Putnam paperback, \$0.75.
11. FLYING SAUCERS AND THE STRAIGHT-LINE MYSTERY by Aimé Michel. Criterion Books, N.Y., 285 pp., 1958. Current price, \$4.50.
12. UFOs - IDENTIFIED by Philip J. Klass. Random House, N.Y., 290 pp., 1968. Current price, \$6.95.
13. FLYING SAUCERS: HOAX OR REALITY? by L. Jerome Stanton. Belmont Books, N.Y., 157 pp., 1966. Paperback, \$0.50.
14. UFO: TOP SECRET by Mort Young. Simon and Schuster, N.Y., 156 pp., 1967. Paperback, \$1.00.
15. FLYING SAUCER READER edited by Jay David. Signet Book, N.Y., 252 pp., 1967. Paperback, \$0.75.
16. FLYING SAUCERS OVER AUSTRALIA by Stephen Holledge. Horwitz Publications, Sydney, Australia, 130 pp., 1965. Paperback, about \$0.75.
17. FLYING SAUCERS FROM OUTER SPACE by Donald E. Keyhoe. Henry Holt, New York, 276 pp., 1953. Out of print.
18. UNIDENTIFIED FLYING OBJECTS: GREATEST SCIENTIFIC PROBLEM OF OUR TIMES by J. E. McDonald. UFO Research Institute, Suite 311, 508 Grant St., Pittsburgh, Pa., 15219. A reprint of 3 discussions. Paperback, \$1.00.

Mr. Ford:

Your 1966 efforts to get the UFO problem clarified appear to have led to only very slight progress. USAF continues to yawn
- J E McDonald

Note on attached CASI paper:

On March 11-12, the Canadian Aeronautics and Space Institute (CASI) held an Aeronautics Symposium in Montreal. The afternoon session on March 12 was devoted to the UFO problem.

The attached paper, "UFOs - An International Scientific Problem", is the final version of one of the four presentations made at the latter session. Another one of the four was "UFOs - An Atmospheric Electrical Mystery", by Philip J. Klass of Aviation Week and Space Technology Magazine.

I have used this opportunity to offer an extended critique of Mr. Klass's position, especially as developed in his recently published book, "UFOs - Identified".

Some press comments and book reviews convey the impression that Klass has perhaps now solved the UFO problem. As Time Magazine puts it in a March 29, 1963, review of Klass' book,

"In this intelligently written and rational book (a rare phenomenon in UFO literature), Klass describes the scientific detective work that led him to decide on the probable cause of most previously unexplained UFO sightings. The enigmatic, incandescent objects, he concludes, are really a family of atmospheric phenomena that include not only coronas but ball lightning, St. Elmo's fire and 'Foo Fighters,' the same luminous globe that called World War II military aircrafts. ."

On pp. 18-37 of the attached CASI paper, I present some of my own quite different views on the soundness of Klass' arguments. I call your attention to that section because it seems important to have it known that at least one person familiar with atmospheric physics has examined the Klass book rather carefully and finds his arguments characterized chiefly by error, confusion, and unjustified inference.

J. E. McDonald
Institute of Atmospheric Physics
The University of Arizona

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The Detroit News

CLASSIFIED

The Passing Show and REAL ESTATE

MICHIGAN'S LARGEST WANT AD MEDIUM

SUNDAY, APRIL 3, 1966

SECTION 11



This picture, purportedly of a flying saucer, was taken Dec. 26, 1965, at Cappoquin in County Waterford, Ireland. Large, bright area was described as plume of saucer at left-hand tip.

ARE THEY FACT, FICTION OR ILLUSION?

Those Fantastic Flying Saucers

Scientists in 3 Special Fields Explain Michigan's Eerie UFO Sightings

By JEAN PEARSON
Detroit News Science Writer

The House Republican leader has called for a congressional investigation.

A national organization for the investigation of aerial phenomena, with high-ranking, retired military officers and professors on its governing board, has urged a nationwide tracking network.

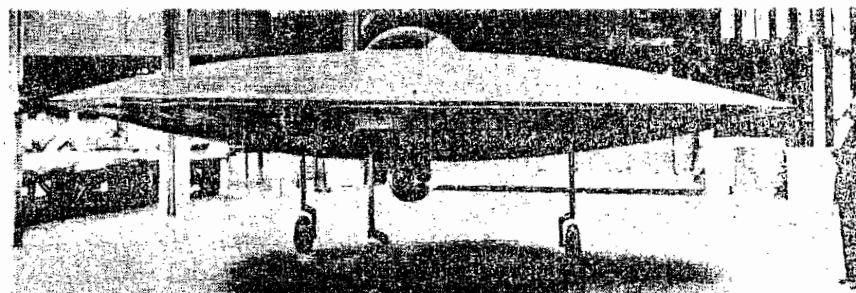
People are puzzled.

Are the UFOs real, illusions or just natural events people can't explain? Is the

of a number of fairly common objects, such as a dog standing on grass, a bird in the sky, a pile of bricks and a fire hydrant.

He projected them on the screen for a group of viewers who hadn't seen the pictures before. Purposely, he made the projected image very blurred at first. Then slowly, in stages, he put it into focus.

Given a blur, the viewers immediately tried to determine what it was they were looking at. Once they had reached a conclusion that seemed to satisfy, they clung to it.



Constructed in France, this concept of a flying saucer machine was unveiled in July, 1955, but there are no published reports of it flying. It has a diameter of almost 27 feet.

citizens—people who haven't seen flying saucers, or people who have seen something they can't explain but don't know what to believe—are asking after the recent rash of sightings in lower Michigan.

★ ★ ★

Answers Given by Experts

To try to find some answers to these questions, psychologists, geologists and aerospace engineers at the University of Michigan and Michigan State University were interviewed.

A copy of the most recent United States Air Force report on investigation of unidentified flying objects (UFOs), was also obtained and studied.



Mrs. Pearson

Here are some of the comments.

The official University of Michigan answer was given by Dr. A. Geoffrey Norman, vice-president for research. His two-sentence statement was:

"The university is not officially involved in any investigation of the UFO phenomena, but does cooperate with the official investigators when asked to do so or inquiries are made.

"We have also informed the investigators that there is no research activity in the university which might give rise to the manifestations many persons have reported observing in this area on recent evenings."

Informally, Dr. Norman suggested some U. of M. aerospace engineers, geologists and psychologists might have some ideas about the sightings.

★ ★ ★

'They've Seen Something'

"First of all," said Dr. Stephen Kaplan, an associate professor of psychology who is especially interested in the fields of perception and memory, "you have to realize these people aren't lying. They've really seen something and they are being honest about what they think they saw."

"The problem is that we don't know, and probably can't know, what it was they saw."

Whenever a person sees something unusual that he doesn't know, or can't explain, Dr. Kaplan said, he tries to find an answer and comes up with a hypothesis.

But once he has formed a hypothesis that fits the situation, it becomes very convincing to him. He then finds it difficult to abandon his answer, or hypothesis, even when logical information is presented that should change his opinion.

Dr. Kaplan said this tendency might be related, in a way, to research in perception done by a Harvard psychologist, Dr. Jerome S. Bruner.

Dr. Bruner collected Kodachrome slides

and the picture was in sharp enough focus to determine without a doubt what the object was.

★ ★ ★

Not From Another Planet

Dr. S. Howard Bartley, Michigan State University professor of psychology especially interested in the area of vision, wished to be very cautious in his answer.

"I don't believe in any visitors from another planet," Dr. Bartley declared promptly. "And I don't think the objects reported from time to time have all been physically the same type of things."

"I don't put any stock in the idea that all of the objects seen have been manifestations of swamp gas."

"This seems to be a newly-thought-of possibility and is becoming overworked. The place and positions of seeing these

tended to be put in a single category and by no means belong there."

"The variety of perceptual possibilities—the discerning capabilities of the observers—are so great that naturally all that we read about may not merit being in the same class as a few special cases which more sophisticated and mature observers have described."

Admitting that he was trying to avoid using the term "military," Dr. Bartley added:

"What I am saying isn't intended to glibly explain everything. For now and then, the characteristics and maneuvers of the objects reported are quite fantastic and seem like achievements of some organization supported by a sizeable nation."

Touching upon the problems of perception and accurate description, Dr. Bartley said:

"When we see something which is going

and we are unable to really determine how far away the object is. So all we have to go on is our impression."

"Since this is true, you just have to recognize the limitations of human perception."

★ ★ ★

Aerospace Engineer's View

There may be more than meets the eye or ear in UFO sightings, a University of Michigan aerospace engineer believes.

It's not that Dr. Richard B. Morrison is a flying saucer fan. He isn't. But, as a scientist, he has both a healthy skepticism and an open mind. And as a scientist, he'd like more information from the sightings than a man's unaided eye or ear can provide.

That's why he believes it might be better to take Rep. Gerald R. Ford's call for a congressional investigation of UFO sighting reports seriously.

For an investigation, Dr. Morrison believes, might lead to a network that could lead to a scientific study of such events.

The eye, for example, can not analyze the colors in light the way they can be analyzed by a spectrograph. And the human ear is limited in the frequencies it can hear.

"It would be real nice if there could be any kind of radio frequency or spectral analysis measurements of these 'unknowns' made. From the measurements, then, you could get some kind of hard information or facts that could be used for deductions," Dr. Morrison said.

★ ★ ★

Check for Radio Signals

Scanning the sky methodically for interesting radio signals might be one approach.

"It would be good," Dr. Morrison said, "if you could sweep it broad band and know what it looks like. If you spot some existing peculiarities, you could fine focus on those. Then you might start to make some sense."

"I don't think there's been any effort whatsoever to come up with any coherent kind of thing. This is what Gerry Ford is talking about—some kind of a net that could do this."

If you wanted to assume that flying saucers actually exist and are not just some phenomena of nature, Dr. Morrison said, there would be two groups of propulsion systems you would investigate.

The first group would be the so-called "mass expulsion" systems based on Newton's law of motion and the formula (Force equals mass times acceleration). In this group, you would have our now familiar rocket motors with molecular gas expulsion.

Another type might use charged particles for an ion type of propulsion. And a third type, which hasn't been worked upon much in the United States, would use electrons as the working mass.

Dr. Morrison, who also is president of

astic missile, as project director for the Thor-Able series and as field test director for the Air Force's first lunar probe during a leave of absence from the University of Michigan.

All three of the mass expulsion type of systems could be "fingerprinted" by spectrograph analysis of their exhausts, he said.

The type of material being expelled, its density and its temperature could be determined and used to peg the type of propulsion system in operation.

However, using a spectrograph for such sleuth work, presents a problem, Dr. Morrison said, because for the usual spectrograph you need a very long exposure time to bring out an image. The saucer would have to sit still for quite a while to have its picture taken.

"But if some astronomer were lucky," Dr. Morrison suggested, "and could focus on one so he could get a good-sized image by a very good telescope, he might get some images on a photographic plate."

★ ★ ★

'Need to Know a Lot More'

The second group of possible propulsion systems which might be used are types in which a field force is created.

In terms of technology presently available in the United States however, practical use of these are still far in the future, Dr. Morrison said. We need to know much more about the basic physics involved and would have to develop the technology required.

There are only three types now conceivable in this group, he said. They are electromagnetic, electrostatic and anti-gravity systems.

"If you understood gravity waves, perhaps you could make some antigravity devices," Dr. Morrison suggested.

Assuming flying saucers do exist, what propulsion system would be the most likely one employed?

"The force field system would be the one to look at," he answered. "If we were going to say there is substance to these UFO things, the rapid maneuvers with attendant G-forces (gravity forces) would seem to preclude the mass propulsion system."

Force field types would be noiseless, he said.

★ ★ ★

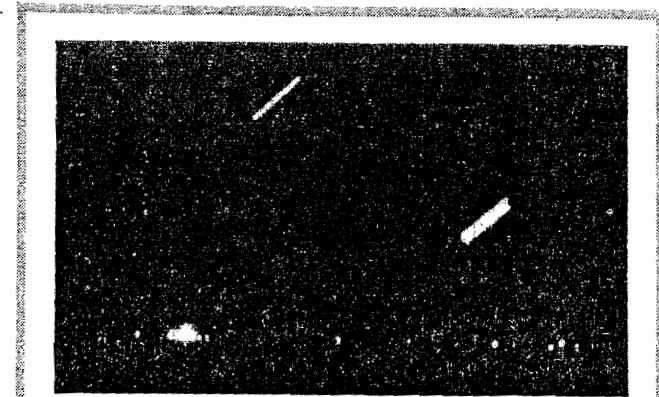
Saucer Ideal for Spaceship

Would there be any advantage to a saucer shape in trying to design something like a spaceship propelled by force fields? Dr. Morrison was asked.

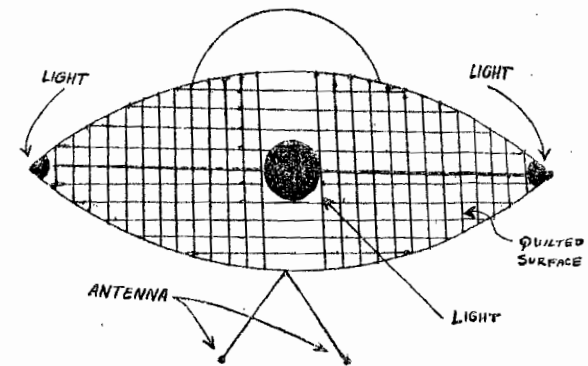
"It's a good shape," he answered enthusiastically. "And if it's a matter of spreading the force across an area, this design is a very excellent way to develop a lot of area. In addition, it gives you a very clean edge."

Detection and fingerprinting of force field systems might be achieved by broad band sweeping and focusing upon peculiar-

(Concluded on Next Page)



David Fitzpatrick, Washtenaw County deputy sheriff, made this picture March 17 near Milan. He said it shows unidentified flying objects, but Dr. J. Allen Hynek, an astrophysicist, identified them as time exposures of the moon (right) and of the planet Venus.



Detailed sketch was made from witnesses' descriptions of the UFO sighted over the Frank Mannor farm in Dexter, Mich.

Those 'Flying Saucers'...

What Sheriffs Saw Wasn't Star, UFO Prober Admits

EDITOR'S NOTE: This is the fifth of a series about UFOs (unidentified flying objects) by Buckley S. Griffin, executive editor of the Evening Express Washington Bureau.

WASHINGTON, D. C. — The case of the two Texas deputy sheriffs whose patrol car was allegedly followed by an unidentified flying object (UFO) so that they hit 110 miles an hour in a field away, is worth investigating for its own sake in any study of the Air Force - UFO confrontation.

The case also illustrates the possibility of a more realistic trend in Project Blue Book — which is the name of the Air Force's investigation of UFOs.

PROJECT BLUE BOOK first listed the Texas sighting as "Retraction of Star Antares distorted due to inversion." This verdict was a highly improbable

one from the start, as will be seen from the testimony of the two deputy sheriffs. Recently, Maj. Hector Quintanilla, in command of Project Blue Book, stated he has withdrawn this conclusion after talking over the phone with Deputy Sheriff McCoy. The star verdict didn't seem to fit. So Blue Book now regards the sighting as one of the very few unexplained ones on its rolls.

Another recent case of reconsideration of a verdict occurred in the instance of the four lighted objects seen together by many observers the night of Aug. 1 - 2, according to the teletype reports of the Oklahoma Highway Patrol. The latter said Tinker AFB had picked them up. But Blue Book had this sighting listed as "Astro (Antares)." Radar does not pick up stars, as previously noted.

Recently, however, as this

writer was discussing this sighting at the headquarters of Project Blue Book and pointed out that a Tinker AFB radar squadron sergeant had referred to two stationary objects and two moving in the formation, Project Blue Book proposed that the two stationary objects were stars — the brightest of them Antares — and the two alleged to be moving could be airplanes.

The two cases, one in Oklahoma and one in Texas, suggest to some observers that Project Blue Book, while vigorously trying to explain away has of late occasionally sought to throw a little more credibility into its investigations and conclusions.

But to get to the two Texas deputy sheriffs, who, as it came about, were followed by a UFO the same night Sept. 3, on which at least one person in the

Exeter, N. H., case reported being followed.

CHIEF DEPUTY Sheriff Billy E. McCoy and Deputy Sheriff Robert W. Goode were on routine patrol near Damon, Tex., — which is around 40 miles southeast of Houston — when they saw a bright purple light, which soon produced a smaller blue light, on the horizon about five miles away. One of the officers studied the lights through binoculars. They had slowed down off the edge of the highway when the lights started rapidly toward them.

The testimony of Chief Deputy Sheriff McCoy, as given to an investigating officer from Ellington AFB, Tex., continues:

"The object came up to the pasture next the highway about 150 feet off the highway and about 100 feet high. The bulk of the object was plainly visible

and appeared to be triangular shaped with a bright purple light on the left and the smaller, less bright, blue light on the right end. The bulk of the object appeared to be dark grey in color with no other distinguishing features. It appeared to be about 200 feet wide and 10-50 feet thick in the middle tapering off toward both ends. There was no noise or any trail.

"The bright purple light illuminated the ground directly underneath it and the area in front of it, including the highway and the interior of our patrol car. The tall grass under the object did not appear to be disturbed.

"There was a bright moon out and it cast a shadow of the object on the ground immediately below it in the grass. Deputy Sheriff Goode was in the driver's seat with his left arm lying in the open window. Although he

was wearing a long-sleeved shirt and a coat, he later said that he felt the heat apparently emanating from the object."

THE OFFICERS rushed away toward Damon "as fast as we could go", traveling "at speeds up to 110 miles an hour", said McCoy. Arrived in Damon, they discussed the matter. "We were both scared but still wanted to find out what it was." So they returned to the scene and saw the UFO on the horizon acting exactly as it had before. "We decided to leave the area because we figured that the object would start coming toward us again," stated McCoy.

The report to Blue Book of the investigating officer from Ellington Air Force Base believes the two deputy sheriffs definitely saw "some unusual object". This report reads in part:

"After talking with both officers involved in the sighting there is no doubt in my mind that they definitely saw some unusual object or phenomenon. However my investigation failed to uncover any facts that permitted me, with my meager knowledge of such things, to arrive at any explanation for the unusual sighting.

"Both officers appeared to be intelligent, mature, levelheaded persons capable of sound judgment and reasoning. Chief Deputy Sheriff McCoy holds a responsible position in the department regarding the flying object. Both officers have been subjected to considerable friendly criticism from their contemporaries and the local townpeople, but have continued to profess the facts of their sighting." This is Ellington Investigative Officer

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Those 'Flying Saucers'...

AF Brushes Off Flood Of Sightings In Southwest

EDITOR'S NOTE: This is the fourth of a series about UFOs (condemned flying objects) by Stanley S. Gittman, executive editor of the Evening Express-News.

WASHINGTON, D. C. — A good two weeks after the flood of unidentified flying objects (UFOs) sightings last August over Oklahoma and other southwestern states, Tinker Air Force Base, Oklahoma City, produced its formal survey and judgment. It sent this several-page explanation of sightings in its wide area to Project Blue Book, the Air Force office in charge of the UFO investigations and conclusions.

THIS REPORT is a good example of Air Force anti-UFO propaganda. Except for mention of one specific sighting, which was deemed to be a weather balloon, the report is watered down, pulling out all the

ropes on the possibility of child coin-making mistakes and including a statement from the official of a planetarium in Oklahoma City whose text was that "the average person is uneducated as to what the sky normally looks like".

Interviews with military experts are given which mention unusually bright stars at this time of year, a haze that reflects things from the ground, the frequency of weather balloons and so on.

An impressive but superficial case is made for weather balloons as fooling people into thinking they are seeing a UFO. The number released daily in the Oklahoma area is considerable.

but the fact is that the citizens thereabouts have lived with these balloons day after day and year after year and by now must be fairly well acquainted with what they look

like and how they act. They are also pretty well acquainted with stars, which at the moment may be supplanting balloons as the favorite explanation put forth by Project Blue Book.

The Tinker AFB report did not need to avoid mention of particular sightings. The Oklahoma Highway Patrol teletype reported a number of sightings well worth investigation and these teletype UFO reports were relayed to all major newspapers, wire services and TV and radio stations across the State of Oklahoma; also to the weather wire teletype system. They were available to sincere Air Force investigators.

The failure to interview witnesses could be termed negative Air Force propaganda. The Highway Patrol messages named close to a dozen civilian witnesses, usually with addresses, and the number of highway

patrol officers that had sightings must have totaled two dozen and more. Yet the formal August report from Tinker shows interviews with but two civilians and two police officers.

Major Hector Quintanilla, in command of Project Blue Book, says the Air Force seeks interviews with persons who call up and whose names they learn. "We are not interested in persons who go to the newspapers or to radio and TV stations," he said. The wisdom of this exclusion is of course wide open to question — assuming that the Air Force is seeking information.

BUT TINKER AFB itself must have received dozens of calls during the heavy sighting period of July 31 through Aug. 5. This much is indicated by a sentence sent out over the Highway Patrol network the night of Aug. 2: "The security officer at Tinker Field reports he has been swamped with calls the past

hour from people reporting UFOs". This report refers to just one hour of the several day sighting period.

Chances are, it is said, that the Air Force handling of the UFO problem may be allowed to drag along by an apathetic public. Yet one may speculate on what an honest and energetic investigation might do. For one thing it would investigate some of the sightings reported by the Oklahoma highway Patrol.

For instance, take this report that moved with many others over the teletype Aug. 4: "Twenty-five people at a church in Cushing (Oklahoma) all watched several UFOs. Sometimes they would stay stationary, then would move at a high rate of speed. Were moving south for a while, then stopped and stood still for some time, then were joined by two and moved to the west at high speeds, then turned and traveled east for a while, then stopped completely

and stood still, then went east and suddenly disappeared from sight. The first ones were orange lights, the ones that joined them had red and green lights like airplanes. PO (police department) Cushing also observed the same things".

Or the "approximately 30 calls" to the Shawnee police department reporting four or five lighted objects traveling northwest which "make no conventional noise such as an aircraft does but rather make a humming noise". Or what did the five citizens of Norman, Okla., see looking at a white globe 30 to 40 feet in diameter through a "tripod mounted 160-power telescope".

The evidence is convincing that the Air Force — for reasons

it doesn't announce — is not really trying to discover what the UFOs are. Or, if the Air Force already knows, it is painstakingly keeping its information from the public. Chief blame for this lack of action must rest on the government.

But another culprit, the scientific community, must bear blame according to an August article by Robert C. Cowen, natural science editor of The Christian Science Monitor, his words in part:

"The main reason there has been no scientific study of the (UFO) puzzle is social pressure within the scientific community. It has not been due to lack of opportunity to gather data.

"Many scientists feel this whole subject is 'kooky'. They disdain it with ridicule. It can be personally embarrassing, even

ed detrimental to a scientist's career, to try to take the subject seriously."

It is urged to investigate scientific knowledge of some sort exists in the UFO phenomenon, said the writer.

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[illegible]

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

[illegible]

Don't Sneer at UFDs

1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is responsible for the study. The investigator must first identify the problem that is being investigated. This is done by the investigator who is responsible for the study.

The first two papers in this special issue, by *W. J. Sutherland and J. A. Roberts* and by *A. J. Valleron and J. A. Roberts*, are concerned with the use of mathematical models in the study of infectious diseases. The first paper is a review of the use of mathematical models in the study of infectious diseases, and the second paper is a review of the use of mathematical models in the study of infectious diseases.

1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.

2. Next, it is important to gather relevant information and data. This can be done through research, consultation with experts, or by analyzing existing resources.

3. Once the information is gathered, the next step is to develop a plan or strategy. This involves breaking down the problem into smaller, manageable parts and determining the best approach to solve each part.

4. After the plan is developed, the next step is to implement the solution. This involves putting the plan into action and monitoring the progress to ensure that the solution is effective.

5. Finally, it is important to evaluate the results of the solution. This involves comparing the actual outcomes with the expected results and identifying any areas for improvement.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

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The fact shows he did not know the name. That is the reason he could not connect it with the name of the person who was being sought. The fact that he was not able to connect it with the name of the person who was being sought is the reason he could not connect it with the name of the person who was being sought.

As a result of the above, the following can be concluded: (1) the use of the proposed method for the identification of the parameters of the model of the system of the object of control is possible; (2) the proposed method makes it possible to obtain the model of the system of the object of control with a high degree of accuracy; (3) the proposed method makes it possible to obtain the model of the system of the object of control with a high degree of accuracy; (4) the proposed method makes it possible to obtain the model of the system of the object of control with a high degree of accuracy.

Deputy Sheriff 'Shoots' a UFO Over Michigan

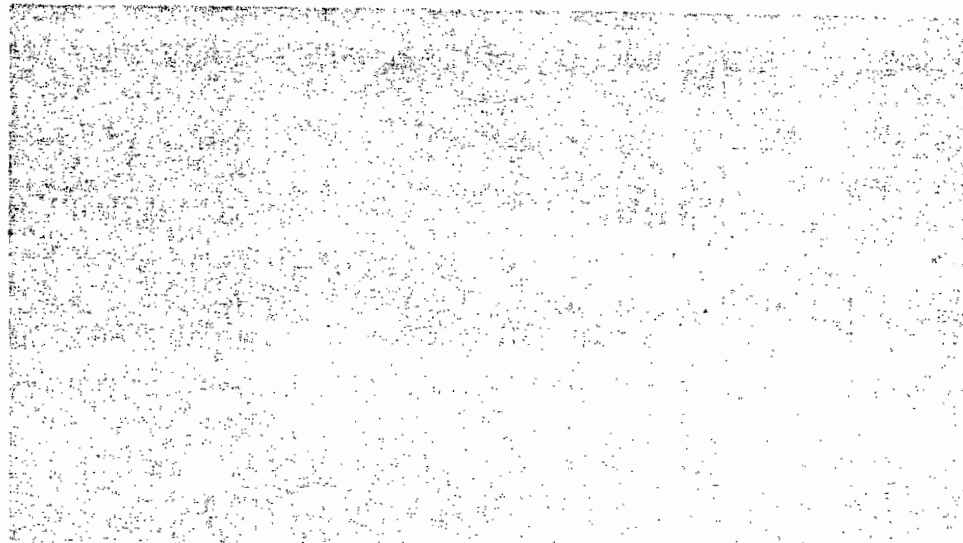
ANN ARBOR, Mich. (AP) — A deputy sheriff here tonight in an effort to shoot down a light aircraft, identified as Michigan Gov. George Romney's plane, shot a flare gun at a small, unidentified object.

The deputy sheriff, Ed Elbert, said he saw the object while on duty at the airport. He said the object was "very bright" and "very fast."

The object was seen at about 10:30 p.m. and was flying in a southerly direction.

The object was seen by a number of other people in the area. It was also seen by a number of people in the area.

The object was seen by a number of other people in the area. It was also seen by a number of people in the area.



The flare shot at the object by the deputy sheriff.

The object was seen by a number of other people in the area. It was also seen by a number of people in the area.

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By EDWIN S. REDFERN, JR.
 WHITE HOUSE, Wash., D. C., Jan. 10.—The
 president's cabinet today approved the
 treaty for the purchase of Alaska, which
 was signed by the president and the
 Russian minister of foreign affairs, Count
 Schouvaloff, on the 18th of last month.
 The treaty provides for the purchase of
 Alaska for the sum of \$7,200,000, or
 \$125,000 per square mile. The territory
 is estimated to contain 580,000 square
 miles, and is situated between the
 Arctic Ocean and the Gulf of Alaska.
 The purchase of Alaska is the first
 acquisition of territory by the United
 States since the purchase of Louisiana
 in 1803. The territory is rich in
 minerals, and is believed to contain
 large quantities of gold, silver, and
 copper. It is also a valuable
 hunting ground for fur-bearing
 animals, and is a source of
 timber. The purchase of Alaska
 will greatly increase the area of
 the United States, and will
 give the United States access to
 the Arctic Ocean.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

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5 yrs ago

Chamard didn't want public hearings

Joe. E. Karth
6831

at that time in
midst of lot of sightings - 97 full
spectrum. Had to get a go together
+ we had ~~some~~ days of hearings
- closed ch - H was in. H put
much more against

- Cert. of Am. exp. as nation.
phenomena but how do you differ
from plants.

Concl. There was no evil. But
There were ~~extra~~ extra-terrestrial
More than 90% reported flights
+ incident by AF. + AF came up w/
some solid explain. or natural explain
w/ excep. of where there was no
explain. whatsoever.

I don't like any person it was
Re. Chamard said ~~we don't know~~
75% of people like to go into it again
I don't stop to date
I'll like it if

1 hr about
10 min - 5 fr. can come

Would favor public hearings if
these hearings are explainable
- If these things are explainable
this is the reaction that would be dispelled

Office is to give sound, repeat
and guess for UFO sights that
have been explained.

Don't see the reason for secrecy
in this matter. Why?
We should dispel whatever fears
the people have.
If we conduct mil. experi-
ments, let's tell them so.

Open hearings could become
dangerous. There are a million nuts on
this thing. ~~He's~~ He's making
money on this thing. * Sez he's good
friend of yrs & doesn't want you to get
hurt. If he pushes this, he could
be made to look ridiculous.

Kearh made rpt to the full
comm. but nothing released
to public. *

Hearings were compl. & publicized
oper. to be over for the A.F.

AF Approves Quick, Deep UFO Studies

WASHINGTON (AP)—The Air Force intends to contract a few selected universities to investigate promptly and in depth certain sightings of unidentified flying objects.

The Air Force said that the schools have yet been chosen and the number to be used in the investigations is still indefinite.

A scientific advisory board recommended last March that this course of action be followed by the Air Force, which has pledged to strengthen probe of reports it receives on UFOs.

Lists Member Types

The board suggested that each university team should include at least one psychologist, probably one interested in clinical psychology, and at least one physical scientist, probably an astronomer or geophysicist familiar with atmospheric phenomena.

The board also told the Air Force the universities should be chosen "to provide good geographical distribution" and should be within convenient distance of a base of the Air Force Systems Command.

Michigan Civil and Official Sight Mysterious Object

The object was seen by a number of witnesses in the vicinity of the Michigan State Capitol building in Lansing, Mich., on the night of March 12.

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WILLIAM, Mich., March 12.—A civil defense director in constant heat and 17 others spotted a glowing object in the sky over Lansing, Mich., on the night of March 12.

Their description of the object seen here last night tallied closely with that of one seen by more than 30 persons, including 12 policemen, near Ann Arbor, Mich., the previous night.

The Air Force dispatched a top scientific adviser to identify flying objects to begin an investigation.

The witness, said, then watched from the second floor of a Hillsdale College dormitory as the object wobbled, vibrated, glowed, and once flew right at a dormitory window before disappearing suddenly.

Mrs. Kelly Hearn, for seven years a newspaper reporter before becoming assistant dean of women, assistant professor of English and housemother of the dormitory, and the words taken notes as they watched the object for four hours.

They and William Van Horn, 41, years old, Hillsdale County civil defense director, and the object flamed its lights when peace was approached, brightened again when they went away, and faded in aspect before dawn.

Barbara Kuntz, 22, of New Castle, Pa., and Cynthia Tolson, 23, of Cleveland, were the first to see the object. They described its shape as roughly

the shape of a football and was about the size of a football.

The Air Force and the Michigan State Capitol building in Lansing, Mich., on the night of March 12.

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Secret House Hearing Scoffed at UFOs in 1961

Continued from Page One

It was an oral report, given to the committee by Karth in a closed session.

The result, said Karth, was that "the chairman (Brooks) decided there was no need" for full-scale public hearings.

ASKS NEW PROBE

Such hearings now are being sought by Michigan Rep. Gerald R. Ford, House Republican leader, in the wake of spectacular UFO sightings near Ann Arbor and Dexter in recent days.

In response to Ford, Rep. Mendel Rivers has asked Air Force experts to appear Tuesday at a closed session of the Armed Services Committee of which he is chairman. But the

South Carolina Democrat would not say if their testimony later would be made public.

The Karth inquiry took place in the summer of 1961, early in the Kennedy administration.

As he remembers it, he was asked by Brooks to conduct the investigation because of a surge in UFO sighting reports at that time.

REASONS FOR SILENCE

Karth, interviewed in his Capitol Hill office, gave two reasons for the secretiveness of his inquiry.

One was that members of the space committee, who have access to classified information, were curious about the possibility that UFO reports might have some relationship to secret experimentation being con-

ducted by the Defense Department, the Central Intelligence Agency or the Atomic Energy Commission.

But the overriding reason was the "kook" aspect.

Karth, Brooks and top staff people on the space committee frankly feared that public hearings on the UFO mystery would be an irresistible magnet for "all the kooks in the country."

"On one side of the argument would be the Air Force witnesses," said a lawmaker who asked not to be named.

"On the other side would be all the people who think they've seen little green men on their lawns and who hold conversations with them at midnight."

"The hearing would be a shambles, a circus."

STUDIED ENGINEERING

Karth is a four-term congressman from St. Paul and second-ranking Democrat on the Science and Astronautics Committee. He studied engineering in college and was an AFL-CIO official before entering politics. He was just beginning his third year on Capitol Hill when Brooks asked him to look into the UFO affair in 1961.

A veteran staff consultant to the committee, Richard P. Hines, was dispatched to Wright-Patterson Field, at Dayton, Ohio, to do the preliminary legwork for Karth. That is Air Force headquarters for evaluating UFO reports across the country. The unit now is known as Project Blue Book.

NO RECORDS KEPT

When Hines returned to Washington, he and Karth scheduled Karth's hearing. But it was a strictly informal affair.

While Karth refers to it as a

hearing, it actually was a series of conferences in his office between himself and Air Force officials. Witnesses were not sworn and no records were kept of the questions or answers.

Karth says he cannot recall the names of the Air Force officials to whom he talked, although he is sure they were the available "experts" at that time.

It was a one-man inquiry; no other space committee members served on it, Karth said.

But he is certain of the conclusion he reached and which was reported to and confirmed by the full committee:

"Our conclusion was that these so-called 'unnatural phenomena' have natural explanations. Nothing to get excited about."

As for more than 650 UFO

incidents unexplained by the Air Force out of more than 10,000 sightings since 1947, Karth put it this way: "The Air Force people say they can hardly be expected to explain something that may be a hallucination."

The mind, he said, has a way of tricking people into believ-

ing they see something when they really don't—especially at night.

"And there is such a thing as marsh gas—and it can ignite and look like something tangible," he said, referring to the Air Force explanation for the UFO sightings at a swamp near Dexter.

A pocket of swamp gas, he

said, can be ignited by an electronic beam, say the radar of an overhead airplane.

To Michigan's Rep. Ford, the Karth hearings of 1961 are one of the reasons why a full-scale congressional inquiry is needed to shed factual light on UFOs.

Ford complained he has been subjected to "ridicule" from newspapers and commentators for taking UFOs seriously.

He is unhappy that Rep. George P. Miller, California Democrat and present chairman of the Science and Astronautics Committee turned down

his request for a UFO hearing on grounds that it is a matter handled by the Air Force therefore not in the committee's jurisdiction.

"The committee didn't have the jurisdiction issue five years ago when the Karth inquiry was held," Ford observed.

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told The Detroit News
(Concluded on Page 8A)

Bare Seen House Qu on 'Sauce

By J. F. TER HORST

Chief of Our Washington B

WASHINGTON, Ap

—A secret investigat
unidentified flying o
(UFOS) was conducte
years ago by the Hou
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mittee.

The results never were
public.

No printed record
"hearing" was made and
are no secretarial minutes

But according to
who conducted the

*"Those Fantastic Fl
Saucers," the first of
articles by Jean R
is in the Passing Show
tion (Section H)*

Rep. Joseph E. Karth, M
sota Democrat:

"I am absolutely conv
there are no objects vi
earth from other planets.

"I am also convinced
people are not seeing th
sults of any exotic res
work bearing a top-secret l

"I was convinced then
I am now."

HEARD SPECIALISTS

The convincing of Karth
done by Air Force specia
on UFO manifestations.
Force representatives were
only witnesses he interroga
Karth said.

Karth said he made "a
report" to the committee cl
man, the late Rep. Ove
Brooks, Louisiana Democrat

Brooks requested Karth
give the report to the full c
mittee.

"And that's what I did,"
told The Detroit News.

(Concluded on Page 8A)

Those 'Flying Saucers'...

Portland, Maine, Evening Express, Wednesday, Jan. 19,

New Hampshire Sighting One Of Most Frightening

EDITOR'S NOTE: This is the third of a series about 1970s unidentified flying objects by Buckley S. Griffin, executive editor of the Evening Express. Washington Bureau.

WASHINGTON, D. C.—One of the more impressive sightings of an unidentified flying object (UFO) occurred near Exeter, N. H. last September. As narrated, it was an extended close-up observation of a lighted object that was noiseless and close to the ground. Several persons apparently observed it, three of them, including two policemen, at one time.

The conclusion of Project Blue Book, the name of the Air Force UFO probe that announced the final verdict on sightings, that the New Hampshire watchers saw low-flying airplanes, is of a piece with many other Air Force attempted explanations—ways it doesn't make sense.

The New Hampshire sighting is of significance on another ground. It involves the reported effect of a UFO in disturbing and exciting animals.

The sequence of events near Exeter began at one o'clock in the morning of last Sept. 3 when Exeter Police Officer Eugene P. Bertrand Jr., 30, cruising in his police car, came upon an auto drawn up by the side of the road and in it an hysterical woman, who according to the officer's report to the investigative officer from Pease Air Force Base, N. H., "stated she was too upset to drive." She stated a light had been following her and had stopped over her car. The officer stayed with her about 15 minutes, sought to reassure her, saw nothing and departed for the police station.

THERE HE FOUND Norman J. Muscarello, 18, of Exeter who had come to the station to tell of his experience while a few miles out of Exeter. He said something big with dazzling, flashing red lights had appeared moving just above the treetops. It had moved rather slowly toward him. He had jumped into the ditch for safety. Then the thing had disappeared.

Officer Bertrand took Muscarello with him in his patrol car and they returned to the field where Muscarello had had his alarming experience. They both got out of the car and walked into the field, Bertrand having a flashlight. At this point Officer Bertrand's report to an examining officer at Pease AFB can be taken up.

"When we had gone about 50 feet a group of five bright red

lights came from behind a group of trees near us. They were extremely bright and flashed one at a time.

"At one time they came so close I fell to the ground and started to draw my gun. The lights were so bright I was unable to make out any form.

"There was no sound or vibration but the farm animals were upset in the area and making a lot of noise. When the lights started coming near us again Muscarello and I ran for the car . . .

"I radioed Patrolman David Hunt who arrived in a few minutes. He also observed the lights which were still over the field at an estimated altitude of 100 feet and finally disappeared in the distance at the same altitude. The lights were always in line at about 60 degree angle. When the object moved the lower lights were always forward of the others."

In this case the Air Force, which generally appears to hang back from much investigation of UFO reports, did do some investigating. It interviewed the sighters and neighbors.

The Pease AFB officer, who headed this local military probe and who, by the way, was a command pilot, made this finding:

"AT THIS TIME have been unable to arrive at a probable

cause of this sighting. The three observers seem to be stable, reliable persons, especially the two patrolmen. I viewed the area of the sighting and found nothing in the area that could be the probable cause. Pease AFB had five B47 aircraft flying in the area during this period but do not believe they had any connection with this sighting."

However, Project Blue Book lists low-flying airplanes as probably responsible for this Exeter sighting. Maj. Hector Quintanilla, in charge of Blue Book, states that the 8th Air Force SAC (Strategic Air Command) group at Westover Air Force Base, Mass., was conducting a low-level operation, called "Big Blast," at the time. He said he believes the Exeter "people were looking at low level aircraft."

The effect of a UFO on animals had been reported in a New York State case about two weeks before the Exeter event. An investigating officer from the Niagara Falls Air Force Base, commenting on the sighting of a low-down UFO near Cherry Creek, N.Y., on Aug. 19, said:

"Preliminary analysis reveals object not explainable in conventional terms. Object caused reduction in farm cows' milk from two and one-half cans to one can can. Disturbed bull in field. Caused dog to bark." This sighting, by the way, is one of the very few that Project Blue Book has marked "unidentified."

The Exeter UFO produced a fairly familiar charge, namely that the Air Force sought to suppress news of the sighting. In this instance the charge came from Raymond Fowler of Wenham, Mass., head of a local area NICAP group, who went to the scene to investigate for NICAP. The latter stands for National Investigations Committee on Aerial Phenomena, the unofficial but responsible Washington organization. The Fowler charges are in the files of Blue Book and of NICAP.

FOWLER TALKED with witnesses and others and said he was told that Pease AFB officers had asked the police and a local newspaper correspondent not to mention the sighting. The request was put to the police on the ground people would be alarmed if told the facts. It is stated.

Maj. Quintanilla informed of this charge, said that "I would not allow any suppression of news." However, it is an impression in Washington that officers a good deal higher than Maj. Quintanilla would not exert themselves to prevent news-suppression of UFO sightings.

The Haverhill (Mass.) Gazette wrote an editorial on this UFO in the neighborhood, in which it said: "So many have reported seeing it (the Exeter UFO) and their descriptions are so closely that, unless they have banded together in one large hoax, their stories must be given credence."

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

Highway Patrol Report Fires Controversy Over UFOs

EDITOR'S NOTE: This is the second of a series about UFOs (unidentified flying objects) by Murray Green, executive editor of the Evening Express. Washington Bureau. He wrote the stories after visiting the UFO office of the U.S. Air Force.

By **MURRAY GREEN**

WASHINGTON, D.C. — Research into the matter of the Unidentified Flying Objects (UFOs), the United States Air Force and the public, receives substantial help from a report furnished by the Oklahoma Department of Public Safety. This summarizes the messages dealing with UFO sightings that passed over the Oklahoma Highway Patrol network in the period July 31-Aug. 5.

A SURVEY of this information reveals the large number of sightings and the much larger number of witnesses of those sightings, and lists some radar sightings by the Air Force. It compares with a generalized attention to those sightings by the Air Force and Project

Blue Book, the latter the name for the Air Force investigation of UFOs.

At 3:30 p.m. Aug. 2, Project Blue Book issued a statement assuming to explain the avalanche of UFO sightings that had hit the Southwest — but probably had hit Oklahoma the hardest — starting July 31.

Therefore, this article will seek to hit the high points of the sightings reported on the Oklahoma Highway Patrol network beginning with July 31, up to the issuance of the Project Blue Book explanation.

THE FIRST REPORT on the teletype came the early morning of July 31. A Wynnewood, Okla., police officer, Louis Blake, reported a UFO. The radar at Tinker Air Force Base located the object. A little later, continued the Highway Patrol report, "Carswell Air Force Base (Fort Worth, Tex.) aimed their radar at the same location and came up with the same fix as Tinker." Both Tinker and Carswell followed the object, which once disappeared and then reappeared, for some time. Later that day an Associated Press dispatch from

Oklahoma City stated flatly that Tinker and Carswell both had the UFO on radar.

The next night saw the UFO reports crowding the Highway Patrol teletype. Some quotations of messages will be given.

At 9:19 p.m. the Highway Patrol tower sent out this message: "Since 8 p.m. the tower has received in the neighborhood of 25 to 30 visual sightings, many by police officers and highway patrol troopers of various unidentified flying objects from the Purcell Area north thru the Norman area to Chandler and back through Meeker and Shawnee."

"THREE SHAWNEE officers and their captain have four of the objects in sight at this time, also another has cropped up from the south of Tecumseh and is apparently going to fly directly over Shawnee."

"The sightings vary from one to four of the objects at various times starting in a reddish color and varying to a white and blue later."

"Shawnee reports the objects seem to be flying four to a formation in a diamond-type formation. Cushing has report-

ed four of the objects." Oklahoma Highway Patrol Units 30 and 40 have also made visual sightings. Reports have come from "three individuals". Names of two civilians are given; third was a police officer from Tulsa, not named.

"TINKER AIR FORCE Base has had from one to four of them on radar at a time, and they advise they are flying very high, at approximately 22,000 feet, which seems to coincide with the visual sightings, all of which are 'very high flying objects'."

Other reports came in the night of Aug. 1. The sheriff's office at Chandler reported two UFOs. Two individuals — names given — spotted a UFO between Norman and Purcell. "Tinker AFB looking at it — or attempting to do so at this time with radar — Wichita Falls, Tex., also notified to look". Another UFO was seen near Purgan, and sighter's name and address given.

"Although there were numerous other reports from other sources which did not reach the patrol, those above were all of the reports which moved

on the highway patrol wire on August 1st." It is stated in the summary from the Department of Public Safety. On Aug. 2 the teletype carried its first UFO report of that day at 7 p.m. regarding a sighting at 12:50 p.m. near Cushing. Other reports followed through the afternoon and night.

All this from just one state's highway patrol teletype. At 3:30 p.m. on Aug. 2, Maj. Hector Quintanilla, in charge of Project Blue Book, issued the following statement:

"INITIAL STUDY of the reports thus far received by the Air Force indicates that the observations were astronomical in nature. The objects most likely observed were the planet Jupiter and the stars Rigel, Capella, Betelgeux, or Al-debaran, which are clearly visible in the eastern sky. The time of reported sightings, the azimuth and elevation of the reported sightings supports this conclusion. In addition, on August 1st and 2nd the temperature distribution and varying wind speeds observed over the Great Plains, from northern Texas to Wyoming, were favorable for

Second, no radar sighting is admitted. This is despite the Highway Patrol's report of Tinker and Carswell Air Force Bases having a fix on a July 31 object, and Tinker having a fix on up to four objects the night of Aug. 1-2; and despite national wire services reports of these radar sightings and of a Wichita Weather Station radar sighting of several UFOs.

RADAR DOES NOT pick up stars and planets, as has been stated. Further, corroboration

of visual sightings by a radar sighting — as the Oklahoma Highway Patrol indicated on one occasion the night of Aug. 1 — would strengthen the argument that some UFOs are real and unknown.

But that Aug. 2 statement from Project Blue Book was immediately attacked from a different angle by Director Robert Riser of the Oklahoma Science and Art Foundation Planetarium in Oklahoma City. To quote a UPI dispatch:

"That (Project Blue Book statement) is as far from the truth as you can get," Riser said. "Somebody has made a mistake. These stars and planets are on the opposite side of the earth from Oklahoma City at this time of year."

MAJ. QUINTANILLA, recently asked about the comment of Director Riser, pointed out the UFO reports were coming in from several states, and said his Aug. 2 announcement referred to Wyoming where the stars in question were visible. He added the statement applied to Oklahoma between one and four in the morning.

the phenomenon, known as scintillation. Some of the reports were the squall-like nuclear showers which occur between 28 July to 6 Aug. The meteors approach from the southeast and streak swiftly across the sky trailing sparks. There has been no confirmation that any of the sightings reported were tracked on radar."

This official statement presents two characteristics typical of Air Force treatment of UFO reports. First, no specific sighting is mentioned, and just about every conceivable reason for seeking to explain away the multitude of sightings over eight states is included.

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

Those 'Flying Saucers' . . .

Air Force Explains-Away Of UFOs Deepens Mystery

EDITOR'S NOTE: This is the first of a series about unidentified flying objects (UFOs) by William S. Graham, executive editor of the Evening Express. He wrote this article after visiting the UFO office of the U.S. Air Force.

WASHINGTON, DC — The Air Force handling of the unidentified flying objects (UFOs) continues to be something of a mystery. Its persistent endeavors to explain all the UFO sightings as misidentification of ordinary objects, such as stars and balloons, has become so conspicuous as to raise questions in the minds of a growing number of citizens. Some of these explanations seem to run counter to both logic and common sense. Running along with these explanations-away is

an apparent Air Force lack of enthusiasm — especially at high levels — to do a thorough job of investigating sightings.

HEADQUARTERS of the Air Force investigation and conclusions on unidentified flying objects — they call the enterprise Project Blue Book — is at Wright-Patterson Air Force Base near Dayton, Ohio. In charge of Project Blue Book is Maj. Hector Quintanilla.

Recently this writer has made two more visits to Wright-Patterson to study the files of Project Blue Book and to talk with Maj. Quintanilla, the architect of the military's final public verdicts on the UFOs.

A multitude of UFO sightings in the last dozen months has kept the Air Force busy trying to explain-away and has rendered the public more conscious

and curious than ever about these strange, usually lighted, objects in the sky. The Air Force and the burdened Project Blue Book have often resorted to the expedient of lumping a number of sightings together — not naming any particular one — and furnishing a generalized catch-all explanation.

This is what it did respecting an extraordinary number of sightings in the Southwest around the beginning of last August. The very number of the UFOs and of the sightings of them shook some public confidence therabouts in both the Air Force's knowledge of the subject and in the good faith of its explanations-away.

EXTRACTS from dispatches sent out at that time by the two national wire services will refresh memories and provide a good idea of the magnitude

of the UFO performance. On Tuesday, Aug. 3, The New York Times and other newspapers carried an Associated Press dispatch from Oklahoma City, dated Aug. 2. It began:

"Authorities in Texas, New Mexico, Oklahoma and Kansas were deluged last night and early today (Aug. 2) by reports of unidentified objects seen flying in the sky."

"The Sedgewick County sheriff's office at Wichita, Kansas, said the Weather Bureau had tracked several of them at altitudes of 6,000 to 9,000 feet."

"Reports poured in" from 21 cities and towns, continued the AP dispatch. The 21 are named. Seven are listed in Texas, three in New Mexico, five in Oklahoma and six in Kansas.

THE UNITED PRESS International, in a dispatch in the evening of Aug. 2, named eight states. "Reports of sightings by eye poured in from Kansas, Texas, Oklahoma, New Mexico, Colorado, South Dakota, Nebraska and Wyoming. Oklahomaans probably saw the most."

In a dispatch from Oklahoma City dated Aug. 4, the UPI declared that "thousands of persons across the nation's midlands and Southwest again last night reported seeing mysterious flashing, winking and sparking phenomena that sped and sometimes zig-zagged across the skies."

"The Air Force contends most of the sightings were probably stars or planets. . . . It was the fourth consecutive night of UFO sightings. . . . A lot of people took issue with the Air Force's claim that they were stars or planets."

It can be mentioned in passing that radar does not pick up stars or planets.

In one UPI dispatch it is stated that "Oklahomaans probably saw the most" of these sightings. The Oklahoma sightings therefore provide an illuminating example of how the Air Force deals with the public in such a situation.

BY GOOD FORTUNE, one does not have to rely mainly on newspaper reports sometimes meager, or upon the Air Force statements. The Department of Public Safety of the State of Oklahoma has sent to

the office of Congressman John Jernigan (D) of the Oklahoma City Congressional District and to the National Investigations Committee on Aerial Phenomena (NICAP) in Washington a summary of the teletype reports sent into the Oklahoma Highway Patrol Communications Network Center, July 31-Aug. 5, from the various highway patrol headquarters over the state.

This valuable document, which was not observed in the files of Project Blue Book, will be utilized in one or more following articles dealing with the

cautious behavior of the Air Force touching the UFOs and the public.

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

Those 'Flying Saucers'...

Evidence Indicates A F Misleading Public On UFOs

by STEBBY GRIFFIN
(Last of the series)

WASHINGTON, D.C. — This is the final one of half a dozen articles on the unidentified flying objects (UFOs), the United States Air Force, which has the official job of investigating the sightings, and the public. The conclusions reached have been assisted by two more examinations of the files of Project Blue Book, the Air Force name for its study and its verdicts on UFO reports.

A MAIN CONCLUSION can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentifications of familiar objects, such

as balloons, stars and aircraft.

The logical assumption, backed by much circumstantial evidence, is that the Air Force is deliberately misleading the public.

In this campaign the Air Force, backed by normal public respect for the military and for authoritative statements, and also assisted by the natural human disinclination to think unconsciously or to be laughed at, has been largely successful.

However, the Air Force succeeds in having the public believe what it wants it to believe respecting UFOs is steadily and conspicuously lessening. More and more skepticism is being evoked in newspapers and by citizens.

ANOTHER CLEAR conclusion

is this: no energetic and thorough effort to investigate the unidentified flying object phenomenon is being made by the Air Force or ever has been made by it. And this charge holds true respecting any other government agency and respecting what has been termed the nation's scientific community.

Reasons for the persevering Air Force performance are unknown to the public. In the speculation one of the following three reasons is commonly advanced: the Air Force fears national panic if the truth about the UFOs were told, the Air Force feels it is stuck with its story, or the Air Force is silenced by the Central Intelligence Agency.

The first alleged reason, however uncomplimentary to the

intelligence of our citizens, is one that has been heard at the Capitol off and on for approaching 20 years. Some speculate it may be the reason the Air Force has given to the chairman of the two congressional space committees in its understood endeavor to hold off a congressional investigation of the UFO subject.

What is the truth about the UFOs? It is quite possible that no one on this earth knows.

A VETERAN New England congressional leader, who was in a position to know, told this writer that the Air Force didn't know what they are. Officials of the Central Intelligence Agency ought to know if anyone does, yet a former head of the CIA, Adm. R. H. Hillenkott-

ter, affirmed half a dozen years ago that he did not believe in the Air Force explanations-away; but he did not indicate he thought he knows the truth of the matter.

An increasing number of good observers hold that a sizable minority of the sightings — many sightings presumably are misidentifications — represent something new and unknown. A large number of these observers, who include veteran pilots, radar operators, air traffic controllers, teachers, astronomers and other experts, hold that the unknown UFOs are extraterrestrial.

TO ALL THIS Air Force officials can and do respond that not a single tangible bit of evidence of any such UFO has

Yet to an augmenting number of competent observers the evidence grows stronger that some of the UFOs are real and really unknown. So very many impressive sightings can't be explained away, it is said.

From the United States, from Argentina, Uruguay, Portugal, France, Antarctica and Australia (from four continents) have come the rash of reports of sightings of unidentified flying objects (UFOs). The sightings have been the most numerous since 1957. So summarized a United Press International dispatch last August.

First and last, few presumably will challenge a conclusion that the mystery and the problem of the unidentified flying object remain with this world.

AND AS FOR THE AIR FORCE, with its intensive campaign to explain - away every UFO sighting. It might listen to the recent advice of a veteran astronomer Dr. I. M. Levitt, director of the Fels Planetarium, Franklin Institute, Philadelphia, said:

"It would be well if our Project Blue Book officials were simply to indicate that sightings in a minority of cases cannot be explained. It would clear the air of a great deal of misunderstanding and misadvice of this group by the intelligent laymen and observers who have seen objects in the sky."

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

Air Force Investigating Reported Flying Object

ANN ARBOR (AP) — As reports of unidentified flying objects mounted in southeastern Michigan today the United States Air Force began an investigation of the many sightings.

Dr. J. Allen Hynek, a Northwestern University astrophysicist and UFO project consultant, was asked to visit the Ann Arbor area and investigate reports of strange, glowing objects in the night skies.

The Unidentified Flying Objects Office at Wright-Patterson AFB at Dayton, Ohio, asked Dr. Hynek to investigate Tuesday. Maj. Hector Quintanilla, project officer, said Dr. Hynek would conduct interviews and assist officials at Selfridge AFB, Mt. Clemens, in gathering information.

Quintanilla emphasized his knowledge of the Michigan sightings "is extremely limited at this time." But he said nothing he has heard indicates proof of "extraterrestrial objects" any more than numerous other reports the office has checked in the past 18 years.

Sightings were reported three times within a week in the Ann Arbor area and the nearby town of Dexter.

The last sighting Sunday night brought hundreds of persons, many with cameras and binoculars, to the area Monday night. No sightings were reported, but 65 miles southwest of Ann Arbor, at Hillsdale, a group of college coeds watched an object several hours.

William Van Horn, civil defense director of Hillsdale County, said Tuesday the flying object he observed east of Hillsdale Monday night was "definitely some type of vehicle."

Photo Adds New Wrinkle to Saucers

By DOUGLAS BRADFORD

While Air Force officials prowled through the countryside looking for some sign of the strange night visitors that have been zipping through southeastern Michigan skies, a Monroe area boy came up with what he said was a picture of one.

Paul Richwine, 16, who lives in Woodland Beach, three miles north of Monroe, produced a piece of film with a blob on it that he says his camera "saw" when he pointed it at a "flying saucer" over his home Friday night.

Detroit News photographers say the blob could be due to a wrinkle in the film.

But Paul and his mother, Mrs. Mariannice Richwine, insist

that they saw the strange glowing objects cavorting in the sky and that the dark area on the picture represents one of them.

The object in the picture doesn't seem to have much material substance.

Neither Paul nor his mother

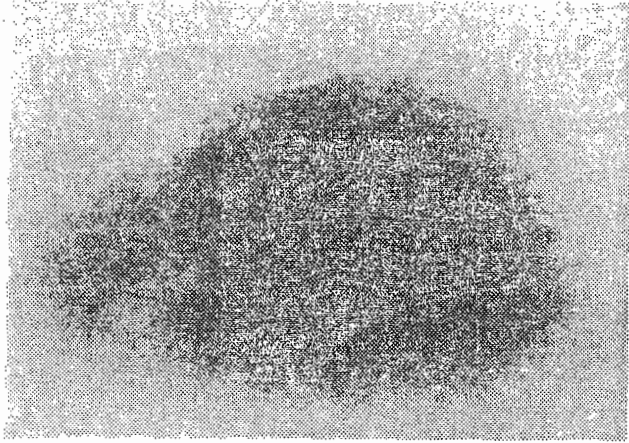
can account for the fact that the thing they saw was bright and shiny with flashing color lights while the camera recorded a dark smear.

Paul said his Argus F100 was on time exposure at f2.8 and was loaded with fast film when he took the picture at about 11:30 p.m. Friday.

The News photographers conceded that the darkness in the picture "might" be the indication of something moving quite swiftly on a time exposure, but the blob could be a water spot on the negative or a wrinkle in the film.

Mrs. Richwine said the object's appearance was preceded by four glowing shapes about 10:30 p.m. Friday. She saw them from her front window she said.

See SAUCER—Page 13A



This is what Paul Richwine's camera saw when he pointed it at the unidentified flying object.

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

THE DETROIT NEWS, WED., MARCH 23, 1966

Deputy Sheriff 'Shoots' a UFO Over Michigan

BOR, Mich. (AP)—A deputy sheriff said an unidentified flying object sighted in southern Michigan last week was trapped—on film—by another UFO was photographed yesterday.

Sheriff David Fitzpatrick (Ann Arbor) took the photographs with a camera roughly the size of a man's two forefingers.

He was delayed because the film had to be sent to New York, for development.

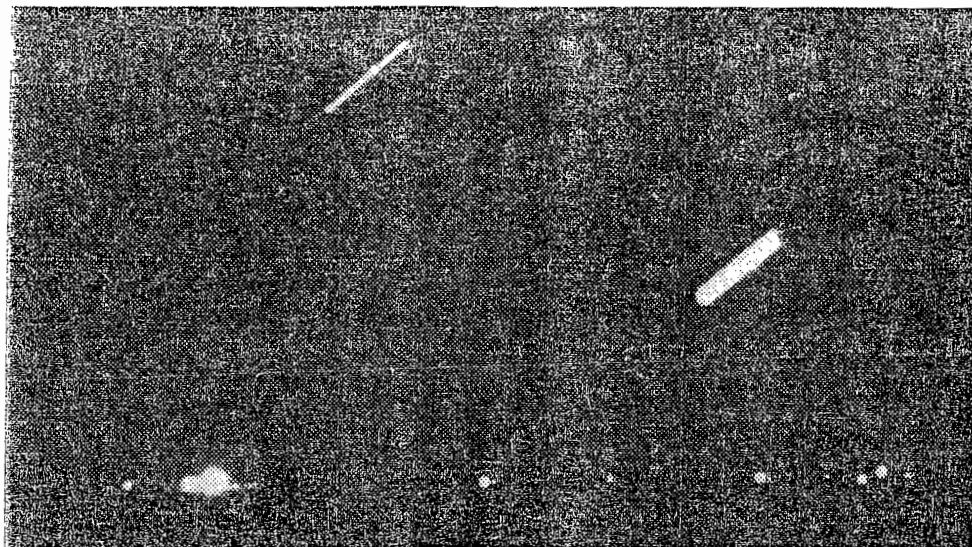
The sighting of an unidentified flying object near Dexter, Mich., came from both Mrs. Robert Nichols, a resident across Michigan's Lower Peninsula near Dexter. They said it flew over the highway ahead of them.

More than 150 to 200 people saw the object, said the object was about half the size of a car and was "a

round circle glowing red on the inside and white on the outside." Nichols' description fits roughly that given by several other people more than a score who have

reported sightings in the Ann Arbor area in the last 10 days. Fitzpatrick, however, said the two objects he photographed gave off a brilliant yellow-white

light in graceful swoops which he and Sheriff's Sgt. N. K. Schneider observed from about 4 a.m. to 7 a.m. March 16. The photographs show two



—United Press International

The two unidentified objects photographed over Dexter, Mich.

distinct streaks of light sky high above streets leading into Milan. No one saw the objects are visible in the photographs blown up to inches from the tiny film.

Dr. J. Allen Hynek, of the University of Wisconsin, was sent here by the Air Force to investigate the reports.

He has scheduled a conference in Detroit today to discuss his probe.

Meanwhile, reports of unidentified flying objects moving into Ohio today. A farmer lives near Upper Sandusky, Northwestern Ohio told deputies that an object "like a top" or a "Christmas tree upside down" hovered over a wooded area on his property early today.

Deputies were called to the farm three times, but the farmer said the object, with lights on its outer edges, disappeared each time before they arrived.

PHOTOCOPY
FROM
GERALD R. FORD LIBRARY

THE EVENING STAR, WASH., MARCH 25, 1966 - FRIDAY

THURS., MAR.

40 in Michigan A Mysterious Hovered in S

ANN ARBOR, Mich. 21 (UPI)—At least 40 including 12 policemen, day that they saw a flying object guarded sister ships land in a near here Sunday night.

Descriptions of the unidentified flying objects tallied. A patrolman, Robert Will, said he and other residents of the area saw similar before dawn last Monday Wednesday.

In Washington, the Air Force said it knew nothing of reports. The Air Force's Michigan headquarters in Jackson Creek would not comment.

Two persons who walked through the 300-acre swampy day and looked for traces of the craft found nothing but marsh grass, quicksand and muck.

However, the two persons reportedly were closest to the object, Frank Mannor, 47 years old, and his son, Ronald, 15. It did not appear to touch the ground but sat on a base.

Fredrick E. Davids, state police commissioner, who is in charge of civil defense for Michigan, opened an investigation.

"I used to discount these reports too but now I'm not sure," he said.

Mr. Mannor and his son they had run to within 10 yards of the object. Mr. Mannor said the craft was shaped like a football and was about 10 feet long with a "gray-yellow" hue and a pitted surface "like coral rock."

It had a blue light on the front and a white light on the rear, he said.

"They were pulsating and each of them looked like they had a little halo around it," he said.

Other witnesses saw only lights, but their descriptions including those of policemen agreed closely.

Stanley McFadden, Washtenaw County sheriff's deputy, said he and deputy David Fitzpatrick watched the object fly over their car about the same time the Mannors reported it was taken off.

Officer Hunawill said that other unidentified flying objects had hovered in a quarter-mile circle over the object in the swamp.

Washington Post 3-27-66
Don't Sneer at UFOs

By Roscoe Drummond

YOU CAN'T dismiss the possibility that some of the unidentified flying objects, which so many people have sighted in so many places, are real.

There are, of course, UFO buffs who seem to want to believe everything and discount logical explanations. But Air Force officials assigned to check up on these sightings seem so bored and skeptical that many people have the impression that they think the public would panic if all the facts were brought into the open.

Let's not leave the search for more knowledge to those who tend to accept everything uncritically or to those who tend to dismiss every UFO as ridiculous.

The time has come for the President or Congress to name an objective and respected panel to investigate, appraise and report on all present and future evidence about what is going on.

Last week, more than 100 persons (some of them

trained observers) reported seeing "flying saucers" in seven states, from Maine to Texas to Colorado.

Last year, project Blue Book, the small Air Force unit created to keep tabs on these things, received 886 reports of UFO sightings.

During the last two years, the National Investigations Committee on Aerial Phenomena, a private group headed by a retired Naval Academy Marine Corps pilot, received 3000 such reports.

During the past ten years, the NICAP received some 8000 reports and says that 1500 of them "seem pretty substantial and unexplained."

The Air Force totals 10,147 UFO reports and states that 646 of them remain unexplained by provable natural phenomena.

MAYBE ALL OF these reported sightings are whimsical, imaginary or unreal. But we need a more credible and detached appraisal of the evidence than we are getting.

Maybe there is no intelli-

gent life on other planets could not such life. But we don't know.

One fact about it gives me pause. There has been no really solid of creatures being sighting off landed same venture from one planet to another involves great intellectual curiosity and think it almost impossible for someone from space, once here, to that curiosity to the of not trying to make al contact with Earth.

Conceivably, we have seeing only preliminary manned orbitings of Earth precisely controlled great distances. But we know.

We need to get all the drawn together in one and examined far more objectively than anyone done so far. A stable opinion will come from trustworthy look at evidence, not from belief.

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Wash. Post 3-29-66

Truth About Flying Objects Hidden by AF, Faithful Say

By Howard Simons
Washington Post Staff Writer

Firm believers that unidentified flying objects are for real and from a far-off supercivilization met the press yesterday amid a torrent of reports about new objects being sighted everywhere, U.S.A.

The believers repeatedly charged the Air Force with deliberately hiding the truth, which if it were known "would bring forth one of the greatest stories of the century."

The believers also "fully backed" Rep. Gerald Ford (R-Mich.) who wants a Congressional investigation of unidentified objects which have lately plagued his home state.

But most of all, the believers want to be believed and loved.

"We want the Air Force merely to end its secrecy on sightings and stop ridiculing competent witnesses," said retired Marine Corps Major Donald E. Keyhoe, a UFO skeptic until his conversion.

Keyhoe now is director of the National Investigations Committee on Aerial Phenomena, an organization

whose major aims to evaluate all UFO sightings; get the Air Force to own up to the "truth," and to expose UFO charlatans who keep seeing "little green men."

Keyhoe and his colleagues, including scientists, engineers, military personnel and pilots, scorn the thought of "little green men."

Had a visitor from afar ever set foot on the earth? The serious students of UFOs were asked.

There was only one case suggesting so, said Committee staff member and former newsman Donald Berliner. It happened in April 1964 near Socorro, N.M., where police officers saw "two small suited occupants" get out of a UFO.

"They were small and suited," noted a reporter. "How could you be sure they were not green?"

"We have no reason to believe they were green," wryly quipped Berliner.

The Committee's case for believing that UFOs are for real was put to the press by Keyhoe. It amounted to an argument that thousands of competent persons—including radar controllers, quali-

fied pilots and missileers—had sighted about roughly 100,000 persons all.

The Air Force, which has been investigating UFO reports since 1948, has fastly maintained the no evidence any flying object has come from where else in the universe.

Keyhoe's view, shared by the Committee's board of governors, is radically different. The Committee concludes, Keyhoe said yesterday, that "these things are real and must be extraterrestrial because they are superior to anything we have."

According to Keyhoe, UFOs have been observed on the earth for 200 years and gave two reasons, essentially, for why no contact has been made with whoever is that pilots the UFOs.

One reason is that the Air Force has orders to stay away from the UFOs.

A second reason is that until humans demonstrate the atomic bomb and space flight the UFO people regarded earth as too primitive a society to bother with other than for surveillance purposes.

First UFO Of Season Are Sighted

Spring's first flyers have sprouted right in the forsythia.

Scores of people in the area have reported strange objects since the start of the season and a former fighter pilot said he saw several over the home Saturday.

The Air Force, which has investigated more than 100 such reports since 1947, says it has no explanation.

Northwestern University's H. Allen Hynek, its technical adviser on unidentified flying objects (UFOs), says he has no explanation for the Michigan reports.

The latest was Monday night at Hillsdale College, where a county civil defense director, a former reporter and a former dean, and 87 coeds saw a glowing object circling around campus for several hours.

This report coincided with a gathering of about 50 persons — including 12 policemen — said they saw an eerie object cruise over the swamp Sunday night while the sister ships hovered over the area.

In Bethesda, retired Air Force Col. Howard T. Wright, 5119 Newport Ave., says he and five other people saw several objects outside their home and they were "definitely not in my imagination, were they satellites or planes."

Saucer Observers Upset Over Air Force Analysis

DETROIT (UPI) — The U.S. Air Force closed its books Saturday on the case of two "visits" by unidentified flying objects. Its verdict: Swamp gas.

But some of the people who witnessed what they thought was a landing by a glowing, extraterrestrial space craft, were not completely convinced that the experts were right.

And even while the two most spectacular Michigan sightings now wore the tag of an "official explanation," UFO sightings continued to pop up across the country, in rural areas and cities alike.

Dr. J. Allen Hynek, the top Air Force adviser on UFO sightings, climaxed three days of on-

the-scene investigation by telling a press conference it appeared "very likely" that swamp gas was responsible for mass reports of strange glowing objects this week at Hillsdale and Dexter in Southern Michigan.

Hynek, an astrophysicist from Northwestern University, said rotting vegetation can release a gas, especially at springtime, which can glow like fire and even make "popping" noises. He said both instances he investigated took place in marsh land.

"It appears very likely that the combinations of the conditions of this particular winter—an unusually mild one in this area — and particular weather

conditions that night, as to have produced the usual and puzzling objects," he said.

Frank Mannor and his son had described the object hovering in a marsh on a farm near Dexter as "like coral rock." Mannor said distance was about 500 yards when he saw the "visitor" and could distinguish such details in the Hillsdale case. Mannor's house is a few miles from a civil defense director's office. He said he saw an object in a nearby area for several hours.

"A dismal swamp is

(Continued on page 2, column 1)

stamping swamp gas and less time watching what I took to be UFOS," she said.

William Van Horn, the Hillsdale County civil defense director, said he was "dissatisfied" with the Hynek explanation because his investigation of the sighting was too brief and because he sidestepped mention of the report from two of the coeds who said they saw the UFO close-up as it swept past their window.

"I'm not satisfied until there is a more thorough investiga-

87 Michigan Coeds and Official Sight Mysterious Object

HILLSDALE, Mich., March 22 (UPI)—A civil defense director an assistant dean and 87 coeds reported a glowing object fly past a college dormitory and hover in a swamp for hours.

Their description of the object seen here last night tallied closely with that of one seen by more than 50 persons, including 12 policemen, near Ann Arbor, Mich., the previous night.

The Air Force dispatched its top scientific adviser on unidentified flying objects to begin an investigation.

The witnesses said they watched from the second floor of a Hillsdale College dormitory as the object wobbled, wavered, glowed, and once flew right at a dormitory window before stopping suddenly.

Mrs. Kelly Hearn, for seven years a newspaper reporter before becoming assistant dean of women, assistant professor of English and housemother of the dormitory, had the coeds take notes as they watched the object for four hours.

They and William Van Horn, 41, years old, Hillsdale County civil defense director, said the object dimmed its lights when police cars approached, brightened again when they went away, and dodged an airport beacon light.

Barbara Kohn, 21, of New Castle, Pa., and Cynthia Poffenberger, 18, of Cleveland were the first to see the object. They described its shape as roughly

that of a football. It roughly the same as given by a man and his reported that they saw object land in a swamp night 45 miles northeast near Ann Arbor.

The Air Force and was bringing in Dr. Hynek chairman of Observatory at Northwestern University, Evanston, scientific consultant Force's Project Blue program to track down the of unidentified flying objects.

Dr. Hynek set up his quarters at Selfridge Air Base, Mount Clemens, near the southern Michigan tion where the object been reported several lately.

"It was definitely some of vehicle," Mr. Van Horn said. "Through the glasses [lenses] it was either round or long."

The object's shape was outlined by lightning, veered over and near the dormitory before retreating in swamp, Miss Kohn said. She stayed there for four hours before vanishing, witnesses

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UPI -173

(UFO)

ANN ARBOR, MICH.--THE TOP AIR FORCE EXPERT ON UNIDENTIFIED FLYING OBJECTS SAID TODAY RECENT REPORTS OF A GLOWING OBJECT SEEN THROUGHOUT SOUTHERN MICHIGAN ARE "MORE CONSISTENT" THAN MOST HE HAS INVESTIGATED.

DR. H. ALLEN HYNEK OF NORTHWESTERN UNIVERSITY, CHIEF SCIENTIFIC ADVISER FOR THE AIR FORCE PROJECT BLUE BOOK, REFUSED TO SPECULATE, HOWEVER, ON WHAT MIGHT BE BEHIND THE RASH OF UFO SIGHTINGS IN RECENT DAYS.

HYNEK, DRESSED IN FATIGUES AND HIP BOOTS FOR HIS CLOSE-UP LOOK AT A SWAMP NEAR DEXTER, MICH., WHERE A FARMER REPORTED THE GHOST SHIP LANDED SUNDAY NIGHT, SAID "I'M STILL GATHERING THE FACTS."

HYNEK HAS BEEN IN THE AREA SINCE TUESDAY, INTERVIEWING WITNESSES AND EXAMINING AREAS WHERE THE OBJECT WAS REPORTED. HIS INVESTIGATION HAS BEEN CARRIED ON BEHIND AIR FORCE SECRECY BUT HE MADE TODAY'S COMMENTS WHEN ENCOUNTERED AT THE DEXTER POLICE STATION WHERE HE WAS QUESTIONING THE POLICE CHIEF AND SEVERAL OFFICERS.

"IT'S LIKE REPORTS FROM PEOPLE WHO SAW A FIRE," THE ASTROPHYSICIST SAID. "YOU GET AS MANY DIFFERENT FACTS AS YOU GET PEOPLE WHO SAW THE FIRE. SO FAR, ALL I'VE BEEN ABLE TO COME UP WITH IS REPORTS OF A VARIETY OF LIGHTS."

"THESE REPORTS ARE MORE CONSISTENT THAN MOST OF THE OTHER SIGHTINGS I'VE INVESTIGATED," HE SAID.

HYNEK SAID "I WISH WE HAD SOME PHOTOGRAPHS OF THIS AND MORE TECHNICAL OBSERVERS. THE IDEAL SITUATION WOULD BE TO HAVE A SPECTOGRAPH TRAINED ON THE OBJECT TO DETERMINE ITS MAKEUP. I WISH WE HAD THEM AVAILABLE."

"FREQUENTLY THESE THINGS TURN OUT TO BE USUAL THINGS SEEN UNDER UNUSUAL CIRCUMSTANCES," HE SAID. HYNEK ESTIMATED THAT OF THE UNEXPLAINED 10 PER CENT OF UFO'S REPORTED SINCE 1948, MOST COULD HAVE BEEN IDENTIFIED WITH A SPECTOGRAPH.

HYNEK SAID THAT AS AN ASTRONOMER HE WOULD HAVE TO ADMIT THAT "POSSIBLY YES," THERE ARE INTELLIGENT BEINGS IN OTHER SOLAR SYSTEMS, "BUT IT'S A LONG STEP TO SAY WE ARE BEING VISITED BY THEM."

3/23 --MJ622PES

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UPI-17

(UFO)

WASHINGTON--JEANE DIXON, SELF-STYLED PROPHETESS WHO HAS BEEN FORETELLING THE FUTURE FOR THREE DECADES, THINKS THAT UNIDENTIFIED FLYING OBJECTS ARE OF TERRESTRIAL ORIGIN.

"I THINK THEY ARE PLANES OR MILITARY CRAFT OF SOMEKIND--BUT NOT FROM OUTER SPACE," SHE TOLD UPI TODAY. "I THINK THEY ARE FROM THE OTHER SIDE--THEY ARE EITHER FROM THE ENEMY, RUSSIA, JAPAN (CORRECT), CHINA OR OUR OWN AIR FORCE."

SHE SAYS SHE GETS HER PREDICTIONS FROM A PSYCHIC REACTION--A KIND OF VIBRATION.

SHE SAID SHE DOES NOT GET ATMOSPHERIC VIBRATIONS THAT THE UFO'S NOW BEING SIGHTED IN THE EASTERN PART OF THE U.S. ARE EXTRATERRESTRIAL. AND THE UFO'S SIGHTED IN PAST YEARS WERE "DEFINITELY NOT," SHE SAID.

3/23--MJ626PES

UPI-18

(UFOS)

HILLSDALE, MICH.--AN AIR FORCE INVESTIGATING TEAM TODAY LOOKED OVER FARM FIELDS AND INTERVIEWED PERSONS WHO HAVE REPORTED A RASH OF UNIDENTIFIED FLYING OBJECTS.

SCORES OF PERSONS, RANGING FROM FARMERS TO POLICEMEN TO COLLEGE COEDS AND A DEAN, SAID THEY SAW THE HOVERING OBJECT DURING THE PAST FEW DAYS.

DR. H. ALLEN HYNEK, THE TOP AIR FORCE SCIENTIFIC ADVISER ON UNIDENTIFIED FLYING OBJECTS, YESTERDAY QUIZZED A FARM FAMILY NEAR ANN ARBOR, MICH. FRANK MANNOR, THE FARMER, HAD REPORTED THAT A PULSATING OBJECT LANDED IN A SWAMP ON HIS LAND SUNDAY AND WAS OBSERVED BY HIS FAMILY AND BY SHERIFF'S DEPUTIES.

3/23--JD10AES

State Flying Object Rep. Bring Plea for Federal

ANN ARBOR (AP)—A Michigan congressman planned Tuesday to ask the Defense Department to investigate reports of unidentified flying objects sighted near Ann Arbor.

U.S. Rep. Weston Vivian, D-Mich., left for Washington, D.C., Monday after conferring with Sheriff Douglas J. Harvey of Washtenaw County. Harvey said Vivian also planned to talk with the U.S. Air Force.

Three times within a week, residents of the nearby community of Dexter have reported sighting objects flying in the night sky.

"I didn't believe those reports," said Harvey. "But with so many trained police personnel and reliable citizens having seen them, I must believe something is in the Washtenaw County skies."

And Tuesday, the Hillsdale County Civil Defense director and 87 college coeds said they watched an eerie, hovering flying object settle in a swampy hollow near a school dormitory Monday night.

William VanHorn, 41, the coun-



—AP P

Frank Mannor, Son Describe UFO

ty Civil Defense director for 10 years, said he watched the unidentified object through binoculars for three hours.

The Air Force announced it was calling in Dr. H. Allen Hynek, chairman of the Dearborn Observatory at Northwestern University, Evanston, Ill., and scientific consultant to the Air Force's UFO study program.

to investigate the rash of sightings.

Hynek will work from the Houghton Air Force Base near Hillsdale. Clemens, the Air Force

In Hillsdale, VanHorn joined the 87 Hillsdale coeds and their housemen to watch the object. He emitted wavering orange

(Continued on page 2, column 1)

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GRAND RAPIDS PRESS, TUES., MARCH 22, 1966

THE NATURE, ORIGIN AND PURPOSE OF SPACE PEOPLE AND THEIR MYSTERIOUS FLYING SHIPS

The COSMIC STUDY CENTER was organized by a group of adult students, who are gifted with extra-sensory or super-physical perception, for the purpose of Cosmological and Metaphysical research. We investigate fascinating phenomena encountered in the invisible realms of the Cosmos, the existence of which is acknowledged by physicists but the aspects of which extend beyond the field of Science.

One of our projects has been an investigation of the nature and origin of Unidentified Flying Objects, which are still mysterious to many, even though they are often seen in our skies and have been visiting the Earth at various times and places down through the ages.

Dr. Carl Sagan, a Harvard University astronomer, states that "The statistics we now have on the universe suggest that the Earth has been visited many times by representatives from various galactic civilizations." Myths and legends of ancient cultures have recorded varied descriptions of UFO sightings similar to those of this Century. Such historical sightings were the prelude to today's world-wide reports of the visits of Flying Saucers to all parts of our planet.

In addition to the invisible matter here on Earth, such as air and gas, studies support the scientific view that matter, also, exists in finer degrees of density likewise invisible to our physical eyes, and that each density vibrates at a different frequency or velocity--the most dense having the slowest and the least dense the fastest rate of vibration. Only the very dense Earth, having the slowest vibratory rate, is visible to our 3-D human eyes, but the others are just as real to the beings who inhabit them as our physical surroundings are to us.

In the evolutionary process of growth, all planets and their inhabitants evolve successively from life in one degree of awareness to that of the next higher degree of consciousness. According to our research, human life on the planets of our Solar System, with the exception of Earth, has progressed to higher planes of existence, which are composed of finer degrees of matter invisible to our physical sight.

Our research shows that there are on other planets beings that we cannot see. This explains why the recent US spaceship that flew by Mars took pictures that did not show any signs of human life on its surface. Recently, there was a newspaper article that referred to past life on Mars. The fact that our scientists have reached the conclusion that these other planets do not bear human life is due to their lack of knowledge that the inhabitants have already evolved to a higher plane of existence and so cannot be seen by most Earth people. Nevertheless they are there functioning at a faster rate of vibration than that of our scientists who, if they land there, will find only the remnants of what they call a former civilization. This explains why Flying Saucers are misunderstood and why there is no visible human life on Mars although it is said that space ships come from Mars, Venus and other planets of our Solar System and from other Solar Systems as well.

The physical realm contains seven states or degrees of matter. We Earth people exist in all seven, but we are conscious only of the three lower states known as solids, liquids, and gases. The Space People of other planets exist in the four higher degrees of physical matter but also can function in the three lower levels. The next evolutionary step for the inhabitants of Planet Earth will be to raise their consciousness out of the lower into the higher degrees of the physical plane, as the inhabitants of other planets of our Solar System have already done.

An interesting point is that people functioning in the higher phases of life have the ability to see into the lower ones, but people on the Earth plane do not have the ability with normal physical sight to see into the higher phases. However, people with clairvoyant ability can see into these other realms, and can observe other people living there.

Since life on each higher plane is known to function at a faster rate of vibration than that of the one next below it, beings who originate on these higher planes normally function at a faster vibratory rate than that of the Earth's people. So, in order to make their spacecraft and themselves visible to us, it is necessary for them to lower their rate of vibration or frequency to synchronize with ours. This is what occurs at the time Flying Saucers suddenly appear within our octave of sight. Conversely, when they disappear from our range of vision, they simply increase their rate of vibration until their original vibratory rate is resumed. In other words, before we Earth people can be contacted by more highly developed interplanetary Space People, their rate of vibration must be lowered to ours, or ours raised to theirs.

How do we know that they have to lower their vibratory rates? This would necessarily be true because our physical eyes do not have the ability to see into these higher frequencies. A few people can do this because they have developed the faculty known as clairvoyance.

Some of the people, who report they have ridden in space ships, may have done this while they were in the sleep state. In that instance, the three-dimensional person took the ride in his higher dimensional body. You see, we co-exist in both a physical body and a spiritual body. The Center's research shows that the Real Self resides in the fourth-dimensional world in another body, a finer body in which we travel while we are asleep when the physical body is motionless. We have found that this body is, also, the same one in which we will function after we make the transition of so-called death. The only difference being that when one goes out in his finer body during sleep, the magnetic life-line, the elastic-like "silver cord" which joins the two bodies, is not severed as occurs at the time of so-called death.

During the time a person is awake, these two bodies are in perfect alignment, but the moment a person falls asleep or becomes unconscious for any reason, his finer body moves out of and away from the physical form to distances varying according to the person's stage of evolution. The Real Self when functioning in this co-existing finer body can look down and see his physical body. He may go to school on the inner planes and do many things that the person upon awakening usually is not aware of. On occasions when people do remember their activities during sleep, they say they had a dream. The experiences I have referred to are not what we would call dreams, but actual four-dimensional experiences which most people do not have the ability to distinguish between. They classify them all as dreams.

You and I, and every human being, possess a finer body, even though most of us are not conscious of the fact. So-called death does not suddenly bestow upon a person a new body which he did not previously possess. He already has it. He has had it all his life. The physical body, which is a facsimile of the other body, is merely the vehicle which the Real Self uses while living on this three-dimensional plane.

According to our research at the COSMIC STUDY CENTER, there is no death. There is only a discarding of our physical garment of flesh and a continuation of life in our finer body on the other side of life, where we have co-existed since being born here as a babe, and where we have been functioning each night of our earthly existence.

Where is this world in which our finer body functions? It is all around and about us. Scientific instruments such as the microscope, the telescope, and radar have disclosed the fact that there are many sights and sounds that our physical eyes alone cannot see or hear. Our eyes and ears receive only those vibrations of light and sound that travel within a limited range. Beyond the scope of modern-day Science, according to the Center's research, another plane of existence teems with life and activity, the fourth-dimensional plane, which parallels the world and life we know. Some people see it and hear it by tuning into its higher vibration. These people possess extra-sensory perception, which enables them to see, and hear, and know much that is hidden from their normal physical senses.

We also have found that many people reach it.

PHOTOGRAPHED FROM GERALD PERDUE

enables their minds to get in tune with their higher or fourth-dimensional selves and thus acquire the ability to function consciously interdimensional on two planes of existence simultaneously while awake. People who possess extra-sensory perception have the ability to see and hear with the eyes and of their fourth-dimensional selves. Like radio and TV instruments, they tune into the higher vibrations and register various light and sound frequencies which occupy the same place at the same time.

Likewise, the fourth-dimensional plane of consciousness interpenetrates this physical plane right here. It consists of seven phases of energy substance, each having a rate of vibration faster than the preceding one--the lowest rate of 4-D energy substance being higher than the highest rate of 3-D matter substance. For example, if one visualizes a glass bowl filled with a mixture of large marbles, small marbles, smaller beads, sand, and water, with Cosmic Rays radiating through it all, one gets an idea of how varied densities of matter can occupy the same space at the same time.

Likewise, various dimensions or planes of consciousness, each one having a different rate of vibration, interpenetrate each other. The particles of different densities, which comprise the areas of the various interpenetrating dimensions or planes of existence, are distinguished from the particles of adjoining dimensions by their alternating negative and positive polarities as well as their varying rates of frequency or velocity.

I mentioned earlier that the rate of vibration of Space People must be lowered to synchronize with our frequency before our physical eyes can see them. The same thing seems to happen when we see their so-called Flying Saucers in the sky. Our visitors from Outer Space have this power of speeding up and slowing down the vibratory rate of the matter of their ships as well as of their bodies.

Evidence that UFOs have suddenly appeared and disappeared in the Earth's atmosphere is provided by many verified reports from reliable observers. For instance, in 1957, military personnel in Korea saw a white, luminous object hovering above the ground that went out suddenly and disappeared "like a bulb turned off." According to the research of the COSMIC STUDY CENTER, the principle by which UFOs suddenly appear and disappear is based upon the interchangeability of matter and energy. Matter is energy at a slower rate of vibration. It disappears from our vision when its vibratory rate is increased beyond the point at which matter becomes energy. Likewise, the various densities of matter may be changed. Therefore, when Space People wish to disappear from our sight, they merely increase their rate of vibration beyond that of ours. If they wish to appear to us, they simply decrease their vibratory frequency to the point at which their density is the same as ours.

What is the principle of the locomotion used by these UFOs? Our research indicates that within each Solar System there exist powerful magnetic fields of force which bind the planets to their sun and to each other. Also, we have learned that from the sun emanates a balanced pattern of magnetic rays having tremendous negative and positive energies. Moreover, each spacecraft contains a powerful electro-magnetic system having an instantly reversible polarity from gravitational attraction to magnetic repulsion. This system also nullifies or suspends the pull of gravity and thus enables the ship to hover in mid-air and to move in any direction and at any angle. A highly magnetized pillar, towering from the center of the ship's base to the dome of the ship, is the instrument by which the powerful magnetic forces, which pervade all space, are used for propulsion purposes. Cables carry static electricity from the magnetic poles to condensers, which are also the landing-gear balls under one type of ship. The top of the pillar is normally positive while the bottom is negative. Its polarity as well as the ship's direction of movement can be reversed merely by pushing a button.

Apparently, the operators of spacecraft simply select from their charts of Cosmic forcefields the proper ray of energy which beams to whatever planet they desire to visit. In order to travel to a different planet, they merely switch their vehicle into another stream of force or energy.

it appears that UFOs are not driven by propellers, or jets, or rockets. They are irresistably drawn to the opposite magnetic pole of the planetary field to their chosen destination.

What are Space People like, and what is their purpose in visiting us? At the Study Center, they seem like elder brothers, who have experienced the sorrows and suffering that accompany the limited consciousness of Earth people, who have gained spiritual wisdom and kindness, and who have volunteered to come here and offer assistance by introducing to us by means of telepathic inspiration new concepts that they deem advisable for us to adopt at this particular stage of our development and to help us take our next evolutionary step.

Most of the people, who have become interested in so-called Flying Saucers have accepted them without understanding them. Now that former ridicule has been removed from the subject, this may be the time when an explanation, such as this, will help clarify the situation. It appears, however, that the Space People will not be free to make themselves known to us in greater numbers until they have been recognized by the Government and welcomed by an enlightened public.

These visitors from Outer Space have proved that they are not hostile. If they had been intent upon harming us with their advanced electronic instruments they surely would have done so a long time ago. Therefore, our investigators have no doubt but that the Space People are here to enlighten us, and no doubt that when the time arrives that we can accept them with understanding, that they then will make themselves known in a much more public way and in greater numbers.

I would like to close with an explanation of the relationship of the four dimensional plane to the third-dimensional plane of existence. Actually 4-D is the parent of 3-D. The viewpoint that the 3-D world is the materialization of the 4-D world is supported by Plato who logically assumed that the world which we behold is shadowed forth from some other world beyond physical matter and that the Reality of matter is something other than its physical appearance.

Absolute Consciousness existing everywhere simultaneously is stepped down from the ultimate source, the highest level or the 7th dimension, through a sequence of lower dimensions - 6th, 5th and 4th - each having a reduced rate of vibration, until that which was the one Unlimited Consciousness becomes veiled in denser energies, and finally is subjected to the limitations of lower matter or 3-D. Since the ultimate source of matter and form in its final reduction of velocity is in the appearance of physical matter, it is concluded that the 3-D physical world would necessarily have to be the projection or child of the 4th-dimensional plane, rather than the reverse.

To summarize: It has been shown that UFOs have been visiting the Earth for centuries. It has been explained that matter exists in finer degrees of density than that of air and gas. It has been suggested that our earthly civilization may be less advanced than that of the other planets in our Solar System. It has been deduced that a temporary synchronization of the vibratory rates of both Earth People and Space People is required for mutual visibility. The activity of the co-existing or fourth-dimensional body during sleep has been explained. The principle of spacecraft locomotion has been described. The idea that the fourth-dimensional plane is the parent of the dense 3-D world has been supported. It has been indicated that the purpose of our visitors from space is a friendly one intended to be beneficial and enlightening to the Earth's inhabitants. In conclusion, let us recognize the profound effect that these revolutionary disclosures will have upon traditional religious doctrines.

March 28, 1966

Rep. George P. Miller, Chairman
Science and Astronautics Committee
U. S. House of Representatives
Washington, D.C.

Rep. L. Mendel Rivers, Chairman
Armed Services Committee
U. S. House of Representatives
Washington, D. C.

Dear Chairmen Miller and Rivers:

No doubt you have noted the recent flurry of newspaper stories about unidentified flying objects (UFO's). I have taken special interest in these accounts because many of the latest reported sightings have been in my home state of Michigan.

The Air Force sent a consultant, astrophysicist Dr. J. Allen Hynek of Northwestern University, to Michigan to investigate the various reports; and he dismissed all of them as the product of college student pranks or swamp gas or an impression created by the rising crescent moon and the planet Venus. I do not agree that all of these reports can be or should be so easily explained away.

Because I think there may be substance to some of these reports and because I believe the American people are entitled to a more thorough explanation than has been given them by the Air Force to date, I am proposing that either the Science and Astronautics Committee or the Armed Services Committee of the House schedule hearings on the subject of UFO's and invite testimony from both the executive branch of the government and some of the persons who claim to have seen UFO's.

I enclose material which I think will be helpful to you in assessing the advisability of an investigation of UFO's.

May I first call to your attention a column by Roscoe Drummond, published last Sunday in which Mr. Drummond says, "Maybe all of these reported sightings are whimsical, imaginary or unreal; but we need a more credible and detached appraisal of the evidence than we are getting."

Mr. Drummond goes on to state, "We need to get all the data drawn together to one place and examined far more objectively than anyone has done so far. A stable public opinion will come from a trustworthy look at the evidence, not from belittling it."

"The time has come for the President or Congress to name an objective and respected panel to investigate, appraise, and report on all present and future evidence about what is going on."

I agree fully with Mr. Drummond's statements. I also suggest you scan the enclosed series of six articles by Bulkley Griffin of the Griffin-Larrabee News Bureau here. In the last of his articles, published last January, Mr. Griffin says, "A main conclusion can be briefly stated. It is that the Air Force is misleading the public by its continuing campaign to produce and maintain belief that all sightings can be explained away as misidentification of familiar objects, such as balloons, stars, and aircraft."

I have just today received a number of telegrams urging a congressional investigation of UFO's. One is from retired Air Force Col. Harold R. Brown, Ardmore, Tennessee, who says, "I have seen UFO. Will be available to testify."

Another, from Mrs. Ethyle M. Davis, Eugene, Oregon, reads, "Nine out of ten people want truth of UFO's Press your investigation to the fullest."

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Rep. George P. Miller, Chairman
Rep. L. Mendel Rivers, Chairman
Page Two
March 28, 1966

Ronald Collier of Los Angeles, who identifies himself as "a scientist from M.I.T.," urges that you "do everything in your power to make Air Force Project Blue Book (the AF name for its study and verdicts on UFO reports) known to the people."

Are we to assume that everyone who says he has seen UFO's is an unreliable witness?

A UPI story out of Ann Arbor, Michigan, dated March 21, 1966, states that "at least 40 persons, including 12 policemen, said today that they saw a strange flying object guarded by four sister ships land in a swamp near here Sunday night."

Matt Surrell of Station WJR, Detroit, cites an eye witness account of a recent UFO sighting by Emile Grenier of Ann Arbor, an aeronautical engineer employed by Ford Motor Company. He points out that an aeronautical engineer can hardly be considered an untrustworthy witness.

In the firm belief that the American public deserves a better explanation than that thus far given by the Air Force, I strongly recommend that there be a committee investigation of the UFO phenomena.

I think we owe it to the people to establish credibility regarding UFO's and to produce the greatest possible enlightenment on this subject.

Kindest personal regards.

Sincerely,

/s/

Gerald R. Ford, M.C.

GRF:plr

Enclosures

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